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CHAPTER 1

Introduction to the OneFS command-line interface

The OneFS command-line interface extends the standard UNIX command set to include commands that enable you to manage an Isilon cluster outside of the web administration interface or LCD panel. You can access the command-line interface by opening a secure shell (SSH) connection to any node in the cluster.

You can run isi commands to configure, monitor, and manage Isilon clusters and the individual nodes in a cluster. Brief descriptions, usage information, and examples are provided for each command.

- Syntax diagrams ...........................................................................................................14
- Universal options ........................................................................................................15
- SmartLock compliance command permissions .......................................................15
- OneFS time values .......................................................................................................17
Syntax diagrams

The format of each command is described in a syntax diagram. The following conventions apply for syntax diagrams:

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<th>Description</th>
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<tr>
<td>[]</td>
<td>Square brackets indicate an optional element. If you omit the contents of the square brackets when specifying a command, the command still runs successfully.</td>
</tr>
<tr>
<td>&lt;&gt;</td>
<td>Angle brackets indicate a placeholder value. You must replace the contents of the angle brackets with a valid value, otherwise the command fails.</td>
</tr>
<tr>
<td>{}</td>
<td>Braces indicate a group of elements. If the contents of the braces are separated by a vertical bar, the contents are mutually exclusive. If the contents of the braces are not separated by a bar, the contents must be specified together.</td>
</tr>
<tr>
<td></td>
<td>Vertical bars separate mutually exclusive elements within the braces.</td>
</tr>
<tr>
<td>...</td>
<td>Ellipses indicate that the preceding element can be repeated more than once. If ellipses follow a brace or bracket, the contents of the braces or brackets can be repeated more than once.</td>
</tr>
</tbody>
</table>

Each *isi* command is broken into three parts: command, required options, and optional options. Required options are positional, meaning that you must specify them in the order that they appear in the syntax diagram. However, you can specify a required option in an alternative order by preceding the text displayed in angle brackets with a double dash. For example, consider *isi snapshot snapshots create*.

```plaintext
isi snapshot snapshots create <name> <path>
    [--expires <timestamp>]
    [--alias <string>]
    [--verbose]
```

If the `<name>` and `<path>` options are prefixed with double dashes, the options can be moved around in the command. For example, the following command is valid:

```plaintext
isi snapshot snapshots create --verbose --path /ifs/data --alias newSnap_alias --name newSnap
```

Shortened versions of commands are accepted as long as the command is unambiguous and does not apply to multiple commands. For example, *isi snap snap c newSnap /ifs/data* is equivalent to *isi snapshot snapshots create newSnap /ifs/data* because the root of each word belongs to one command exclusively. If a word belongs to more than one command, the command fails. For example, *isi sn snap snap c newSnap /ifs/data* is not equivalent to *isi snapshot snapshots create newSnap /ifs/data* because the root of *isi sn* could belong to either *isi snapshot* or *isi snmp*. 
If you begin typing a word and then press TAB, the rest of the word automatically appears as long as the word is unambiguous and applies to only one command. For example, `isi snap` completes to `isi snapshot` because that is the only valid possibility. However, `isi sn` does not complete, because it is the root of both `isi snapshot` and `isi snmp`.

**Universal options**

Some options are valid for all commands.

**Syntax**

```
isi [--timeout <integer>] [--debug] <command> [--help]
```

--timeout <integer>

Specifies the number of seconds before the command times out.

--debug

Displays all calls to the Isilon OneFS Platform API. If a traceback occurs, displays traceback in addition to error message.

--help

Displays a basic description of the command and all valid options for the command.

**Examples**

The following command causes the `isi sync policy list` command to timeout after 30 seconds:

```
isid --timeout 30 sync policy list
```

The following command displays help output for `isi sync policy list`:

```
isid sync policy list --help
```

**SmartLock compliance command permissions**

If a cluster is running in SmartLock compliance mode, root access is disabled on the cluster. If root access is disabled, you can run some commands that require root access through the sudo program. If a command requires root access, you can run the command only if the command can be run through the sudo program.

Prefixing a command with `sudo` allows you to run commands that require root access. For example, if operating in compliance mode, the following command fails:

```
isid sync policy list
```

However, the following command succeeds:

```
sudo isi sync policy list
```

Some `isi` commands require root access. You can run the following `isi` commands only through sudo:

- `isi alert`
- `isi avscan`
- `isi batterystatus`
- `isi config`
- `isi devices`
- `isi domain`
- `isi email`
- `isi events`
Introduction to the OneFS command-line interface

- isi exttools
- isi fc
- isi firmware
- isi ftp
- isi get
- isi hdfs
- isi iscsi
- isi job
- isi license
- isi lun
- isi ndmp
- isi networks
- isi perfstat
- isi pkg
- isi readonly
- isi servicelight
- isi services
- isi set
- isi smartlock
- isi snmp
- isi stat
- isi statistics
- isi status
- isi sync
- isi tape
- isi target
- isi update
- isi version
- isi worm
- isi_for_array
- isi_job_d
- isi_vol_copy
- isi_cpr
- isi_gather_info
- isi_dmilog
- isi_drivenum
- isi_hangdump
- isi_hw_status
In addition to isi commands, you can run the following UNIX commands through sudo:

- `kill`
- `renice`
- `pkill`
- `top`
- `date`
- `sysctl`
- `shutdown`
- `ps`
- `ntdate`
- `ifconfig`
- `nfsstat`
- `pciconf`

### OneFS time values

OneFS uses different values for time depending on the application. You can specify time periods, such as a month, for multiple OneFS applications. However, because some time values have more than one meaning, OneFS defines time values based on the application. The following table describes the time values for OneFS applications:

<table>
<thead>
<tr>
<th>Module</th>
<th>Month</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>SnapshotIQ</td>
<td>30 days</td>
<td>365 days (does not account for leap year)</td>
</tr>
<tr>
<td>SmartLock</td>
<td>31 days</td>
<td>365 days (does not account for leap year)</td>
</tr>
<tr>
<td>SyncIQ</td>
<td>30 days</td>
<td>365 days (does not account for leap year)</td>
</tr>
</tbody>
</table>
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You can view and configure networking settings through the networking commands.

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isi networks create pool

Creates IP address pools. With IP address pools, you can partition your cluster’s network interfaces into groups and then assign ranges of IP addresses to logical or functional groups in your organization.

Syntax

```bash
isi networks create pool <name>
    [--ranges <ip-address-range-list>]
    [--ifaces <node-interface>]
    [--sc-subnet <string>]
    [--desc <description>]
    [--dynamic]
    [--static]
    [--aggregation-mode <mode>]
    [--add-static-routes <route>]
    [--remove-static-routes <route>]
    [--ttl <number>]
    [--auto-unsuspend-delay <integer>]
    [--zone <zone>]
    [--add-zone-aliases <aliases>]
    [--remove-zone-aliases <aliases>]
    [--access-zone <zone>]
    [--connect-policy <policy>]
    [--failover-policy <policy>]
    [--manual-failback]
    [--auto-failback]
    [--sc-suspend-node <node>]
    [--sc-resume-node <node>]
    [--verbose]
    [--force]
```

Options

- **<name>**
  Specifies the name of the new pool that you want to create, including the name of the subnet and the name of the pool, separated by a colon—for example, subnet1:pool0. The pool name must be unique in the subnet. Specify the name by using the following format:

  ```bash
  <subnet>:<pool>
  ```

- **--ranges <ip-address-range-list>**
  Specifies one or more IP address ranges for the pool. IP addresses within these ranges are assigned to the interfaces that are members of the pool.

  ```bash
  <low-ip-address>-<high-ip-address>
  ```

- **--ifaces <node-interface>**
  Sets the interface members in the pool. Specify the interfaces in the following format:

  ```bash
  <nodes>:<interfaces>
  ```
  To specify individual nodes, separate `<nodes>` with commas. To specify a range of nodes, separate with dashes. `<interfaces>` must be separated by commas.

- **--sc-subnet <subnet>**
  Specifies the name of the SmartConnect Service subnet responsible for the zone.

- **--desc <string>**
  Specifies an optional description of the pool.

- **--dynamic**
IP addresses are automatically distributed and redistributed to one or more pool members based on the connect and failover policies. Interface members have any number of IP addresses assigned to them at different points in time.

**Note** This option is only valid if a SmartConnect Advanced license is active on the cluster.

---

**--static**

Each pool member is permanently assigned a single IP address. Depending on the number of IP addresses available, some IP addresses might go unused. This is the default setting.

---

**--aggregation-mode <mode>**

Specifies how external interfaces are aggregated underneath ext-agg. Aggregation will take place only if ext-agg is a pool member. Select from the following values:

- **LEGACY** — Aggregates using Link Aggregation Control Protocol (LACP). The default setting for OneFS 6.5 and earlier.
- **ROUNDROBIN** — Rotates equally through interface.
- **FAILOVER** — Switches to an unused interface when a primary interface becomes unavailable.
- **LACP** — Aggregates using the pre-6.5 Fast EtherChannel (FEC) driver. The default setting for OneFS 7.0 and later.
- **FEC** — Aggregates using the FEC driver implemented in OneFS 7.0 and later.

---

**--add-static-routes <route>**

Adds one or more static routes to the pool as a comma separated string of static routes. Specify the route in classless inter-domain routing (CIDR) notation format:

\[
<\text{network-address}>/<\text{subnet-mask}>-<\text{gateway-ip-address}>
\]

---

**--remove-static-routes <route>**

Removes one or more static routes to pool as comma separated string of static routes. Specify the route in classless inter-domain routing (CIDR) notation format:

\[
<\text{network-address}>/<\text{subnet-mask}>-<\text{gateway-ip-address}>
\]

---

**--ttl <integer>**

Specifies the time to live value for SmartConnect DNS query responses (in seconds). DNS responses are only valid for the time specified. The default value is auto-unsuspend-delay <integer>

Time delay (in seconds) before an automatically suspended node becomes usable for SmartConnect responses for pool zones.

---

**--zone <zone>**

Specifies the SmartConnect zone name for this pool. Pool IP addresses are returned in response to DNS queries to this zone. The given <connect-policy> determines which pool IP addresses are returned.

---

**--add-zone-aliases <aliases>**

Adds specified DNS names to the pool as SmartConnect zone aliases. Multiple aliases can be specified in a comma-separated list.
--remove-zone-aliases <aliases>
   Removes SmartConnect zone aliases from the pool as comma separated string of
   DNS names.

--access-zone <zone>
   Sets access zone for connections to the pool.

--connect-policy <connect-policy>
   Specifies how the connections of new clients are balanced across IP addresses.
   Select from the following values:
   - ROUND-ROBIN — Rotates through nodes equally. This is the default policy.
   - CONN-COUNT — Assigns node that has least connections.
   - THROUGHPUT — Assigns node with least throughput.
   - CPU-USAGE — Assigns node with least CPU usage.

--failover-policy <failover-policy>
   Specifies how IP addresses are rebalanced across the remaining IP interface when an
   interface becomes unavailable.
   Select from the following values:
   - ROUND-ROBIN — Rotates through nodes equally. This is the default policy.
   - CONN-COUNT — Assigns node that has least connections.
   - THROUGHPUT — Assigns node with least throughput.
   - CPU-USAGE — Assigns node with least CPU usage.

--manual-failback
   Requires that connection rebalancing be performed manually after failback.
   To manually rebalance a pool, run the following command:
   
isi networks modify pool--name <subnet>:<pool> --sc-rebalance

--auto-failback
   Causes connections to be rebalanced automatically after failback. This is the default
   setting.

sc-suspend-node <node>
   Suspends SmartConnect DNS query responses for a node.

sc-resume-node <node>
   Resumes SmartConnect DNS query responses for a node.

{--verbose | -v}
   Displays more detailed information.

{--force | -f}
   Forces commands without warnings.

Examples
The following command creates a new address pool called pool1 under subnet0 that
assigns IP addresses 192.168.8.10-192.168.8.15 to ext-1 network on nodes 1, 2, and 3.
The SmartConnect zone name of this pool is storage.company.com, but it accepts the
alias of storage.company:
   
isi networks create pool subnet0:pool1 --ifaces 1-3:ext-1 --ranges
   192.168.8.10-192.168.8.15 --zone storage.company.com --add-zone-
   aliases storage.company
The following command creates a new address pool named pool2 under subnet0 that includes interfaces ext-1 and ext-2 on node 1, and aggregates them underneath ext-agg, alternating equally between them:

```bash
isi networks create pool subnet0:pool2 --iface 1:ext-agg --ranges 192.168.8.10-192.168.8.15 --aggregation-mode roundrobin
```

The following command creates a new address pool named pool3 under a subnet named subnet0 whose connection rebalancing must be performed manually:

```bash
isi networks create pool --name subnet0:pool3 --ifaces 1,2:ext-1,ext-2 --ranges 192.168.8.10-192.168.8.15 --manual-failback
```

### isi networks create rule

Creates a provisioning rule for automatically configuring network interfaces. With provisioning rules, field-replaced interfaces and interfaces on newly added nodes are automatically added to subnets and pools.

#### Syntax

```bash
isi networks create rule <name> <iface>

[--desc <description>]
[--any]
[--storage]
[--accelerator]
[--backup-accelerator]
[--verbose]
```

#### Options

- `<name>`
  - Specifies the name and location of the new provisioning rule. Valid names include the subnet, pool, and a unique rule name, separated by colons. The rule name must be unique throughout the given pool. Specify in the following format:
    ```bash
    <subnet>:<pool>:<rule>
    ```

- `<node-interface>`
  - Specifies the interface name the rule applies to. To view a list of interfaces on your system, run the `isi networks list interfaces` command.

- `--desc <description>`
  - Specifies an optional description of the rule.

- `--any`
  - Sets the provisioning rule to apply to all nodes. This is the default setting.

- `--storage`
  - Sets the provisioning rule to apply to storage nodes.

- `--accelerator`
  - Sets the provisioning rule to apply to Accelerator nodes.

- `--backup-accelerator`
  - Sets the provisioning rule to apply to Backup Accelerator nodes.

- `[--verbose | -v]`
  - Displays more detailed information.
isi networks create subnet

Creates network subnets. Subnets simplify external network management, and provide flexibility in implementing and maintaining cluster network operations.

Syntax

```bash
isi networks create subnet --name
[--netmask <ip-address>]
[--prefixlen <integer>]
[--dsr-address <ip-address-list>]
[--desc <description>]
[--gateway <ip-address>]
[--gateway-prio <integer>]
[--mtu <mtu>]
[--sc-service-addr <ip-address>]
[--vlan-id <vlan-identifier>]
[--verbose]
```

Options

You must specify either a netmask or an IPv6 subnet prefix length by using either --netmask or --prefixlen.

--name

Specifies the name of the subnet. Must be unique throughout the cluster.

--netmask <ip-address>

Specifies the netmask for an IPv4 subnet.

--prefixlen <number>

Sets the prefix length of an IPv6 subnet.

--dsr-address <ip-address-list>

Sets the Direct Server Return address(es) for the subnet. If an external hardware load balancer is used, this parameter is required.

--desc <description>

Sets a description for the subnet.

{--gateway | -g} <ip-address>

Specifies the gateway IP address used by the subnet. If unspecified, the default gateway is used.

**Note** The IP address must belong to the appropriate gateway. If an incorrect IP address is specified, communication with the cluster might be disabled.

{--gateway-prio | -p} <number>

Specifies the gateway priority for the subnet. Valid values are numbers between 1 and the total number of existing subnets. The default priority is the lowest possible number.

--mtu <mtu>

Sets the maximum transmission unit (MTU) of the subnet. Common values are 1500 and 9000.

--sc-service-addr <ip-address>

Specifies the IP address on which the SmartConnect module listens for domain name server (DNS) requests on this subnet.

--vlan-id <vlan-identifier>

Specifies the VLAN ID for all interfaces in the subnet.
{--verbose | -v}  
Displays more detailed information.

Examples  
The following command creates a subnet named example1 with a netmask of 255.255.255.0:

```
isi networks create subnet --name example1 --netmask 255.255.255.0
```

The system displays output similar to the following:

```
Creating subnet 'example1:' OK
Saving: OK
```

**isi networks modify pool**  
Modifies address pool settings.

**Syntax**

```
isi networks modify pool <name>

[|--new-name <pool-name>
[|--sc-rebalance]
[|--ranges <ip-address-range-list>]
[|--add-ranges <ip-address-range-list>]
[|--ifaces <node-interface>]
[|--add-ifaces <node-interface>]
[|--remove-ifaces <node-interface>]
[|--sc-subnet <string>]
[|--desc <string>]
[|--dynamic]
[|--static]
[|--aggregation-mode <mode>]
[|--add-static-routes <route>]
[|--remove-static-routes <route>]
[|--ttl <number>]
[|--auto-unsuspend-delay <number>]
[|--zone <string>]
[|--add-zone-aliases <aliases>]
[|--remove-zone-aliases <aliases>]
[|--access-zone <zone>]
[|--connect-policy <policy>]
[|--failover-policy <policy>]
[|--manual-failback]
[|--auto-failback]
[|--sc-suspend-node <node>]
[|--sc-resume-node <node>]
[|--verbose]
[|--force]
```

**Options**

You must specify at least one IP address pool setting to modify.

**<name>**

Specifies the name of the pool to modify. Must be unique throughout the subnet. Specify in the following form:

```
<subnet>:<pool>
```

**--new-name <string>**

Required. Specifies the name of the subnet to modify. Specify in the following format:

```
<subnet>:<pool>
```

**--sc-rebalance**
Rebalances IP addresses for the pool.

--ranges <ip-address-range-list>
Specifies one or more IP address ranges for this pool. IP addresses within these ranges are assigned to the interfaces that belong to this pool (also known as interface members).

**Note** Specifying new ranges with this option will remove any previously existing ranges from the pool.

Set the IP address range in the following format:

<low-ip-address>-<high-ip-address>

--add-ranges <ip-address-range-list>
Adds specified IP address ranges to the pool. Specify in the following format:

<low-ip-address>-<high-ip-address>

--remove-ranges <ip-address-range-list>
Removes specified IP address ranges from the pool. Specify in the following format:

<low-ip-address>-<high-ip-address>

--ifaces <node-interface>
Specifies one or more interface members in the pool. Specify in the following format:

<nodes>:<interfaces>

To specify individual nodes, separate <nodes> with commas. To specify a range of nodes, separate with dashes. <interfaces> must be separated by commas.

|--ifaces 1-3,5:ext-1,ext-2

Specify the interface(s) in the following format:

--add-ifaces <node-interface>
Adds specified member interfaces to the pool.
Specify in the following format:

<nodes>:<interfaces>

--remove-ifaces <node-interface>
Removes specified interface members from the pool. Specify in the following format:

<nodes>:<interfaces>

--sc-subnet <subnet>
Specifies the name of the SmartConnect Service subnet that is responsible for the zone.

--desc <string>
Specifies an optional description of the pool.

--dynamic
IP addresses are automatically distributed and redistributed to one or more pool members based on the connect and failover policies. Interface members have any number of IP addresses assigned to them at different points in time.
**Note** This option is only valid if a SmartConnect Advanced license is active on the cluster.

--static

Each pool member is permanently assigned a single IP address. Depending on the number of IP addresses available, some IP addresses might go unused. This is the default setting.

--aggregation-mode mode

Specifies how external interfaces are aggregated underneath ext-agg. Aggregation will take place only if ext-agg is a pool member.

The following values are valid:

- **LEgacy** — Aggregates using Link Aggregation Control Protocol (LACP). The default setting for OneFS 6.5 and below.
- **RoundRobin** — Rotates equally through interface.
- **Failover** — Switches to an unused interface when a primary interface becomes unavailable.
- **LACP** — Aggregates using the pre-6.5 Fast EtherChannel (FEC) driver. The default setting for OneFS 7.0.
- **FEC** — Aggregates using the post-6.5 FEC driver.

--add-static-routes route

Adds static route to all nodes containing a member interface in the pool being modified. This command is limited to adding IPv4 routes and is available from the command line only.

**Note** Static route settings that were added in versions earlier than OneFS 7.0 via RC scripts must be re-created using this option. Existing static route settings will no longer work and must be re-created using the add-static-routes command. Multiple static routes can be added as a comma-separated string.

Specify the route in classless inter-domain routing (CIDR) notation format:

```
<network-address>/<subnet-mask>-<gateway-ip-address>
```

--remove-static-routes route

Removes one or more static routes to pool as comma-separated string.

Specify the route in classless inter-domain routing (CIDR) notation format:

```
<network-address>/<subnet-mask>-<gateway-ip-address>
```

--ttl integer

Specifies the time to live value for SmartConnect DNS query responses (in seconds). DNS responses are only valid for the time specified. The default value is 0.

auto-unsuspend-delay integer

Specifies the time delay (in seconds) before an automatically unsuspended node becomes useable for SmartConnect responses for pool zones. The automatic suspend and unsuspend operation is performed automatically during rolling upgrades and if this delay is set it also takes effect for general node splits and/or reboots. Pool IP addresses on an automatically suspended node will not be given out by SmartConnect for the pool zone or zone aliases while the node is automatically suspended.
This setting is only available via the command line and the current setting can be viewed by listing the current Flexnet pools in verbose mode.

--zone <zone>
Specifies the SmartConnect zone name for the pool. DNS queries to this zone return pool IP addresses in response. The given connect-policy determines which pool IP addresses are returned.

--add-zone-aliases <aliases>
Adds specified DNS names to the pool as SmartConnect zone aliases. Multiple aliases can be specified in a comma-separated list.

--remove-zone-aliases <aliases>
Removes specified DNS names from the pool as SmartConnect zone aliases. Multiple aliases can be specified in a comma-separated list.

--access-zone <zone>
Sets access zone for connections to the pool.

--connect-policy <connection-policy>
Specifies how the connections of new clients are balanced across IP addresses. The following values are valid:
- ROUND-ROBIN — Rotates through nodes equally. This is the default policy.
- CONN-COUNT — Assigns node that has least connections.
- THROUGHPUT — Assigns node with least throughput.
- CPU-USAGE — Assigns node with least CPU usage.

--failover-policy <failover-policy>
Specifies how IP addresses are rebalanced across the remaining IP interface when an interface becomes unavailable. Select from the following values:
- ROUND-ROBIN — Rotates through nodes equally. This is the default policy.
- CONN-COUNT — Assigns node that has least connections.
- THROUGHPUT — Assigns node with least throughput.
- CPU-USAGE — Assigns node with least CPU usage.

--manual-failback
Requires that connection rebalancing be performed manually after failback. To manually rebalance a pool, run the following command:

```
isi networks modify pool--name <subnet>:<pool> --sc-rebalance
```

--auto-failback
Rebalances connections automatically after failback. This is the default setting.

sc-suspend-node <node>
Suspends SmartConnect DNS query responses for the specified node. While suspended, SmartConnect does not return IP addresses for this node, but allows active clients to remain connected.

sc-resume-node <node>
Resumes SmartConnect DNS query responses for a node.

{--verbose | -v}
Displays more detailed information.
{

--force | -f

Suppresses warning messages about pool modification.

Examples

- The following command removes node 6 from participating in the SmartConnect profile for subnet0:pool0:

  isi networks modify pool --name=subnet0:pool0 --sc-suspend-node=6

- You can confirm that the node has been suspended by running the following command:

  isi networks list pools --verbose

- The following command removes the IP address of 192.168.9.84 from pool subnet0:pool01:

  isi networks modify pool --name=subnet0:pool01 --remove-ranges=192.168.9.84

- The following command causes subnet0:pool1 to rotate equally through aggregated interfaces:

  isi networks create pool subnet0:pool1 --aggregation-mode=roundrobin

isi networks delete pool

Deletes IP address pools.

Note Deleting all IP address pools may result in connection issues.

Syntax

isi networks delete pool --name <subnet>:<pool> [--force]

Options

--name <subnet>:<pool>

Required. Specifies the name of the IP address pool to be delete.

{--force | -f}

Suppresses any prompts, warnings, or confirmation messages that would otherwise appear.

Examples

The following command deletes an IP address pool named pool0 from subnet1:

isi networks delete pool subnet1:pool0

isi networks delete rule

Deletes provisioning rules.

Syntax

isi networks delete rule --name:<pool>:<rule> [--force]

Options

{name | -n} <subnet>:<pool>:<rule>

Required. Specifies the provisioning rule to delete.

{--force | -f}
Suppresses any prompts, warnings, or confirmation messages that would otherwise appear.

Examples
The following command deletes a provisioning rule named rule0 from subnet1:pool2:

```
isi networks delete rule subnet1:pool2:rule0
```

**isi networks delete subnet**

Deletes a subnet.

**Note** Deleting all subnets may result in connection issues.

**Syntax**

```
isi networks create subnet --name
```

**Options**

```
--name
```

Required. Specifies the subnet for deletion.

```
{--force | -f}
```

Suppresses any prompts, warnings, or confirmation messages that would otherwise appear.

Examples
The following command deletes a subnet named subnet1:

```
isi networks delete subnet subnet1
```

**isi networks dnscache disable**

Disables the DNS cache.

**Syntax**

```
isi networks dnscache disable
```

**Options**

This command has no options.

**isi networks dnscache enable**

Enables the DNS cache.

**Syntax**

```
isi networks dnscache enable
```

**Options**

This command has no options.
isi networks dnscache flush

Flushes the DNS cache.

Syntax
isi networks dnscache flush

Options
This command has no options.

isi networks dnscache modify

Modifies the DNS cache.

Syntax
isi networks dnscache modify
[--ttl-max-noerror <number>]
[--ttl-min-noerror <number>]
[--ttl-max-nxdomain <number>]
[--ttl-min-nxdomain <number>]
[--ttl-max-other <number>]
[--ttl-min-other <number>]
[--eager-refresh <number>]
[--cache-entry-limit <number>]
[--testping-delta <number>]

Options
--ttl-max-noerror <number>
  Specifies the upper boundary on ttl for cache hits.
--ttl-min-noerror <number>
  Specifies the lower boundary on ttl for cache hits.
--ttl-max-nxdomain <number>
  Specifies the upper boundary on ttl for nxdomain.
--ttl-min-nxdomain <number>
  Specifies the lower boundary on ttl for nxdomain.
--ttl-max-other <number>
  Specifies the upper boundary on ttl for non-nxdomain failures.
--ttl-min-other <number>
  Specifies the lower boundary on ttl for non-nxdomain failures.
--eager-refresh <number>
  Specifies the lead time to refresh cache entries that are nearing expiration.
--cache-entry-limit <number>
  Specifies the entry limit for the DNS cache.
--testping-delta <number>
  Specifies the delta for checking the cbind cluster health.
isi networks dnscache statistics

Shows the DNS cache statistics.

Syntax

isi networks dnscache statistics

Options

There are no options for this command.

isi networks list interfaces

Displays a list of network interfaces within a subnet's IP address pool.

Syntax

isi networks list interfaces

|--verbose|--w|
|---|--w|
|--show-inactive|
|nodes <number>|

Options

|--verbose | -v|
| Displays more detailed information.

|--wide | -w|
| Displays entries without enforcing truncation.

--show-inactive

Includes inactive interfaces in the list.

|--nodes | -n| <number>|
| Displays a list of nodes to retrieve interfaces from.

Examples

The following command lists network interfaces, including those that are inactive:

isi networks list interfaces --show-inactive

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Interface</th>
<th>Status</th>
<th>Membership</th>
<th>Addresses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:ext-1</td>
<td>up</td>
<td>subnet0:pool0</td>
<td>11.22.3.45</td>
</tr>
<tr>
<td>1:ext-2</td>
<td>no carrier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:ext-agg</td>
<td>inactive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:ext-1</td>
<td>up</td>
<td>subnet0:pool0</td>
<td>11.22.3.56</td>
</tr>
<tr>
<td>2:ext-2</td>
<td>no carrier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:ext-agg</td>
<td>inactive</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

isi networks list pools

Displays available IP address pools. IP address pools enable you to partition your cluster’s network interfaces into groups, and then assign ranges of IP addresses to logical or functional groups within your organization.

Syntax

isi networks list pools --name <subnet>:<pool>

|--subnet <string>|

Options
If you run this command without options or with only the --verbose option, the system displays a list of all available IP address pools.

--name <subnet>[:<pool>]
Displays only pool names that match the specified string, or specifies a full pool name.

--subnet <string>
Displays only pools within a subnet whose name matches the specified string.

--iface <node-interface>
Displays only pools containing the specified member interface.

--rule <string>
Displays only pools containing a rule name that matches the specified string.

--has-addr <ip-address>
Displays only the pool that contains the specified IP address.

{--verbose | -v}
Displays more detailed information.

Examples
The following command displays a list all available IP address pools:

```
isinetworks list pools
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Subnet</th>
<th>Pool</th>
<th>SmartConnect Zone</th>
<th>Ranges</th>
<th>Alloc</th>
</tr>
</thead>
<tbody>
<tr>
<td>subnet0</td>
<td>pool0</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
<tr>
<td>subnet1</td>
<td>pool0</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
<tr>
<td>subnet1</td>
<td>pool01</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
<tr>
<td>subnet1</td>
<td>pool10</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
</tbody>
</table>

The following command displays a list of all pools whose names contain the string 'pool0.'

```
isinetworks list pools --name pool0
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Subnet</th>
<th>Pool</th>
<th>SmartConnect Zone</th>
<th>Ranges</th>
<th>Alloc</th>
</tr>
</thead>
<tbody>
<tr>
<td>subnet0</td>
<td>pool0</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
<tr>
<td>subnet1</td>
<td>pool0</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
<tr>
<td>subnet1</td>
<td>pool10</td>
<td></td>
<td>10.22.136.1-6</td>
<td>Static</td>
</tr>
</tbody>
</table>

**isi networks list rules**

Displays provisioning rules.

**Syntax**

```
isinetworks list rules [--name <subnet>:<pool>:<rule>]
[--subnet <string>]
```
Options
If no options are specified, the command displays a list of all provisioning rules.

--name <subnet>:<pool>:<rule>
    Specifies the name of the rule.

--pool <subnet>:<pool>
    Name of the pool the provisioning rule applies to.

--iface <node-interface>
    Names the interface that the provisioning rule applies to.

--any
    Sets the provisioning rule to apply to any type of node.

--storage
    Sets the provisioning rule to apply to storage nodes.

--accelerator
    Sets the provisioning rule to apply to accelerator nodes.

--backup-accelerator
    Sets the provisioning rule to apply to backup accelerator nodes.

{--verbose | -v}
    Displays more detailed information.

Examples
The following example displays a list of provisioning rules on a node:

\[\text{isi networks list rules}\]

The system displays the list of rules in output similar to the following example:

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Node Type</th>
<th>Interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>rule0</td>
<td>subnet0:pool0</td>
<td>All</td>
<td>ext-1</td>
</tr>
</tbody>
</table>

**isi networks list subnets**

Displays available subnets. Subnets simplify external network management, and provide flexibility when implementing and maintaining efficient cluster network operations.

Syntax

\[\text{isi networks list subnets --name}\]

Options
If you run this command without options or with only the --verbose option, the system displays a list of all available subnets.

--name
Displays only subnets that contain the specified string.

--has-addr <ip-address>
Displays only pools containing the specified member interface.

{--verbose | -v}
Displays more detailed information.

Examples
The following command displays a list of all subnets:

    isi networks list subnets

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Name</th>
<th>Subnet</th>
<th>Gateway:Prio</th>
<th>SC Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>subnet0</td>
<td>11.22.3.0/24</td>
<td>11.22.0.1:1</td>
<td></td>
</tr>
<tr>
<td>1.22.100.10</td>
<td>2</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>10gbe</td>
<td>11.22.33.0/24</td>
<td>N/A</td>
<td>N/</td>
</tr>
</tbody>
</table>

isi networks modify rule

Modifies network provisioning rule settings.

Syntax

    isi networks modify rule --name <subnet>:<pool>:<rule>
    [---new-name <rule>]
    [---pool <subnet>:<pool>]
    [---iface <node-interface>]
    [---desc <description>]
    [---any]
    [---storage]
    [---accelerator]
    [backup-accelerator]
    [verbose]

Options

You must specify at least one network provisioning rule setting to modify.

--name <subnet>:<pool>
Required. Specifies the name and location of the rule being modified. Must be unique throughout the cluster.

--new-name
Specifies a new name for the rule. This name must be unique throughout the pool.

    Note This option does not include the name of the subnet or the pool.

--pool <subnet>:<pool>
Changes the pool to which the rule belongs. You must specify both the name of the subnet and the name of the pool.

iface <node-interface>
Specifies the node interface to which the rule applies.

--desc <description>
Specifies an optional description of the rule.

--any
Applies this rule to all nodes. This is the default setting.

--storage
Sets the provisioning rule to apply to storage nodes.

--accelerator
Sets the provisioning rule to apply to Accelerator nodes.

--backup-accelerator
Sets the provisioning rule to apply to Backup Accelerator nodes.

{--verbose | -v}
Displays more detailed information.

Examples
The following example applies rule3 on subnet0:pool0 only to storage nodes:

isi networks modify rule subnet0:pool0:rule3 --storage

The system displays detailed output similar to the following:

Modifying rule 'subnet0:pool0:rule3':

Saving:
OK

isi networks modify subnet
Modifies network subnet settings.

Syntax

isi networks modify subnet --name <string>

|--new-name <string>
|--netmask <ip-address>
|--prefixlen <number>
|--disable-vlan
|--enable-vlan
|--dsr-address <ip-address-list>
|--add-dsr-addr <ip-address-list>
|--remove-dsr-addr <ip-address-list>
|--desc <description>
|--gateway <ip-address>
|--gateway-prio <number>
|--mtu <mtu>
|--sc-service-addr <ip-address>
|--vlan-id <vlan-identifier>
|--verbose
|--force

Options
You must specify at least one network subnet setting to modify.

--name <string>
Required. Specifies the name of the subnet to modify.

--new-name <string>
Specifies a new name for the subnet. Must be unique throughout the cluster.

--netmask <ip-address>
Sets the netmask of the subnet.

--prefixlen <number>
Sets the prefix length of an IPv6 subnet.

--enable-vlan
Enables all VLAN tagging on the subnet.

--disable-vlan
Disables all VLAN tagging on the subnet.

--dsr-addrs <ip-address-list>
Specifies the Direct Server Return addresses for the subnet.

--add-dsr-addrs <ip-address-list>
Adds one or more Direct Server Return addresses to the subnet.

--remove-dsr-addrs <ip-address-list>
Removes one or more Direct Server Return addresses from the subnet.

--desc <description>
Specifies an optional description for this subnet.

{--gateway | -g} <ip-address>
Specifies the gateway IP address used by the subnet. If not specified, the default gateway is used.

Note  IP address must belong to the appropriate gateway. If an incorrect IP address is specified, communication with the cluster might be disabled.

{--gateway-prio | -p} <number>
Specifies the gateway priority for the subnet. Valid values are numbers between 1 and the total number of existing subnets. The default priority is the lowest possible.

--mtu <mtu>
Specifies the maximum transmission unit (MTU) of the subnet (in bytes). Valid values are 1500 or 9000.

--sc-service-addr <ip address>
Specifies the address on which SmartConnect listens for DNS requests on this subnet.

--vlan-id <vlan-identifier>
Specifies the VLAN ID or tag for all interfaces on this subnet.

{--verbose|-v}
Displays more detailed information.

{--force|-f}
Suppresses any prompts or warnings messages that would otherwise appear before or during the subnet modification operation.

Examples
The following command changes the name of subnetOld to subnetNew:

isi networks modify subnet subnetOld --new-name=subnetNew

The system displays output similar to the following:

Creating subnet 'example1': OK
Saving: OK
Networking commands
CHAPTER 3

Authentication and access control commands

You can control access to your cluster through the authentication and access zone commands.

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- isi auth ads list
- isi auth ads modify
- isi auth ads spn check
- isi auth ads spn create
- isi auth ads spn delete
- isi auth ads spn list
- isi auth ads trusts controllers list
- isi auth ads trusts list
- isi auth ads trusts view
- isi auth ads view
- isi auth error
- isi auth file create
- isi auth file delete
- isi auth file list
- isi auth file modify
- isi auth file view
- isi auth groups create
- isi auth groups delete
- isi auth groups flush
- isi auth groups list
- isi auth groups modify
- isi auth groups members list
- isi auth groups view
- isi auth id
- isi auth krb5 add realm
- isi auth krb5 delete default
- isi auth krb5 delete domain
- isi auth krb5 delete realm
- isi auth krb5 list
- isi auth krb5 modify default
- isi auth krb5 modify domain
- isi auth krb5 modify realm
- isi auth krb5 write
- isi auth ldap create
- isi auth ldap delete
- isi auth ldap list
- isi auth ldap modify
- isi auth ldap view
- isi auth local list
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isi auth ads delete

Deletes an Active Directory provider, which includes leaving an Active Directory domain. Disconnecting the cluster from an Active Directory domain disrupts service for any users who are accessing it. After you leave an Active Directory domain, users can no longer access the domain from the cluster.

Syntax

```bash
isi auth ads delete <provider-name>
```

Options

- `<provider-name>`
  - Specifies the name of the provider to delete.
- `[--force | -f]`
  - Suppresses command-line prompts and messages.
- `[--verbose | -v]`
  - Displays the results of running the command.

Examples

To leave an Active Directory domain named "some.domain.org" and delete the authentication provider that is associated with it, run the following command:

```bash
isi auth ads delete some.domain.org
```

At the confirmation prompt, type `y`.

isi auth ads list

Displays a list of Active Directory providers.

Syntax

```bash
isi auth ads list
```

Options

- `[--limit | -l] <integer>`
  - Displays no more than the specified number of items.
- `--format {table | json | csv | list}`
  - Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
- `[--no-header | -a]`
  - Displays table and CSV output without headers.
- `[--no-footer | -z]`
  - Displays table output without footers.
- `[--verbose | -v]`
  - Displays more detailed information.
Examples
To view a list of all Active Directory providers that the cluster is joined to, run the following command:

```bash
isi auth ads list
```

The system displays output similar to the following:

<table>
<thead>
<tr>
<th>Name</th>
<th>Authentication</th>
<th>Status</th>
<th>DC Name</th>
<th>Site</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD.EAST.EMC.COM</td>
<td>Yes</td>
<td>online</td>
<td>BOS</td>
<td></td>
</tr>
<tr>
<td>AD.NORTH.EMC.COM</td>
<td>Yes</td>
<td>online</td>
<td>VAN</td>
<td></td>
</tr>
<tr>
<td>AD.SOUTH.EMC.COM</td>
<td>No</td>
<td>online</td>
<td>TIJ</td>
<td></td>
</tr>
<tr>
<td>AD.WEST.EMC.COM</td>
<td>Yes</td>
<td>online</td>
<td>SEA</td>
<td></td>
</tr>
</tbody>
</table>

Total: 4

**isi auth ads modify**

Modifies an Active Directory authentication provider.

**Syntax**

```bash
isi auth ads modify <provider-name>
```

|--reset-schannel {yes | no} |
|--domain-controller <string> |
|--allocate-gids {enable | disable} |
|--allocate-uids {enable | disable} |
|--assume-default-domain {yes | no} |
|--check-online-interval <duration> |
|--create-home-directory {yes | no} |
|--domain-offline-alerts {yes | no} |
|--home-directory-template <path> |
|--ignore-all-trusts {yes | no} |
|--ignored-trusted-domains <dns-domain> |
|--clear-ignored-trusted-domains |
|--add-ignored-trusted-domains <dns-domain> |
|--remove-ignored-trusted-domains <dns-domain> |
|--include-trusted-domains <dns-domain> |
|--clear include-trusted-domains |
|--add include-trusted-domains <dns-domain> |
|--remove include-trusted-domains <dns-domain> |
|--idap-sign-and-seal {yes | no} |
|--login-shell <path> |
|--lookup-domains <dns-domain> |
|--clear lookup-domains |
|--add lookup-domains <dns-domain> |
|--remove lookup-domains <dns-domain> |
|--lookup groups {yes | no} |
|--lookup-normalize-groups {yes | no} |
|--lookup-normalize-users {yes | no} |
|--lookup-users {yes | no} |
|--machine-password-lifespan <duration> |
|--nss-enumeration {enable | disable} |
|--sfu-support {none | rfc2307} |
|--store-sfu-mappings {yes | no} |
|--verbose |

**Options**

`<provider-name>`

Specifies the domain name that the Active Directory provider is joined to, which is also used as the Active Directory provider name.

`--reset-schannel {yes | no}`

Resets the secure channel to the primary domain.

`--domain-controller <dns-domain>`
Specifies a domain controller.

--allocate-gids {enable | disable}
   Enables or disables GID allocation for unmapped Active Directory groups.

--allocate-uids {enable | disable}
   Enables or disables UID allocation for unmapped Active Directory users.

--assume-default-domain {yes | no}
   Specifies whether to look up unqualified user names in the primary domain. If set to
   no, the primary domain must be specified for each authentication operation.

--check-online-interval <duration>
   Specifies the time between provider online checks, in the format <integer>Y | M |
   W | D | H | m | s].

--create-home-directory {yes | no}
   Specifies whether to create a home directory the first time a user logs in, if a home
   directory does not already exist for the user.

--domain-offline-alerts {yes | no}
   Sends an alert if the domain goes offline. Notifications will be sent as specified in the
   global notification rules.

--home-directory-template <path>
   Specifies the path to use as a template for naming home directories. The path must
   begin with /ifs and may contain variables, such as %U, that are expanded to
   generate the home directory path for the user.

--ignore-all-trusts {yes | no}
   Specifies whether to ignore all trusted domains.

--ignored-trusted-domains <dns-domain>
   Specifies a trusted domain to ignore if --ignore-all-trusts is set to false. Repeat this
   option to specify multiple list items.

--clear-ignored-trusted-domains
   Clears the list of trusted domains to ignore if --ignore-all-trusts is set to false.

--add-ignored-trusted-domains <dns-domain>
   Adds a domain to the list of trusted domains to ignore if --ignore-all-trusts is set to
   false. Repeat this option to specify multiple list items.

--remove-ignored-trusted-domains <dns-domain>
   Removes a domain from the list of trusted domains to ignore if --ignore-all-trusts is
   set to false. Repeat this option to specify multiple list items.

--include-trusted-domains <dns-domain>
   Specifies a trusted domain to include if --ignore-all-trusts is set to true. Repeat this
   option to specify multiple list items.

--clear-include-trusted-domains
   Clears the list of trusted domains to include if --ignore-all-trusts is set to true.

--add-include-trusted-domains <dns-domain>
   Adds a domain to the list of trusted domains to include if --ignore-all-trusts is set to
   true. Repeat this option to specify multiple list items.

--remove-include-trusted-domains <dns-domain>
Removes a domain from the list of trusted domains to include if --ignore-all-trusts is set to true. Repeat this option to specify multiple list items.

--ldap-sign-and-seal {yes | no}
Specifies whether to use encryption and signing on LDAP requests to a DC.

--login-shell <path>
Specifies the path to the user's login shell. This setting applies only to users who access the file system through SSH.

--lookup-domains <dns-domain>
Restricts user and group lookups to the specified domain. Repeat this option to specify multiple list items.

--clear-lookup-domains
Clears the restricted list of domains for user and group lookups.

--add-lookup-domains <string>
Adds an entry to the restricted list of domains to use for user and group lookups. Repeat this option to specify multiple list items.

--remove-lookup-domains <string>
Removes an entry from the restricted list of domains to use for user and group lookups. Repeat this option to specify multiple list items.

--lookup-groups {yes | no}
Specifies whether to look up Active Directory groups in other providers before allocating a GID.

--lookup-normalize-groups {yes | no}
Specifies whether to normalize Active Directory group names to lowercase before looking them up.

--lookup-normalize-users {yes | no}
Specifies whether to normalize Active Directory user names to lowercase before looking them up.

--lookup-users {yes | no}
Specifies whether to look up Active Directory users in other providers before allocating a UID.

--machine-password-lifespan <duration>
Sets the maximum age of the machine account password, in the format
<integer>\[Y | M | W | D | H | m | s]\).

--nss-enumeration {enable | disable}
Specifies whether to allow the Active Directory provider to respond to getpwent and getgrent requests.

--sfu-support {none | rfc2307}
Specifies whether to support RFC 2307 attributes for domain controllers. RFC 2307 is required for Windows UNIX Integration and Services For UNIX technologies.

--store-sfu-mappings {yes | no}
Specifies whether to store SFU mappings permanently in the ID mapper.

{--verbose | -v}
Displays the results of running the command.
isi auth ads spn check

Checks valid service principal names (SPNs).

Syntax
isi auth ads spn check --domain <string>
    [--machinecreds]
    [--user <string> [--password <string>]]
    [--repair]

Options
--domain | -D <string>
    Specifies the DNS domain name for the user or group that is attempting to connect to the cluster.
--machinecreds
    Directs the system to use machine credentials when connecting to the cluster.
{--user | -U} <string>
    Specifies an administrative user account to connect to the cluster, if required.
{--password | -P} <string>
    Specifies the administrative user account password.
{--repair | -r}
    Repairs missing SPNs.

isi auth ads spn create

Adds one or more service principal names (SPNs) for a machine account. SPNs must be propagated to all domain controllers before clients can use them.

Syntax
isi auth ads spn create --spn <string>
    [--domain <string>]
    [--account <string>]
    [--machinecreds]
    [--user <string> [--password <string>]]

Options
--spn | -s <string>
    Specifies an SPN to register. Repeat this option to specify multiple list items.
--domain | -D <string>
    Specifies the DNS domain name for the user or group that is attempting to connect to the cluster.
--account | -a <string>
    Specifies the address of the machine account. If no account is specified, the machine account of the cluster is used.
{--user | -U} <string>
    Specifies an administrative user account to connect to the cluster, if required.
{--password | -P} <string>
    Specifies the administrative user account password.
Directs the system to use machine credentials when connecting to the cluster.

**isi auth ads spn delete**

Deletes one or more SPNs that are registered against a machine account.

**Syntax**

```bash
isi auth ads spn delete
   --spn <string>
   [--domain <string>]
   [--account <string>]
   [--machinecreds]
   [--user <string> [--password <string>]]
```

**Options**

{--spn | -s} <string>

Specifies an SPN to delete. Repeat this option to specify multiple list items.

{--domain | -D} <string>

Specifies the DNS domain name for the user or group that is attempting to connect to the cluster.

{--account | -a} <string>

Specifies the address of the machine account. If no account is specified, the machine account of the cluster is used.

--machinecreds

Directs the system to use machine credentials when connecting to the cluster.

{--user | -U} <string>

Specifies an administrative user account to connect to the cluster, if required.

{--password | -P} <string>

Specifies the administrative user account password.

**isi auth ads spn list**

Displays a list of service principal names (SPNs) that are registered against a machine account.

**Syntax**

```bash
isi auth ads spn list
   --domain <string>
   [--account <string>]
   [--machinecreds]
   [--user <string> [--password <string>]]
```

**Options**

{--domain | -D} <string>

Specifies the DNS domain name for the user or group that is attempting to connect to the cluster.

{--account | -a} <string>

Specifies the address of the machine account. If no account is specified, the machine account of the cluster is used.

--machinecreds

Directs the system to use machine credentials when connecting to the cluster.

{--user | -U} <string>

Specifies an administrative user account to connect to the cluster, if required.
{--password | -P} <string>
    Specifies the administrative user account password.

Examples
To view a list of SPNs that are currently registered against the machine account, run the following command:

```bash
isi auth ads spn list
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>HOST/test</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOST/test.sample.isilon.com</td>
</tr>
</tbody>
</table>

isi auth ads trusts controllers list

Displays a list of domain controllers for a trusted domain.

Syntax

```bash
isi auth ads trusts controllers list <provider>
[|--limit <integer>]  
[|--sort {dc_name | dc_address}]  
[|--descending]  
[|--format {table | json | csv | list}]  
[|--no-header]  
[|--no-footer]  
[|--verbose]
```

Options

```bash
<provider>

    Specifies an Active Directory provider.

|--limit | -l| <integer>

    Displays no more than the specified number of items.

--sort {dc_name | dc_address}

    Sorts output by the specified field.

|--descending | -d

    Sorts output in descending order.

--format {table | json | csv | list}

    Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

|--no-header | -a

    Displays table and CSV output without headers.

|--no-footer | -z

    Displays table output without footers.

|--verbose | -v

    Displays more detailed information.

Examples

The following command displays a list of trusted domains in an Active Directory provider named "ad.isilon.com":

```bash
isi auth ads trusts controllers list ad.isilon.com
```
isi auth ads trusts list

Displays a list of trusted domains.

Syntax

isi auth ads trusts list <provider>

[--sort {domain | netbios_name | guid | trust_type | status | site |
   dc_name | dc_address | dc_site}]
[--descending]

Options

<provider>
   Specifies an Active Directory provider.

--sort {domain | netbios_name | guid | trust_type | status | site | dc_name |
   dc_address | dc_site}
   Sorts output by the specified field.

{--descending | -d}
   Sorts output in descending order.

isi auth ads trusts view

Displays the properties of a trusted domain.

Syntax

isi auth ads trusts view <provider> <domain>

Options

<provider>
   Specifies an Active Directory provider.

<domain>
   Specifies the trusted domain to view.

isi auth ads view

Displays the properties of an Active Directory provider.

Syntax

isi auth ads view <provider-name>

[--verbose]

Options

<provider-name>
   Specifies the name of the provider to view.

{--verbose | -v}
   Displays more detailed information.

isi auth error

Displays error code definitions from the authentication log files.

Syntax

isi auth error <error_code>
Options
<error_code>
   Specifies the error code to convert.

Examples
To view the definition of error code 4, run the following command:

   isi auth error 4

The system displays output similar to the following example:

   4 = ERROR_TOO_MANY_OPEN_FILES

isi auth file create

Creates a file provider.

Syntax

   isi auth file create <name>
   [ [--password-file <path>] ]
   [ [--group-file <path>] ]
   [ [--authentication {yes | no}] ]
   [ [--cache-entry-expiry <duration>] ]
   [ [--create-home-directory {yes | no}] ]
   [ [--enabled {true | false}] ]
   [ [--enumerate-groups {yes | no}] ]
   [ [--enumerate-users {yes | no}] ]
   [ [--findable-groups <string>] ]
   [ [--findable-users <string>] ]
   [ [--group-domain <string>] ]
   [ [--home-directory-template <path>] ]
   [ [--listable-groups <string>] ]
   [ [--listable-users <string>] ]
   [ [--login-shell <path>] ]
   [ [--modifiable-groups <string>] ]
   [ [--modifiable-users <string>] ]
   [ [--netgroup-file <path>] ]
   [ [--normalize-groups {yes | no}] ]
   [ [--normalize-users {yes | no}] ]
   [ [--ntlm-support {all | v2only | none}] ]
   [ [--provider-domain <string>] ]
   [ [--restrict-findable {yes | no}] ]
   [ [--restrict-listable {yes | no}] ]
   [ [--restrict-modifiable {yes | no}] ]
   [ [--unfindable-groups <string>] ]
   [ [--unfindable-users <string>] ]
   [ [--unlistable-groups <string>] ]
   [ [--unlistable-users <string>] ]
   [ [--unmodifiable-groups <string>] ]
   [ [--unmodifiable-users <string>] ]
   [ [--user-domain <string>] ]
   [ --verbose ]

Options

   <name>
      Sets the file provider name.

   --password-file <path>
      Specifies the path to a passwd.db replacement file.

   --group-file <path>
      Specifies the path to a group replacement file.

   --authentication {enable | disable}
Enables or disables the use of the provider for authentication as well as identity. The default value is enable.

--cache-entry-expiry <duration>
Specifies the length of time after which the cache entry will expire, in the format <integer> /[Y | M | W | D | H | m | s]. To turn off cache expiration, set this value to off.

--create-home-directory {yes | no}
Specifies whether to create a home directory the first time a user logs in, if a home directory does not already exist for the user.

--enabled {true | false}
Enables or disables the provider.

--enumerate-groups {yes | no}
Specifies whether to allow the provider to enumerate groups.

--enumerate-users {yes | no}
Specifies whether to allow the provider to enumerate users.

--findable-groups <string>
Specifies a group that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be resolved.

--findable-users <string>
Specifies a user that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be resolved.

--group-domain <string>
Specifies the domain that the provider will use to qualify groups. The default group domain is FILE_GROUPS.

--home-directory-template <path>
Specifies the path to use as a template for naming home directories. The path must begin with /ifs and may contain variables, such as %U, that are expanded to generate the home directory path for the user.

--listable-groups <string>
Specifies a group that can be listed if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be listed.

--listable-users <string>
Specifies a user that can be listed if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be listed.

--login-shell <path>
Specifies the path to the user's login shell. This setting applies only to users who access the file system through SSH.

--modifiable-groups <string>
Specifies a group that can be modified if --restrict-modifiable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be modified.

--modifiable-users <string>
Specifies a user that can be modified if --restrict-modifiable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be modified.

--netgroup-file <path>
Specifies the path to a netgroup replacement file.

--normalize-groups {yes | no}
Normalizes group names to lowercase before lookup.

--normalize-users {yes | no}
Normalizes user names to lowercase before lookup.

--ntlm-support {all | v2only | none}
For users with NTLM-compatible credentials, specifies which NTLM versions to support. Valid values are all, v2only, and none. NTLMv2 provides additional security over NTLM and is recommended if all server

--provider-domain <string>
Specifies the domain that the provider will use to qualify user and group names.

--restrict-findable {yes | no}
Specifies whether to check the provider for filtered lists of findable and unfindable users and groups.

--restrict-listable {yes | no}
Specifies whether to check the provider for filtered lists of listable and unlistable users and groups.

--restrict-modifiable {yes | no}
Specifies whether to check the provider for filtered lists of modifiable and unmodifiable users and groups.

--unfindable-groups <string>
If --restrict-findable is enabled and the findable groups list is empty, specifies a group that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unfindable-users <string>
If --restrict-findable is enabled and the findable users list is empty, specifies a user that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unlistable-groups <string>
If --restrict-listable is enabled and the listable groups list is empty, specifies a group that cannot be listed by the provider. Repeat this option to specify multiple list items.

--unlistable-users <string>
If --restrict-listable is enabled and the listable users list is empty, specifies a user that cannot be listed by the provider. Repeat this option to specify multiple list items.

--unmodifiable-groups <string>
If --restrict-modifiable is enabled and the modifiable groups list is empty, specifies a group that cannot be modified. Repeat this option to specify multiple list items.

--unmodifiable-users <string>
If --restrict-modifiable is enabled and the modifiable users list is empty, specifies a user that cannot be modified. Repeat this option to specify multiple list items.

--user-domain <string>
Specifies the domain that the provider will use to qualify users. The default user domain is FILE_USERS.

```
{-v | --verbose}
```

Displays the results of running the command.

**isi auth file delete**

Deletes a file provider.

**Syntax**

```
isi auth file delete <provider-name>
```

**Options**

```
<provider-name>
```

Specifies the name of the provider to delete.

```
{-f | --force}
```

Suppresses command-line prompts and messages.

```
{-v | --verbose}
```

Displays more detailed information.

**isi auth file list**

Displays a list of file providers.

**Syntax**

```
isi auth file list
```

**Options**

```
{-l | --limit} <integer>
```

Displays no more than the specified number of items.

```
--format {table | json | csv | list}
```

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

```
{-a | --no-header}
```

Displays table and CSV output without headers.

```
{-z | --no-footer}
```

Displays table output without footers.

```
{-v | --verbose}
```

Displays more detailed information.
isi auth file modify

Modifies a file provider.

Syntax

isi auth file modify <provider-name>
[-provider <string>]
[-password-file <path>]
[-group-file <path>]
[-cache-entry-expiry <duration>]
[-create-home-directory {yes | no}]
[-enabled {true | false}]
[-enumerate-groups {yes | no}]
[-enumerate-users {yes | no}]
[-findable-groups <string>]
[-clear-findable-groups]
[-remove-findable-groups <string>]
[-findable-users <string>]
[-clear-findable-users]
[-add-findable-users <string>]
[-remove-findable-users <string>]
[-group-domain <string>]
[-home-directory-template <path>]
[-listable-groups <string>]
[-clear-listable-groups]
[-remove-listable-groups <string>]
[-listable-users <string>]
[-clear-listable-users]
[-add-listable-users <string>]
[-remove-listable-users <string>]
[-login-shell <path>]
[-modifiable-groups <string>]
[-clear-modifiable-groups]
[-remove-modifiable-groups <string>]
[-modifiable-users <string>]
[-clear-modifiable-users]
[-add-modifiable-users <string>]
[-remove-modifiable-users <string>]
[-netgroup-file <path>]
[-normalize-groups {yes | no}]
[-normalize-users {yes | no}]
[-ntlm-support {all | v2only | none}]
[-provider-domain <string>]
[-restrict-findable {yes | no}]
[-restrict-listable {yes | no}]
[-restrict-modifiable {yes | no}]
[-unfindable-groups <string>]
[-clear-unfindable-groups]
[-add-unfindable-groups <string>]
[-remove-unfindable-groups <string>]
[-unfindable-users <string>]
[-clear-unfindable-users]
[-add-unfindable-users <string>]
[-remove-unfindable-users <string>]
[-unlistable-groups <string>]
[-clear-unlistable-groups]
[-add-unlistable-groups <string>]
[-remove-unlistable-groups <string>]
[-unlistable-users <string>]
[-clear-unlistable-users]
[-add-unlistable-users <string>]
[-remove-unlistable-users <string>]
[-unmodifiable-groups <string>]
[-clear-unmodifiable-groups]
[-add-unmodifiable-groups <string>]
[-remove-unmodifiable-users <string>]
[-unmodifiable-users <string>]
[-clear-unmodifiable-users]
Options

<provider-name>

Specifies the name of the file provider to modify. This setting cannot be modified.

--authentication {enable | disable}

Enables or disables the use of the provider for authentication as well as identity. The default value is enable.

--cache-entry-expiry <duration>

Specifies the length of time after which the cache entry will expire, in the format <integer>[(Y | M | W | D | H | m | s)]. To turn off cache expiration, set this value to off.

--create-home-directory {yes | no}

Specifies whether to create a home directory the first time a user logs in, if a home directory does not already exist for the user.

--enabled {true | false}

Enables or disables the provider.

--enumerate-groups {yes | no}

Specifies whether to allow the provider to enumerate groups.

--enumerate-users {yes | no}

Specifies whether to allow the provider to enumerate users.

--findable-groups <string>

Specifies a group that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be resolved. This option overwrites any existing entries in the findable groups list; to add or remove groups without affecting current entries, use --add-findable-groups or --remove-findable-groups.

--clear-findable-groups

Removes all entries from the list of findable groups.

--add-findable-groups <string>

Adds an entry to the list of findable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-findable-groups <string>

Removes an entry from the list of findable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--findable-users <string>

Specifies a user that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be resolved. This option overwrites any existing entries in the findable users list; to add or remove users without affecting current entries, use --add-findable-users or --remove-findable-users.

--clear-findable-users

Removes all entries from the list of findable users.

--add-findable-users <string>
Adds an entry to the list of findable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

|--remove-findable-users <string>
Removes an entry from the list of findable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

|--group-domain <string>
Specifies the domain that the provider will use to qualify groups. The default group domain is FILE_GROUPS.

|--group-file <path>
Specifies the path to a group replacement file.

|--home-directory-template <path>
Specifies the path to use as a template for naming home directories. The path must begin with /ifs and may contain variables, such as %U, that are expanded to generate the home directory path for the user.

|--listable-groups <string>
Specifies a group that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be viewed. This option overwrites any existing entries in the listable groups list; to add or remove groups without affecting current entries, use --add-listable-groups or --remove-listable-groups.

|--clear-listable-groups
Removes all entries from the list of listable groups.

|--add-listable-groups <string>
Adds an entry to the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

|--remove-listable-groups <string>
Removes an entry from the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

|--listable-users <string>
Specifies a user that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be viewed. This option overwrites any existing entries in the listable users list; to add or remove users without affecting current entries, use --add-listable-users or --remove-listable-users.

|--clear-listable-users
Removes all entries from the list of listable users.

|--add-listable-users <string>
Adds an entry to the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

|--remove-listable-users <string>
Removes an entry from the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

|--login-shell <path>
Specifies the path to the user's login shell. This setting applies only to users who access the file system through SSH.
--modifiable-groups <string>
   Specifies a group that can be modified if --restrict-modifiable is enabled. Repeat this option to specify multiple list items. If populated, any groups that are not included in this list cannot be modified. This option overwrites any existing entries in the modifiable groups list; to add or remove groups without affecting current entries, use --add-modifiable-groups or --remove-modifiable-groups.

--clear-modifiable-groups
   Removes all entries from the list of modifiable groups.

--add-modifiable-groups <string>
   Adds an entry to the list of modifiable groups that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--remove-modifiable-groups <string>
   Removes an entry from the list of modifiable groups that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--modifiable-users <string>
   Specifies a user that can be modified if --restrict-modifiable is enabled. Repeat this option to specify multiple list items. If populated, any users that are not included in this list cannot be modified. This option overwrites any existing entries in the modifiable users list; to add or remove users without affecting current entries, use --add-modifiable-users or --remove-modifiable-users.

--clear-modifiable-users
   Removes all entries from the list of modifiable users.

--add-modifiable-users <string>
   Adds an entry to the list of modifiable users that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--remove-modifiable-users <string>
   Removes an entry from the list of modifiable users that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--netgroup-file <path>
   Specifies the path to a netgroup replacement file.

--normalize-groups {yes | no}
   Normalizes group names to lowercase before lookup.

--normalize-users {yes | no}
   Normalizes user names to lowercase before lookup.

--ntlm-support {all | v2only | none}
   For users with NTLM-compatible credentials, specifies which NTLM versions to support. Valid values are all, v2only, and none. NTLMv2 provides additional security over NTLM and is recommended if all server

--password-file <path>
   Specifies the path to a passwd.db replacement file.

--provider-domain <string>
   Specifies the domain that the provider will use to qualify user and group names.

--restrict-findable {yes | no}
   Specifies whether to check the provider for filtered lists of findable and unfindable users and groups.
--restrict-listable {yes | no}
  Specifies whether to check the provider for filtered lists of listable and unlistable
  users and groups.

--restrict-modifiable {yes | no}
  Specifies whether to check the provider for filtered lists of modifiable and
  unmodifiable users and groups.

--unfindable-groups <string>
  If --restrict-findable is enabled and the findable groups list is empty, specifies a group
  that cannot be resolved by the provider. Repeat this option to specify multiple list
  items. This option overwrites any existing entries in the unfindable groups list; to add
  or remove groups without affecting current entries, use --add-unfindable-groups or --
  remove-unfindable-groups.

--clear-unfindable-groups
  Removes all entries from the list of unfindable groups.

--add-unfindable-groups <string>
  Adds an entry to the list of unfindable groups that is checked if --restrict-findable is
  enabled. Repeat this option to specify multiple list items.

--remove-unfindable-groups <string>
  Removes an entry from the list of unfindable groups that is checked if --restrict-
  findable is enabled. Repeat this option to specify multiple list items.

--unfindable-users <string>
  If --restrict-findable is enabled and the findable users list is empty, specifies a user
  that cannot be resolved by the provider. Repeat this option to specify multiple list
  items. This option overwrites any existing entries in the unfindable users list; to add
  or remove users without affecting current entries, use --add-unfindable-users or --
  remove-unfindable-users.

--clear-unfindable-users
  Removes all entries from the list of unfindable groups.

--add-unfindable-users <string>
  Adds an entry to the list of unfindable users that is checked if --restrict-findable is
  enabled. Repeat this option to specify multiple list items.

--remove-unfindable-users <string>
  Removes an entry from the list of unfindable users that is checked if --restrict-
  findable is enabled. Repeat this option to specify multiple list items.

--unlistable-groups <string>
  If --restrict-listable is enabled and the listable groups list is empty, specifies a group
  that cannot be listed by the provider. Repeat this option to specify multiple list items.
  This option overwrites any existing entries in the unlistable groups list; to add
  or remove groups without affecting current entries, use --add-unlistable-groups or --
  remove-unlistable-groups.

--clear-unlistable-groups
  Removes all entries from the list of unlistable groups.

--add-unlistable-groups <string>
  Adds an entry to the list of unlistable groups that is checked if --restrict-listable is
  enabled. Repeat this option to specify multiple list items.

--remove-unlistable-groups <string>
Removes an entry from the list of unlistable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--unlistable-users <string>
If --restrict-listable is enabled and the listable users list is empty, specifies a user that cannot be listed by the provider. Repeat this option to specify multiple list items. This option overwrites any existing entries in the unlistable users list; to add or remove users without affecting current entries, use --add-unlistable-users or --remove-unlistable-users.

--clear-unlistable-users
Removes all entries from the list of unlistable users.

--add-unlistable-users <string>
Adds an entry to the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-unlistable-users <string>
Removes an entry from the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--unmodifiable-groups <string>
If --restrict-modifiable is enabled and the modifiable groups list is empty, specifies a group that cannot be modified. Repeat this option to specify multiple list items. This option overwrites any existing entries in the provider’s unmodifiable groups list; to add or remove groups without affecting current entries, use --add-unmodifiable-groups or --remove-unmodifiable-groups.

--clear-unmodifiable-groups
Removes all entries from the list of unmodifiable groups.

--add-unmodifiable-groups <string>
Adds an entry to the list of unmodifiable groups that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--remove-unmodifiable-groups <string>
Removes an entry from the list of unmodifiable groups that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--unmodifiable-users <string>
If --restrict-modifiable is enabled and the modifiable users list is empty, specifies a user that cannot be modified. Repeat this option to specify multiple list items. This option overwrites any existing entries in the provider’s unmodifiable users list; to add or remove users without affecting current entries, use --add-unmodifiable-users or --remove-unmodifiable-users.

--clear-unmodifiable-users
Removes all entries from the list of unmodifiable users.

--add-unmodifiable-users <string>
Adds an entry to the list of unmodifiable users that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--remove-unmodifiable-users <string>
Removes an entry from the list of unmodifiable users that is checked if --restrict-modifiable is enabled. Repeat this option to specify multiple list items.

--user-domain <string>
Specifies the domain that the provider will use to qualify users. The default user domain is FILE_USERS.

```
{--verbose | -v}
```
Displays the results of running the command.

### isi auth file view

Displays the properties of a file provider.

**Syntax**

```
isi auth file view <provider-name>
```

**Options**

- `<provider-name>`
  Specifies the name of the provider to view.

### isi auth groups create

Creates a group.

**Syntax**

```
isi auth groups create <name>
   [--gid <integer>]
   [--members <string>]
   [--sid <string>]
   [--zone <string>]
   [--provider <string>]
   [--verbose]
   [--force]
```

**Options**

- `<name>`
  Specifies the group name.

- `--gid <integer>`
  Overrides automatic allocation of the UNIX group identifier (GID) with the specified value. Setting this option is not recommended.

- `--members <string>`
  Adds a group member by name. Repeat this option to specify multiple list items.

- `--sid <string>`
  Sets the Windows security identifier (SID) for the group, for example S-1-5-21-13.

- `--zone <string>`
  Specifies the access zone in which to create the group.

- `--provider <string>`
  Specifies a local authentication provider within the specified access zone.

- `--verbose | -v`
  Displays more detailed information.

- `--force | -f`
  Suppresses command-line prompts and messages.
isi auth groups delete

Removes a local group from the system. Members of a group are removed before the group is deleted.

Syntax
isi auth groups delete {<group> | --gid <integer> | --sid <string>}
   [--zone <string>]
   [--provider <string>]
   [--force]
   [--verbose]

Options
This command requires <group>, --gid <integer>, or --sid <string>.

<group>
   Specifies the group by name.
--gid <integer>
   Specifies the group by GID.
--sid <string>
   Specifies the group by SID.
--zone <string>
   Specifies the name of the access zone that contains the group.
--provider <string>
   Specifies the group's authentication provider.
{--force | -f}
   Suppresses command-line prompts and messages.
{--verbose | -v}
   Displays the results of running the command.

isi auth groups flush

Flushes cached group information.

Syntax
isi auth groups flush

Options
There are no options for this command.

Examples
To flush all cached group information, run the following command:

isi auth groups flush

isi auth groups list

Displays a list of groups.

Syntax
isi auth groups list
   [--domain <string>]
   [--zone <string>]
Options
--domain <string>
  Specifies the provider domain.
--zone <string>
  Specifies an access zone.
--provider <string>
  Specifies an authentication provider.
--limit <integer>
  Displays no more than the specified number of items.
--format {table | json | csv | list}
  Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
--no-header | -a
  Displays table and CSV output without headers.
--no-footer | -z
  Displays table output without footers.
--verbose | -v
  Displays more detailed information.

isi auth groups modify

Modifies a local group.

Syntax
isi auth groups modify {<group> | --gid <integer> | --sid <string>}
  [--new-gid <integer>]
  [--add-uid <integer>]
  [--remove-uid <integer>]
  [--add-user <name>]
  [--remove-user <name>]
  [--add-sid <string>]
  [--remove-sid <string>]
  [--add-wellknown <name>]
  [--remove-wellknown <name>]
  [--zone <string>]
  [--provider <string>]
  [--verbose]
  [--force]

Options
This command requires <group>, --gid <integer>, or --sid <string>.

<group>
  Specifies the group by name.
--gid <integer>
  Specifies the group by GID.
--sid <string>
Specifies the group by SID.

--new-gid <integer>
  Specifies a new GID for the group. Setting this option is not recommended.

--add-uid <integer>
  Specifies the UID of a user to add to the group. Repeat this option to specify multiple list items.

--remove-uid <integer>
  Specifies the UID of a user to remove from the group. Repeat this option to specify multiple list items.

--add-user <name>
  Specifies the name of a user to add to the group. Repeat this option to specify multiple list items.

--remove-user <name>
  Specifies the name of a user to remove from the group. Repeat this option to specify multiple list items.

--add-sid <string>
  Specifies the SID of an object to add to the group, for example S-1-5-21-13. Repeat this option to specify multiple list items.

--remove-sid <string>
  Specifies the SID of an object to remove from the group. Repeat this option to specify multiple list items.

--add-wellknown <name>
  Specifies a well-known SID to add to the group. Repeat this option to specify multiple list items.

--remove-wellknown <name>
  Specifies a well-known SID to remove from the group. Repeat this option to specify multiple list items.

--zone <string>
  Specifies the group's access zone.

--provider <string>
  Specifies the group’s authentication provider.

{--verbose | -v}
  Displays more detailed information.

{--force | -f}
  Suppresses command-line prompts and messages.

**isi auth groups members list**

Displays a list of members that are associated with a group.

**Syntax**

```bash
isi auth groups members list {<group> | --gid <integer> | --sid <string>} [--zone <string>] [--provider <string>] [--limit <integer>] [--format {table | json | csv | list}] [--no-header]
```
Options
This command requires `<group>`, `--gid <integer>`, or `--sid <string>`.

`<group>`
   Specifies the group by name.

`--gid <integer>`
   Specifies the group by GID.

`--sid <string>`
   Specifies the group by SID.

`--zone <string>`
   Specifies an access zone.

`--provider <string>`
   Specifies an authentication provider.

`{--limit | -l} <integer>`
   Displays no more than the specified number of items.

`--format {table | json | csv | list}`
   Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

`{--no-header | -a}`
   Displays table and CSV output without headers.

`{--no-footer | -z}`
   Displays table output without footers.

`{--verbose | -v}`
   Displays more detailed information.

isi auth groups view

Displays the properties of a group.

Syntax

isi auth groups view [{<group> | --gid <integer> | --sid <string>}]
   [ [--zone <string>]]
   [ [--show-groups]
     [ --provider <string>]]

Options
This command requires `<group>`, `--gid <integer>`, or `--sid <string>`.

`<group>`
   Specifies the group by name.

`--gid <integer>`
   Specifies the group by GID.

`--sid <string>`
   Specifies the group by SID.

`--zone <string>`
   Specifies an access zone.
Authentication and access control commands

--show-groups
   Displays groups that include this group as a member.

--provider <string>
   Specifies an authentication provider.

isi auth id

Displays your access token.

Syntax
isi auth id

Options
There are no options for this command.

isi auth krb5 add realm

Adds a realm definition to the Kerberos configuration file.

Syntax
isi auth krb5 add realm --realm <dns-domain>
  [--default-domain <string>]
  [--kdc <string>]
  [--admin-server <string>]
  [--auth-to-local <string>]
  [--is-active-directory {yes | no}]
  [--is-default-realm {yes | no}]

Options
--realm <dns-domain>
   Specifies the DNS domain of the realm to add.
--default-domain <string>
   Specifies the default domain.
--kdc <string>
   Specifies a KDC hostname or IP address.
--admin-server <string>
   Specifies an admin server hostname or IP address.
--auth-to-local <string>
   Specifies an auth-to-local mapping rule.
--is-active-directory {yes | no}
   Indicates the realm is an Active Directory domain.
--is-default-realm {yes | no}
   Designates the realm as the default realm.

isi auth krb5 delete default

Deletes settings from the "defaults" section of the Kerberos configuration file.

Syntax
isi auth krb5 delete default
  [--default-keytab-name]
  [--default-realm]
Options
--default-keytab-name
   Deletes the default keytab file.

--default-realm
   Deletes the default realm.

--default-tgs-enctypes
   Deletes the default TGS enctypes.

--default-tkt-enctypes
   Deletes the default TKT enctypes.

--permitted-enctypes
   Deletes the permitted enctypes definition.

--preferred-enctypes
   Deletes the preferred enctypes definition.

**isi auth krb5 delete domain**

Deletes a domain-to-realm mapping from the "domain_realm" section of the Kerberos configuration file.

**Syntax**

```
isi auth krb5 delete domain
    [--domain <string>]
```

**Options**

--domain <string>
   Specifies the domain that is associated with the realm.

**isi auth krb5 delete realm**

Deletes settings from the "realms" section of the Kerberos configuration file.

**Syntax**

```
isi auth krb5 delete realm --realm <dns-domain>
```

**Options**

--realm <dns-domain>
   Specifies the DNS domain of the realm to delete settings from.

--all
   Deletes the realm.

--default-domain
   Deletes the default domain value.
--all-kdc
   Deletes all KDC definitions.

--kdc <string>
   Deletes the specified KDC hostname or IP address value.

--admin-server <string>
   Deletes the specified admin server hostname or IP address value.

--auth-to-local <string>
   Deletes the specified auth-to-local mapping rule.

--all-auth-to-local
   Deletes all auth-to-local definitions.

isi auth krb5 list
Displays Kerberos 5 configuration settings.

Syntax
isi auth krb5 list
   [--section <string>]
   [--tree]

Options
--section <string>
   Displays only the specified section.

--tree
   Displays output in tree format.

isi auth krb5 modify default
Sets parameters in the “defaults” section of the Kerberos configuration file.

Syntax
isi auth krb5 modify default
   [--always-send-preauth {yes | no}]
   [--dns-lookup-kdc {yes | no}]
   [--dns-lookup-realm {yes | no}]
   [--default-realm <dns-domain>]
   [--default-keytab-name <string>]
   [--permitted-enctypes <string>]
   [--default-tkt-enctypes <string>]
   [--default-tgs-enctypes <string>]
   [--preferred-enctypes <string>]

Options
--always-send-preauth {yes | no}
   Specifies whether to require the preauth flag.

--dns-lookup-kdc {yes | no}
   Specifies the DNS lookup KDC.

--dns-lookup-realm {yes | no}
   Specifies the DNS lookup realm.

--default-realm <dns-domain>
   Specifies the default realm.

--default-keytab-name <string>
Specifies the default keytab file.

`--permitted-enctypes <string>`
Specifies the permitted enctypes.

`--default-tkt-enctypes <string>`
Specifies the default TKT enctypes.

`--default-tgs-enctypes <string>`
Specifies the default TGS enctypes.

`--preferred-enctypes <string>`
Specifies the preferred enctypes.

**isi auth krb5 modify domain**
Sets a domain-to-realm mapping in the "domain_realm" section of the Kerberos configuration file.

**Syntax**
```
isi auth config krb5 modify domain --domain <string> --realm <domain>
```

**Options**

`--domain <string>`
Specifies the domain to associate with a realm.

`--realm <dns-domain>`
Specifies a realm to associate with the domain.

**isi auth krb5 modify realm**
Sets parameters in the "realms" section of the Kerberos configuration file.

**Syntax**
```
isi auth krb5 modify realm --realm <dns-domain>
[--default-domain <string>]
[--kdc <string>]
[--admin-server <string>]
[--auth-to-local <string>]
[--is-active-directory {yes | no}]
[--is-default-realm {yes | no}]
```

**Options**

`--realm <dns-domain>`
Specifies the DNS domain of the realm to modify.

`--default-domain <string>`
Specifies the default domain.

`--kdc <string>`
Specifies a KDC hostname or IP address.

`--admin-server <string>`
Specifies an admin server hostname or IP address.

`--auth-to-local <string>`
Specifies an auth-to-local mapping rule.

`--is-active-directory {yes | no}`
Indicates the realm is an Active Directory domain.

--is-default-realm {yes | no}
Designates the realm as the default realm.

**isi auth krb5 write**

Writes the Kerberos configuration file to disk.

**Syntax**

```
isi auth config krb5 write
   [--path <path>]
```

**Options**

--path <path>
Specifies the file path to write the configuration file to. If this option is omitted, the configuration file is written to the `/etc/krb5.conf` file by default.

**isi auth ldap create**

Creates an LDAP provider.

**Syntax**

```
isi auth ldap create <name>
  [--base-dn <string>]
  [--server-uris <string>]
  [--authentication {yes | no}]
  [--balance-servers {yes | no}]
  [--bind-dn <string>]
  [--bind-timeout <integer>]
  [--cache-entry-expiry <duration>]
  [--certificate-authority-file <string>]
  [--check-online-interval <duration>]
  [--cn-attribute <string>]
  [--create-home-directory {yes | no}]
  [--crypt-password-attribute <string>]
  [--email-attribute <string>]
  [--enabled {yes | no}]
  [--enumerate-groups {enable | disable}]
  [--enumerate-users {enable | disable}]
  [--findable-groups <string>]
  [--findable-users <string>]
  [--gecos-attribute <string>]
  [--gid-attribute <string>]
  [--gid-attribute <string>]
  [--group-base-dn <string>]
  [--group-domain <string>]
  [--group-filter <string>]
  [--group-members-attribute <string>]
  [--group-search-scope {default | base | subtree | children}]
  [--home-directory-template <string>]
  [--homegroup-attribute <string>]
  [--ignore-tls-errors {yes | no}]
  [--listable-groups <string>]
  [--listable-users <string>]
  [--login-shell <string>]
  [--name-attribute <string>]
  [--netgroup-base-dn <string>]
  [--netgroup-filter <string>]
  [--netgroup-members-attribute <string>]
  [--netgroup-search-scope {default | base | subtree | children}]
  [--netgroup-triple-attribute <string>]
  [--normalize-groups {yes | no}]
  [--normalize-users {yes | no}]
  [--nt-password-attribute <string>]
  [--ntlm-support {all | v2only | none}]
```
Options

<name>
Sets the LDAP provider name.

--base-dn <string>
Sets the root of the tree in which to search for identities.

--server-uris <string>
Specifies an LDAP server URI to be used by this provider. Repeat this option to specify multiple items.

--authentication {enable | disable}
Enables or disables the use of the provider for authentication as well as identity. The default value is enable.

--balance-servers {yes | no}
Makes the provider connect to a random server on each request.

--bind-dn <string>
Specifies the distinguished name to use when binding to the LDAP server.

--bind-timeout <integer>
Specifies the timeout in seconds when binding to the LDAP server.

--cache-entry-expiry <duration>
Specifies the amount of time to cache a user or group, in the format <integer>[[Y | M | W | D | H | m | s]].

--certificate-authority-file <path>
Specifies the path to the root certificates file.

--check-online-interval <string>
Specifies the time between provider online checks.

--cn-attribute <string>
Specifies the LDAP attribute that contains common names. The default value is cn.

--create-home-directory {yes | no}
Specifies whether to create a home directory the first time a user logs in, if a home directory does not already exist for the user.

--crypt-password-attribute <string>
Specifies the LDAP attribute that contains UNIX passwords. This setting has no default value.

--email-attribute <string>
Specifies the LDAP attribute that contains email addresses. The default value is email.

--enabled {true | false}
Enables or disables the provider.

--enumerate-groups {yes | no}
Specifies whether to allow the provider to enumerate groups.

--enumerate-users {yes | no}
Specifies whether to allow the provider to enumerate users.

--findable-groups <string>
Specifies a group that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, groups that are not included in this list cannot be resolved.

--findable-users <string>
Specifies a user that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, users that are not included in this list cannot be resolved.

--gecos-attribute <string>
Specifies the LDAP attribute that contains GECOS fields. The default value is gecos.

--gid-attribute <string>
Specifies the LDAP attribute that contains GIDs. The default value is gidNumber.

--group-base-dn <string>
Specifies the distinguished name of the entry at which to start LDAP searches for groups.

--group-domain <string>
Specifies the domain that the provider will use to qualify groups. The default group domain is LDAP_GROUPS.

--group-filter <string>
Sets the LDAP filter for group objects.

--group-members-attribute <string>
Specifies the LDAP attribute that contains group members. The default value is memberUid.

--group-search-scope {default | base | subtree | children}
Defines the depth from the base distinguished name (DN) to perform LDAP searches for groups.
The valid values are as follows:
- **DEFAULT** — Use the setting defined in the default query settings.
- **BASE** — Search only the entry at the base DN.
- **SUBTREE** — Search the base DN and all entries below it.
- **CHILDREN** — Search all entries below the base DN, excluding the base DN itself.

--home-directory-template <path>
Specifies the path to use as a template for naming home directories. The path must begin with /ifs and may contain variables, such as %U, that are expanded to generate the home directory path for the user.

--homedir-attribute <string>
  Specifies the LDAP attribute that contains home directories. The default value is homeDirectory.

--ignore-tls-errors {yes | no}
  Continues over a secure connection even if identity checks fail.

--listable-groups <string>
  Specifies a group that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, groups that are not included in this list cannot be viewed.

--listable-users <string>
  Specifies a user that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, users that are not included in this list cannot be viewed.

--login-shell <path>
  Specifies the path to the user’s login shell. This setting applies only to users who access the file system through SSH.

--name-attribute <string>
  Specifies the LDAP attribute that contains UIDs, which are used as login names. The default value is uid.

--netgroup-base-dn <string>
  Specifies the distinguished name of the entry at which to start LDAP searches for netgroups.

--netgroup-filter <string>
  Sets the LDAP filter for netgroup objects.

--netgroup-members-attribute <string>
  Specifies the LDAP attribute that contains netgroup members. The default value is memberNisNetgroup.

--netgroup-search-scope {default | base | subtree | children}
  Defines the depth from the base distinguished name (DN) to perform LDAP searches for netgroups.
  The valid values are as follows:
  *(default)* — Use the setting defined in the default query settings.
  *(BASE)* — Search only the entry at the base DN.
  *(SUBTREE)* — Search the base DN and all entries below it.
  *(CHILDREN)* — Search all entries below the base DN, excluding the base DN itself.

--netgroup-triple-attribute <string>
  Specifies the LDAP attribute that contains netgroup triples. The default value is nisNetgroupTriple.

--normalize-groups {yes | no}
  Normalizes group names to lowercase before lookup.

--normalize-users {yes | no}
Normalizes user names to lowercase before lookup.

--nt-password-attribute <string>
Specifies the LDAP attribute that contains Windows passwords. The default value is ntpasswdhash.

--ntlm-support {all | v2only | none}
For users with NTLM-compatible credentials, specifies which NTLM versions to support. The valid values are all, v2only, and none. NTLMv2 provides additional security over NTLM and is recommended if all server

--provider-domain <string>
Specifies the domain that the provider will use to qualify user and group names.

--require-secure-connection {yes | no}
Specifies whether to require a TLS connection.

--restrict-findable {yes | no}
Specifies whether to check the provider for filtered lists of findable and unfindable users and groups.

--restrict-listable {yes | no}
Specifies whether to check the provider for filtered lists of listable and unlistable users and groups.

--search-scope {base | subtree | children}
Defines the default depth from the base distinguished name (DN) to perform LDAP searches.
The valid values are as follows:
- BASE — Search only the entry at the base DN.
- SUBTREE — Search the base DN and all entries below it.
- CHILDREN — Search all entries below the base DN, excluding the base DN itself.

--search-timeout <integer>
Sets the search timeout period in seconds.

--shell-attribute <string>
Specifies the LDAP attribute that contains UNIX login shells. The default value is loginShell.

--uid-attribute <string>
Specifies the LDAP attribute that contains UID numbers. The default value is uidNumber.

--unfindable-groups <string>
If --restrict-findable is enabled and the findable groups list is empty, specifies a group that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unfindable-users <string>
If --restrict-findable is enabled and the findable users list is empty, specifies a user that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unique-group-members-attribute <string>
Specifies the LDAP attribute that contains unique group members. This determines what groups a user is a member of if the LDAP server is queried by the user’s DN instead of the user’s name. This setting has no default value.
--unlistable-groups <string>
If --restrict-listable is enabled and the listable groups list is empty, specifies a group
that cannot be listed by the provider. Repeat this option to specify multiple list items.

--unlistable-users <string>
If --restrict-listable is enabled and the listable users list is empty, specifies a user that
cannot be listed by the provider. Repeat this option to specify multiple list items.

--user-base-dn <string>
Specifies the distinguished name of the entry at which to start LDAP searches for
users.

--user-domain <string>
Specifies the domain that the provider will use to qualify users. The default user
domain is LDAP_USERS.

--user-filter <string>
Sets the LDAP filter for user objects.

--user-search-scope {default | base | subtree | children}
Defines the depth from the base distinguished name (DN) to perform LDAP searches
for users.
The valid values are as follows:

- DEFAULT — Use the setting defined in the default query settings.
- BASE — Search only the entry at the base DN.
- SUBTREE — Search the base DN and all entries below it.
- CHILDREN — Search all entries below the base DN, excluding the base DN itself.

--bind-password <string>
Sets the password for the distinguished name that is used when binding to the LDAP
server. To set the password interactively, use the --set-bind-password option instead.

--set-bind-password
Interactively sets the password for the distinguished name that is used when binding
to the LDAP server. This option cannot be used with --bind-password.

{--verbose | -v}
Displays the results of running the command.

isi auth ldap delete
Deletes an LDAP provider.

Syntax
isi auth ldap delete <provider-name>
    [--force]
    [--verbose]

Options

<provider-name>
    Specifies the name of the provider to delete.

{--force | -f}
    Suppresses command-line prompts and messages.

{--verbose | -v}
Displays more detailed information.

**isi auth ldap list**

Displays a list of LDAP providers.

**Syntax**

```bash
isi auth ldap list
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

**Options**

```bash
{--limit | -l} <integer>
Displays no more than the specified number of items.
```

```bash
--format {table | json | csv | list}
Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
```

```bash
{--no-header | -a}
Displays table and CSV output without headers.
```

```bash
{--no-footer | -z}
Displays table output without footers.
```

```bash
{--verbose | -v}
Displays more detailed information.
```

**isi auth ldap modify**

Modifies an LDAP provider.

**Syntax**

```bash
isi auth ldap modify <provider-name>
[--base-dn <string>]
[--server-uris <string>]
[--clear-server-uris]
[--add-server-uris <string>]
[--remove-server-uris <string>]
[--authentication <boolean>]
[--balance-servers <boolean>]
[--bind-dn <string>]
[--bind-timeout <integer>]
[--cache-entry-expiry <duration>]
[--certificate-authority-file <string>]
[--check-online-interval <duration>]
[--cn-attribute <string>]
[--create-home-directory <boolean>]
[--crypt-password-attribute <string>]
[--email-attribute <string>]
[--enabled <boolean>]
[--enumerate-groups <boolean>]
[--enumerate-users <boolean>]
[--findable-groups <string>]
[--clear-findable-groups]
[--add-findable-groups <string>]
[--remove-findable-groups <string>]
[--findable-users <string>]
[--clear-findable-users]
[--add-findable-users <string>]
[--remove-findable-users <string>]
```
Options

<provider-name>

Specifies the name of the LDAP provider to modify.

--base-dn <string>

Sets the root of the tree in which to search for identities.
Authentication and access control commands

--server-uris <string>
   Specifies an LDAP server URI to be used by this provider. Repeat this option to specify
   multiple items. This option overwrites the entries in the LDAP server URI list; to add or
   remove URIs without affecting current entries, use --add-server-uris or --remove-
   server-uris.

--clear-server-uris
   Removes all entries from the list of server URIs.

--add-server-uris <string>
   Adds an entry to the list of server URIs. Repeat this option to specify multiple list
   items.

--remove-server-uris <string>
   Removes an entry from the list of server URIs. Repeat this option to specify multiple
   list items.

--authentication {enable | disable}
   Enables or disables the use of the provider for authentication as well as identity. The
   default value is enable.

--balance-servers {yes | no}
   Makes the provider connect to a random server on each request.

--bind-dn <string>
   Specifies the distinguished name to use when binding to the LDAP server.

--bind-timeout <integer>
   Specifies the timeout in seconds when binding to the LDAP server.

--cache-entry-expiry <duration>
   Specifies the amount of time to cache a user or group, in the format <integer>[(Y | M
   | W | D | H | m | s)]).

--certificate-authority-file <path>
   Specifies the path to the root certificates file.

--check-online-interval <string>
   Specifies the time between provider online checks.

--cn-attribute <string>
   Specifies the LDAP attribute that contains common names. The default value is cn.

--create-home-directory {yes | no}
   Specifies whether to create a home directory the first time a user logs in, if a home
directory does not already exist for the user.

--crypt-password-attribute <string>
   Specifies the LDAP attribute that contains UNIX passwords. This setting has no
   default value.

--email-attribute <string>
   Specifies the LDAP attribute that contains email addresses. The default value is email.

--enabled {true | false}
   Enables or disables the provider.

--enumerate-groups {yes | no}
   Specifies whether to allow the provider to enumerate groups.
--enumerate-users {yes | no}
    Specifies whether to allow the provider to enumerate users.

--findable-groups <string>
    Specifies a group that can be found in the provider if --restrict-findable is enabled.
    Repeat this option to specify multiple list items. If populated, groups that are not
    included in this list cannot be resolved. This option overwrites the entries in the
    findable groups list; to add or remove groups without affecting current entries, use --
    add-findable-groups or --remove-findable-groups.

--clear-findable-groups
    Removes all entries from the list of findable groups.

--add-findable-groups <string>
    Adds an entry to the list of findable groups that is checked if --restrict-findable is
    enabled. Repeat this option to specify multiple list items.

--remove-findable-groups <string>
    Removes an entry from the list of findable groups that is checked if --restrict-findable
    is enabled. Repeat this option to specify multiple list items.

--findable-users <string>
    Specifies a user that can be found in the provider if --restrict-findable is enabled.
    Repeat this option to specify multiple list items. If populated, users that are not
    included in this list cannot be resolved. This option overwrites the entries in the
    findable users list; to add or remove users without affecting current entries, use --
    add-findable-users or --remove-findable-users.

--clear-findable-users
    Removes all entries from the list of findable users.

--add-findable-users <string>
    Adds an entry to the list of findable users that is checked if --restrict-findable is
    enabled. Repeat this option to specify multiple list items.

--remove-findable-users <string>
    Removes an entry from the list of findable users that is checked if --restrict-findable is
    enabled. Repeat this option to specify multiple list items.

--gecos-attribute <string>
    Specifies the LDAP attribute that contains GECOS fields. The default value is gecos.

--gid-attribute <string>
    Specifies the LDAP attribute that contains GIDs. The default value is gidNumber.

--group-base-dn <string>
    Specifies the distinguished name of the entry at which to start LDAP searches for
    groups.

--group-domain <string>
    Specifies the domain that the provider will use to qualify groups. The default group
domain is LDAP_GROUPS.

--group-filter <string>
    Sets the LDAP filter for group objects.

--group-members-attribute <string>
    Specifies the LDAP attribute that contains group members. The default value is
    memberUid.
--group-search-scope \{default | base | subtree | children\}
Defines the depth from the base distinguished name (DN) to perform LDAP searches for groups.
The valid values are as follows:
- **DEFAULT** — Use the setting defined in the default query settings.
- **BASE** — Search only the entry at the base DN.
- **SUBTREE** — Search the base DN and all entries below it.
- **CHILDREN** — Search all entries below the base DN, excluding the base DN itself.

--home-directory-template <path>
Specifies the path to use as a template for naming home directories. The path must begin with /ifs and may contain variables, such as %U, that are expanded to generate the home directory path for the user.

--homedir-attribute <string>
Specifies the LDAP attribute that contains home directories. The default value is homeDirectory.

--ignore-tls-errors \{yes | no\}
Continues over a secure connection even if identity checks fail.

--listable-groups <string>
Specifies a group that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, groups that are not included in this list cannot be viewed. This option overwrites the entries in the listable groups list; to add or remove groups without affecting current entries, use --add-listable-groups or --remove-listable-groups.

--clear-listable-groups
Removes all entries from the list of listable groups.

--add-listable-groups <string>
Adds an entry to the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-listable-groups <string>
Removes an entry from the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--listable-users <string>
Specifies a user that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, users that are not included in this list cannot be viewed. This option overwrites the entries in the listable users list; to add or remove users without affecting current entries, use --add-listable-users or --remove-listable-users.

--clear-listable-users
Removes all entries from the list of listable users.

--add-listable-users <string>
Adds an entry to the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-listable-users <string>
Removes an entry from the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.
--login-shell <path>
Specifies the path to the user's login shell. This setting applies only to users who
access the file system through SSH.

--name-attribute <string>
Specifies the LDAP attribute that contains UIDs, which are used as login names. The
default value is uid.

--netgroup-base-dn <string>
Specifies the distinguished name of the entry at which to start LDAP searches for
netgroups.

--netgroup-filter <string>
Sets the LDAP filter for netgroup objects.

--netgroup-members-attribute <string>
Specifies the LDAP attribute that contains netgroup members. The default value is
memberNisNetgroup.

--netgroup-search-scope {default | base | subtree | children}
Defines the depth from the base distinguished name (DN) to perform LDAP searches
for netgroups.
The valid values are as follows:

- **DEFAULT** — Use the setting defined in the default query settings.
- **BASE** — Search only the entry at the base DN.
- **SUBTREE** — Search the base DN and all entries below it.
- **CHILDREN** — Search all entries below the base DN, excluding the base DN itself.

--netgroup-triple-attribute <string>
Specifies the LDAP attribute that contains netgroup triples. The default value is
nisNetgroupTriple.

--normalize-groups {yes | no}
Normalizes group names to lowercase before lookup.

--normalize-users {yes | no}
Normalizes user names to lowercase before lookup.

--nt-password-attribute <string>
Specifies the LDAP attribute that contains Windows passwords. The default value is
ntpasswdhash.

--ntlm-support {all | v2only | none}
For users with NTLM-compatible credentials, specifies which NTLM versions to
support. Valid values are all, v2only, and none. NTLMv2 provides additional security
over NTLM and is recommended if all server

--provider-domain <string>
Specifies the domain that the provider will use to qualify user and group names.

--require-secure-connection {yes | no}
Specifies whether to require a TLS connection.

--restrict-findable {yes | no}
Specifies whether to check the provider for filtered lists of findable and unfindable
users and groups.

--restrict-listable {yes | no}
Specifies whether to check the provider for filtered lists of listable and unlistable users and groups.

--search-scope {base | subtree | children}
Defines the default depth from the base distinguished name (DN) to perform LDAP searches.
The valid values are as follows:
- **BASE** — Search only the entry at the base DN.
- **SUBTREE** — Search the base DN and all entries below it.
- **CHILDREN** — Search all entries below the base DN, excluding the base DN itself.

--search-timeout <integer>
Sets the search timeout period in seconds.

--shell-attribute <string>
Specifies the LDAP attribute that contains UNIX login shells. The default value is loginShell.

--uid-attribute <string>
Specifies the LDAP attribute that contains UID numbers. The default value is uidNumber.

--unfindable-groups <string>
Specifies a group that cannot be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unfindable groups list; to add or remove groups without affecting current entries, use --add-unfindable-groups or --remove-unfindable-groups.

--clear-unfindable-groups
Removes all entries from the list of unfindable groups.

--add-unfindable-groups <string>
Adds an entry to the list of unfindable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-unfindable-groups <string>
Removes an entry from the list of unfindable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--unfindable-users <string>
Specifies a user that cannot be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unfindable users list; to add or remove users without affecting current entries, use --add-unfindable-users or --remove-unfindable-users.

--clear-unfindable-users
Removes all entries from the list of unfindable users.

--add-unfindable-users <string>
Adds an entry to the list of unfindable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-unfindable-users <string>
Removes an entry from the list of unfindable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--unique-group-members-attribute <string>
Specifies the LDAP attribute that contains unique group members. This determines what groups a user is a member of if the LDAP server is queried by the user's DN instead of the user's name. This setting has no default value.

--unlistable-groups <string>
Specifies a group that cannot be listed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unlistable groups list; to add or remove groups without affecting current entries, use --add-unlistable-groups or --remove-unlistable-groups.

--clear-unlistable-groups
Removes all entries from the list of unlistable groups.

--add-unlistable-groups <string>
Adds an entry to the list of unlistable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-unlistable-groups <string>
Removes an entry from the list of unlistable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--unlistable-users <string>
Specifies a user that cannot be listed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unlistable users list; to add or remove users without affecting current entries, use --add-unlistable-users or --remove-unlistable-users.

--clear-unlistable-users
Removes all entries from the list of unlistable users.

--add-unlistable-users <string>
Adds an entry to the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-unlistable-users <string>
Removes an entry from the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--user-base-dn <string>
Specifies the distinguished name of the entry at which to start LDAP searches for users.

--user-domain <string>
Specifies the domain that the provider will use to qualify users. The default user domain is LDAP_USERS.

--user-filter <string>
Sets the LDAP filter for user objects.

--user-search-scope {default | base | subtree | children}
Defines the depth from the base distinguished name (DN) to perform LDAP searches for users. The valid values are as follows:
The valid values are as follows:

* **DEFAULT** — Use the setting defined in the default query settings.
* **BASE** — Search only the entry at the base DN.
* **SUBTREE** — Search the base DN and all entries below it.
* **CHILDREN** — Search all entries below the base DN, excluding the base DN itself.
--bind-password <string>
   Sets the password for the distinguished name that is used when binding to the LDAP server. To set the password interactively, use the --set-bind-password option instead.

--set-bind-password
   Interactively sets the password for the distinguished name that is used when binding to the LDAP server. This option cannot be used with --bind-password.

{--verbose | -v}
   Displays the results of running the command.

isi auth ldap view
   Displays the properties of an LDAP provider.

Syntax
isi auth ldap view <provider-name>

Options
<provider-name>
   Specifies the name of the provider to view.

isi auth local list
   Displays a list of local providers.

Syntax
isi auth local list
   [--limit <integer>]
   [--format {table | json | csv | list}]
   [--no-header]
   [--no-footer]
   [--verbose]

Options
{--limit | -l} <integer>
   Displays no more than the specified number of items.

--format {table | json | csv | list}
   Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}
   Displays table and CSV output without headers.

{--no-footer | -z}
   Displays table output without footers.

{--verbose | -v}
   Displays more detailed information.

isi auth local modify
   Modifies a local provider.

Syntax
isi auth local modify <provider-name>
   [--authentication {yes | no}]
Options
<provider-name>
  Specifies the name of the local provider to modify.

--authentication {yes | no}
  Uses the provider for authentication as well as identity. The default setting is yes.

--create-home-directory {yes | no}
  Creates a home directory the first time a user logs in.

--home-directory-template <string>
  Specifies the path to use as the home directory naming template.

--lockout-duration <duration>
  Sets the length of time that an account will be inaccessible after multiple failed login attempts.

--lockout-threshold <integer>
  Specifies the number of failed login attempts after which an account will be locked out.

--lockout-window <duration>
  Sets the length of time in which the number of failed attempts specified by the --lockout-threshold option must be made for an account to be locked out.

--login-shell <string>
  Specifies the path to the UNIX login shell.

--machine-name <string>
  Specifies the domain to use to qualify user and group names for the provider.

--min-password-age <duration>
  Sets the minimum password age.

--max-password-age <duration>
  Sets the maximum password age.

--min-password-length <integer>
  Sets the minimum password length.

--password-prompt-time <duration>
  Sets the remaining time until a user is prompted for a password change.

{--verbose | -v}
  Displays more detailed information.
### isi auth local view

Displays the properties of a local provider.

**Syntax**

`isi auth local view <provider-name>`

**Options**

`<provider-name>`

Specifies the name of the provider to view.

### isi auth log-level

Displays or modifies the run-time log level of the authentication service.

**Syntax**

`isi auth log-level [--set <string>]`

**Options**

`--set | -s <string>`

Sets the log level for the current node. The log level determines how much information is logged.

The following values are valid (log levels are organized from least to most information):

- always
- error
- warning
- info
- verbose
- debug
- trace

**Note** Levels `verbose`, `debug` and `trace` might cause performance issues. Levels `debug` and `trace` log information that will most likely only be useful when consulting Isilon Technical Support.

**Examples**

To set the log level to `always`, run the following command:

`isi auth log-level --set=always`

### isi auth mapping delete

Deletes one or more mappings for an identity.

**Syntax**

`isi auth mapping delete {--source <type>:<value> | --source-uid <integer> | --source-gid <integer> | --source-sid <string> | --source-principal <string> | --source-name <string> | --source-user <string> | --source-group <string>} {--target <type>:<value> | --target-uid <integer> | --target-gid <integer> | --target-sid <string>}`
Options
--source <type>:<value>
  Specifies the source by type:value pair, for example UID:2002.
--source-uid <integer>
  Specifies the source by UID.
--source-gid <integer>
  Specifies the source by GID.
--source-sid <string>
  Specifies the source by SID.
--source-principal <string>
  Specifies the source by principal name.
--source-name <string>
  Specifies the source by user name.
--source-user <string>
  Specifies the source by user.
--source-group <string>
  Specifies the source by group name.
--target <type>:<value>
  Specifies the target by type:value pair.
--target-uid <integer>
  Specifies the target by UID.
--target-gid <integer>
  Specifies the target by GID.
--target-sid <string>
  Specifies the target by SID.
--target-principal <string>
  Specifies the target by principal name.
--target-name <string>
  Specifies the target by name.
--target-user <string>
  Specifies the target by user name.
--target-group <string>
  Specifies the target by group name.
--2way
  Indicates a two-way mapping.
isi auth mapping dump

Displays or prints the kernel mapping database.

Syntax

```
isi auth mapping dump
    [--file <path>]
```

Options

If no option is specified, the kernel mapping database is displayed.

```
{--file | -f} <path>
```

Prints the database to the specified output file.

Examples

To view the kernel mapping database, run the following command:

```
isi auth mapping dump
```

The system displays output similar to the following example:

```
["UID:1000000", ["GROUP:newGroup1", 32]]
["UID:1000001", ["GROUP:newGroup2", 32]]
["UID:1000002", ["USER:newGroup1", 32]]
["GID:1000000", ["USER:user1", 32]]
["GROUP:newGroup1", ["UID:1000000", 32]]
["USER:user1", ["USER:user2", 0], ["GID:1000000", 32]]
["USER:newGroup1", ["UID:1000002", 32]]
```

isi auth mapping flush

Flushes the cache for one or all identity mappings. Flushing the cache might be useful if the ID mapping rules have been modified.

Syntax

```
isi auth mapping flush
    {--all | --source <type>:<value>
        | --source-uid <integer> | --source-gid <integer>
        | --source-sid <string> | --source-principal <string>
        | --source-name <string> | --source-user <string>
        | --source-group <string>}
```

Options

You must specify either `--all` or one of the source options.

```
--all
    Flushes all mappings.
--source <type>:<value>
    Specifies the source by type:value pair, for example UID:2002.
--source-uid <integer>
    Specifies the source by UID.
--source-gid <integer>
    Specifies the source by GID.
--source-sid <string>
    Specifies the source by SID.
--source-principal <string>
    Specifies the source by principal name.
--source-name <string>
    Specifies the source by name.
--source-user <string>
    Specifies the source by user.
--source-group <string>
    Specifies the source by group.
--source-name <string>
Specifies the source by user name.

--source-user <string>
Specifies the source by user.

--source-group <string>
Specifies the source by group name.

isi auth mapping idrange
Displays or modifies the range that UIDs and GIDs are generated from.

Syntax
isi auth mapping idrange [--set-uid-low <integer>
|--set-uid-high <integer> | --set-uid-hwm <integer>
|--set-gid-low <integer> | --set-gid-high <integer>
|--set-gid-hwm <integer> | --get-uid-range | --get-gid-range]...

Options

**Note**  When modifying a UID or GID range, make sure the range:
* does not include existing IDs
* does not overlap with another range that might be used by other IDs on the cluster
* is large enough to avoid running out of unused IDs. If all IDs in the range are in use, ID allocation will fail.

--set-uid-low <integer>
Sets the lowest UID value in the range.

--set-uid-high <integer>
Sets the highest UID value in the range.

--set-uid-hwm <integer>
Specifies the next UID that will be allocated (the high water mark).

**Note**  
* If the high water mark is set above the high UID value, UID allocation will fail.
* The high water mark cannot be set below the lowest UID value in the range. If the specified <integer> is below the low UID value, the high water mark is set to low UID value.

--set-gid-low <integer>
Sets the lowest GID value in the range.

--set-gid-high <integer>
Sets the highest GID value in the range.

--set-gid-hwm <integer>
Specifies the next GID that will be used (the high water mark).
Authentication and access control commands

---

**Note**

- If the high water mark is set above the high GID value, GID allocation will fail.
- High water mark cannot be set below the lowest GID value in the range. If specified `<integer>` is below the low GID value, high water mark is set to low GID value.

```plaintext
--get-uid-range
Displays the current UID range.

--get-gid-range
Displays the current GID range.
```

### isi auth mapping import

Imports mappings from a source file to the ID mapping database.

**Syntax**

```plaintext
isi auth mapping import --file <path>
|--overwrite
```

**Options**

- `--file | -f <path>`
  - Specifies the full path to the file to import. Files must be in the same format found by running the `isi auth mapping dump` command.
- `|--overwrite | -o`
  - Overwrites existing entries in the mapping database file.

### isi auth mapping list

Displays mappings for an identity.

**Syntax**

```plaintext
isi auth mapping list (--source <type>:<value>
|--source-uid <integer> | --source-gid <integer>
|--source-sid <string> | --source-principal <string>
|--source-name <string> | --source-user <string>
|--source-group <string>
|--no-rpc
|--wide
```

**Options**

- `--source <type>:<value>`
  - Specifies the source by type:value pair, for example `UID:2002`.
- `--source-uid <integer>`
  - Specifies the source by UID.
- `--source-gid <integer>`
  - Specifies the source by GID.
- `--source-sid <string>`
  - Specifies the source by SID.
- `--source-principal <string>`
  - Specifies the source by principal name.
--source-name <string>
  Specifies the source by user name.

--source-user <string>
  Specifies the source by user.

--source-group <string>
  Specifies the source by group name.

--no-rpc
  Does not use RPC.

{--wide, -w}
  Does not truncate output.

Examples
The following command displays mappings for a user whose UID is 2002:

isi auth mapping list --source-uid 2002

If the command runs successfully, the system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Type</th>
<th>Mapping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>test1</td>
</tr>
<tr>
<td>On-disk</td>
<td>UID:2002</td>
</tr>
<tr>
<td>Unix UID</td>
<td>2002</td>
</tr>
<tr>
<td>Unix GID</td>
<td>None</td>
</tr>
<tr>
<td>SMB</td>
<td>S-1-5-21-1776575851-2890035977-2418728619-1004</td>
</tr>
<tr>
<td>NFSv4</td>
<td>test1</td>
</tr>
</tbody>
</table>

isi auth mapping modify

Sets or modifies a mapping between two identities.

Syntax

isi auth mapping modify {--source <type>:<value>
| --source-uid <integer> | --source-gid <integer>
| --source-sid <string> | --source-principal <string>
| --source-name <string> | --source-user <string>
| --source-group <string>}
| --target <type>:<value> | --target-uid <integer>
| --target-gid <integer> | --target-sid <string>
| --target-principal <string> | --target-name <string>
| --target-user <string> | --target-group <string>}
|--2way|--replace|--on-disk|--auto|--external

Options
You must specify one source identity and one target identity.

--source <type>:<value>
  Specifies the source by type:value pair, for example UID:2002.

--source-uid <integer>
  Specifies the source by UID.

--source-gid <integer>
  Specifies the source by GID.
---source-sid <string>
    Specifies the source by SID.
---source-principal <string>
    Specifies the source by principal name.
---source-name <string>
    Specifies the source by user name.
---source-user <string>
    Specifies the source by user.
---source-group <string>
    Specifies the source by group name.
---target <type>:<value>
    Specifies the target by type:value pair.
---target-uid <integer>
    Specifies the target by UID.
---target-gid <integer>
    Specifies the target by GID.
---target-sid <string>
    Specifies the target by SID.
---target-principal <string>
    Specifies the target by principal name.
---target-name <string>
    Specifies the target by user name.
---target-user <string>
    Specifies the target by name.
---target-group <string>
    Specifies the target by group name.
--2way
    Indicates a two-way mapping.
--replace
    If the source already has a mapping to the same target type, replace it.
--on-disk
    Uses the target identity type to represent the source on disk.
--auto
    Automatically generates a mapping.
--external
    Specifies the mapping is from an external source

**isi auth mapping new**

Generates or displays a mapping between two identities.

**Syntax**

`isi auth mapping new (--source <type>:<value> | --source-uid <integer> | --source-gid <integer> | --source-name <string> | --source-user <string> | --source-group <string> | --target <type>:<value> | --target-uid <integer> | --target-gid <integer> | --target-sid <string> | --target-principal <string> | --target-name <string> | --target-user <string> | --target-group <string> | --2way | --replace | --on-disk | --auto | --external)`
Options

--source <type>:<value>
  Specifies the source by type:value pair, for example **UID:2002**.

--source-uid <integer>
  Specifies the source by UID.

--source-gid <integer>
  Specifies the source by GID.

--source-sid <string>
  Specifies the source by SID.

--source-principal <string>
  Specifies the source by principal name.

--source-name <string>
  Specifies the source by user name.

--source-user <string>
  Specifies the source by user.

--source-group <string>
  Specifies the source by group name.

--uid
  Retrieves the mapped UID.

--gid
  Retrieves the mapped GID.

--sid
  Retrieves the mapped SID.

--principal
  Retrieves the mapped principal.

### isi auth mapping token

Displays the access token that is calculated for a user during authentication.

**Syntax**

`isi auth mapping token {<user> | --uid <integer>} [--zone <string>] [--primary-gid <integer>] [--gid <integer>]`

**Options**

This command requires `<user>` or `--uid <integer>`.

`<user>`
  Specifies the user by name.

`--uid <integer>`
  Specifies the user by UID.
--zone <string>
   Specifies the name of the access zone that contains the mapping.
--primary-gid <integer>
   Specifies the primary GID.
--gid <integer>
   Specifies a token GID. Repeat this option to specify multiple GIDs.

isi auth mapping upgrade-db

Imports user and group mappings from mapping databases.

Syntax
isi auth mapping upgrade-db --file <path>
   [--uid-range <integer>-<integer>]
   [--gid-range <integer>-<integer>]
   [ [--clear-idrange | --clear-reverse-mappings | --overwrite | --append ]

Options
--file <path>
   Specifies the full path to the user mapping database file (typically idmap.db).
--uid-range <integer>-<integer>
   Specifies the range of auto-allocated UIDs. The default UID range is defined in the
   isi auth config settings.
--gid-range <integer>-<integer>
   Specifies the range of auto-allocated GIDs. The default GID range is defined in the
   isi auth config settings.
--clear-idrange
   Clears all existing mappings in UID and GID ranges before importing new mappings. If
   UID or GID ranges are not specified by the --uid-range or --gid-range parameters, this
   option applies to the ID ranges defined in the isi auth config settings.
--clear-reverse-mappings
   Removes all existing mappings for any newly imported IDs.
{--overwrite, -o}
   Overwrites existing mappings.
--append
   Appends imported mappings without modifying existing mappings.

isi auth netgroups list

Displays information about a netgroup.

Syntax
isi auth netgroups list --netgroup <string>
   [ [--recursive] ]
   [ [--ignore] ]
   [ [--raw] ]

Options
--netgroup <string>
   Specifies the name of a netgroup.
--recursive
Recursively resolves nested netgroups.

--ignore
Ignores errors and unresolvable netgroups.

--raw
Displays raw netgroup information.

isi auth nis create

Creates a NIS provider.

Syntax
isi auth nis create <name>
[-nis-domain <string>]
[-servers <string>]
[-authentication {enable | disable}]
[-balance-servers {yes | no}]
[-cache-entry-expiry <duration>]
[-check-online-interval <duration>]
[-create-home-directory {yes | no}]
[-enabled {true | false}]
[-enumerate-groups {yes | no}]
[-enumerate-users {yes | no}]
[-findable-groups <string>]
[-findable-users <string>]
[-group-domain <string>]
[-home-directory-template <path>]
[-hostname-lookup {enable | disable}]
[-listable-groups <string>]
[-listable-users <string>]
[-login-shell <path>]
[-normalize-groups {yes | no}]
[-normalize-users {yes | no}]
[-provider-domain <string>]
[-ntlm-support {all | v2only | none}]
[-request-timeout <integer>]
[-restrict-findable {yes | no}]
[-restrict-listable {yes | no}]
[-retry-time <integer>]
[-unfindable-groups <string>]
[-unfindable-users <string>]
[-unlistable-groups <string>]
[-unlistable-users <string>]
[-user-domain <string>]
[-ypmatch-using-tcp {yes | no}]
[-verbose]

Options

- <name>
  Sets the name of the NIS provider.

- --nis-domain <string>
  Specifies the NIS domain name.

- --servers <string>
  Specifies a NIS server to be used by this provider. Repeat this option to specify multiple list items.

- --authentication {enable | disable}
  Enables or disables the use of the provider for authentication as well as identity. The default value is enable.

- --balance-servers {yes | no}
  ...
Makes the provider connect to a random server on each request.

--cache-entry-expiry <duration>
  Specifies amount of time to cache a user or group, in the format <integer>[Y | M | W |
  D | H | m | s]].

--check-online-interval <duration>
  Specifies the time between provider online checks, in the format <integer>[Y | M | W |
  D | H | m | s]].

--create-home-directory {yes | no}
  Specifies whether to create a home directory the first time a user logs in, if a home
  directory does not already exist for the user.

--enabled {true | false}
  Enables or disables the provider.

--enumerate-groups {yes | no}
  Specifies whether to allow the provider to enumerate groups.

--enumerate-users {yes | no}
  Specifies whether to allow the provider to enumerate users.

--findable-groups <string>
  Specifies a group that can be found in the provider if --restrict-findable is enabled.
  Repeat this option to specify multiple list items. If populated, groups that are not
  included in this list cannot be resolved.

--findable-users <string>
  Specifies a user that can be found in the provider if --restrict-findable is enabled.
  Repeat this option to specify multiple list items. If populated, users that are not
  included in this list cannot be resolved.

--group-domain <string>
  Specifies the domain that the provider will use to qualify groups. The default group
domain is NIS_GROUPS.

--home-directory-template <path>
  Specifies the path to use as a template for naming home directories. The path must
  begin with /ifs and may contain variables, such as %U, that are expanded to
  generate the home directory path for the user.

--hostname-lookup {enable | disable}
  Enables or disables host name lookups.

--listable-groups <string>
  Specifies a group that can be viewed in the provider if --restrict-listable is enabled.
  Repeat this option to specify multiple list items. If populated, groups that are not
  included in this list cannot be viewed.

--listable-users <string>
  Specifies a user that can be viewed in the provider if --restrict-listable is enabled.
  Repeat this option to specify multiple list items. If populated, users that are not
  included in this list cannot be viewed.

--login-shell <path>
  Specifies the path to the user's login shell. This setting applies only to users who
  access the file system through SSH.

--normalize-groups {yes | no}
Normalizes group name to lowercase before lookup.

--normalize-users {yes | no}
  Normalizes user name to lowercase before lookup.

--provider-domain <string>
  Specifies the domain that the provider will use to qualify user and group names.

--ntlm-support {all | v2only | none}
  For users with NTLM-compatible credentials, specifies which NTLM versions to support. Valid values are all, v2only, and none. NTLMv2 provides additional security over NTLM and is recommended if all server

--request-timeout <integer>
  Specifies the request timeout interval in seconds.

--restrict-findable {yes | no}
  Specifies whether to check the provider for filtered lists of findable and unfindable users and groups.

--restrict-listable {yes | no}
  Specifies whether to check the provider for filtered lists of listable and unlistable users and groups.

--retry-time <integer>
  Sets the timeout period in seconds after which a request will be retried.

--unfindable-groups <string>
  If --restrict-findable is enabled and the findable groups list is empty, specifies a group that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unfindable-users <string>
  If --restrict-findable is enabled and the findable users list is empty, specifies a user that cannot be resolved by the provider. Repeat this option to specify multiple list items.

--unlistable-groups <string>
  If --restrict-listable is enabled and the listable groups list is empty, specifies a group that cannot be listed by the provider. Repeat this option to specify multiple list items.

--unlistable-users <string>
  If --restrict-listable is enabled and the listable users list is empty, specifies a user that cannot be listed by the provider. Repeat this option to specify multiple list items.

--user-domain <string>
  Specifies the domain that the provider will use to qualify users. The default user domain is NIS_USERS.

--ypmatch-using-tcp {yes | no}
  Uses TCP for YP Match operations.

{--verbose | -v}
  Displays the results of running the command.
**isi auth nis delete**

Deletes a NIS provider.

**Syntax**

```bash
isi auth nis delete <provider-name>

[--force]

[--verbose]
```

**Options**

`<provider-name>`

Specifies the name of the provider to delete.

`{--force | -f}`

Suppresses command-line prompts and messages.

`{--verbose | -v}`

Returns a success or fail message after running the command.

**isi auth nis list**

Displays a list of NIS providers.

**Syntax**

```bash
isi auth nis list

[--limit <integer>]

[--format {table | json | csv | list}]

[--no-header]

[--no-footer]

[--verbose]
```

**Options**

`{--limit | -l} <integer>`

Displays no more than the specified number of items.

`--format {table | json | csv | list}`

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

`{--no-header | -a}`

Displays table and CSV output without headers.

`{--no-footer | -z}`

Displays table output without footers.

`{--verbose | -v}`

Displays more detailed information.

**isi auth nis modify**

Modifies a NIS provider.

**Syntax**

```bash
isi auth nis modify <provider-name>

[--nis-domain <string>]

[--servers <string>]

[--clear-servers]

[--add-servers <string>]

[--remove-servers <string>]
```
Options

<provider-name>
Specifies the name of the NIS provider to modify.

--nis-domain <string>
Specifies the NIS domain name.

--servers <string>
Specifies a NIS server to be used by this provider. Repeat this option to specify multiple list items. This option overwrites the entries in the NIS servers list; to add or remove servers without affecting current entries, use --add-servers or --remove-servers.
Authentication and access control commands

--clear-servers
Removes all entries from the list of NIS servers.

--add-servers <string>
Adds an entry to the list of NIS servers. Repeat this option to specify multiple items.

--remove-servers <string>
Removes an entry from the list of NIS servers. Repeat this option to specify multiple items.

--authentication {enable | disable}
Enables or disables the use of the provider for authentication as well as identity. The default value is enable.

--balance-servers {yes | no}
Makes the provider connect to a random server on each request.

--cache-entry-expiry <duration>
Specifies amount of time to cache a user or group, in the format <integer>[Y | M | W | D | H | m | s].

--check-online-interval <duration>
Specifies the time between provider online checks, in the format <integer>[Y | M | W | D | H | m | s].

--create-home-directory {yes | no}
Specifies whether to create a home directory the first time a user logs in, if a home directory does not already exist for the user.

--enabled {true | false}
Enables or disables the provider.

--enumerate-groups {yes | no}
Specifies whether to allow the provider to enumerate groups.

--enumerate-users {yes | no}
Specifies whether to allow the provider to enumerate users.

--findable-groups <string>
Specifies a group that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, groups that are not included in this list cannot be resolved. This option overwrites the entries in the findable groups list; to add or remove groups without affecting current entries, use --add-findable-groups or --remove-findable-groups.

--clear-findable-groups
Removes all entries from the list of findable groups.

--add-findable-groups <string>
Adds an entry to the list of findable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-findable-groups <string>
Removes an entry from the list of findable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--findable-users <string>
Specifies a user that can be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. If populated, users that are not included in this list cannot be resolved. This option overwrites the entries in the
Authentication and access control commands

is auth nis modify

findable users list; to add or remove users without affecting current entries, use --add-findable-users or --remove-findable-users.

--clear-findable-users
Removes all entries from the list of findable users.

--add-findable-users <string>
Adds an entry to the list of findable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-findable-users <string>
Removes an entry from the list of findable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--group-domain <string>
Specifies the domain that the provider will use to qualify groups. The default group domain is NIS_GROUPS.

--home-directory-template <path>
Specifies the path to use as a template for naming home directories. The path must begin with /ifs and may contain variables, such as %U, that are expanded to generate the home directory path for the user.

--hostname-lookup {enable | disable}
Enables or disables host name lookups.

--listable-groups <string>
Specifies a group that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, groups that are not included in this list cannot be viewed. This option overwrites the entries in the listable groups list; to add or remove groups without affecting current entries, use --add-listable-groups or --remove-listable-groups.

--clear-listable-groups
Removes all entries from the list of listable groups.

--add-listable-groups <string>
Adds an entry to the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-listable-groups <string>
Removes an entry from the list of listable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--listable-users <string>
Specifies a user that can be viewed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. If populated, users that are not included in this list cannot be viewed. This option overwrites the entries in the listable users list; to add or remove users without affecting current entries, use --add-listable-users or --remove-listable-users.

--clear-listable-users
Removes all entries from the list of listable users.

--add-listable-users <string>
Adds an entry to the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--remove-listable-users <string>
Removes an entry from the list of listable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.

--login-shell <path>
Specifies the path to the user’s login shell. This setting applies only to users who access the file system through SSH.

--normalize-groups {yes | no}
Normalizes group names to lowercase before lookup.

--normalize-users {yes | no}
Normalizes user names to lowercase before lookup.

--provider-domain <string>
Specifies the domain that the provider will use to qualify user and group names.

--ntlm-support {all | v2only | none}
For users with NTLM-compatible credentials, specifies which NTLM versions to support. Valid values are all, v2only, and none. NTLMv2 provides additional security over NTLM and is recommended if all server

--request-timeout <integer>
Specifies the request timeout interval in seconds.

--restrict-findable {yes | no}
Specifies whether to check the provider for filtered lists of findable and unfindable users and groups.

--restrict-listable {yes | no}
Specifies whether to check the provider for filtered lists of listable and unlistable users and groups.

--retry-time <integer>
Sets the timeout period in seconds after which a request will be retried.

--unfindable-groups <string>
Specifies a group that cannot be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unfindable groups list; to add or remove groups without affecting current entries, use --add-unfindable-groups or --remove-unfindable-groups.

--clear-unfindable-groups
Removes all entries from the list of unfindable groups.

--add-unfindable-groups <string>
Adds an entry to the list of unfindable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--remove-unfindable-groups <string>
Removes an entry from the list of unfindable groups that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.

--unfindable-users <string>
Specifies a user that cannot be found in the provider if --restrict-findable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unfindable users list; to add or remove users without affecting current entries, use --add-unfindable-users or --remove-unfindable-users.

--clear-unfindable-users
Removes all entries from the list of unfindable groups.
--add-unfindable-users <string>
    Adds an entry to the list of unfindable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.
--remove-unfindable-users <string>
    Removes an entry from the list of unfindable users that is checked if --restrict-findable is enabled. Repeat this option to specify multiple list items.
--unlistable-groups <string>
    Specifies a group that cannot be listed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unlistable groups list; to add or remove groups without affecting current entries, use --add-unlistable-groups or --remove-unlistable-groups.
--clear-unlistable-groups
    Removes all entries from the list of unlistable groups.
--add-unlistable-groups <string>
    Adds an entry to the list of unlistable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.
--remove-unlistable-groups <string>
    Removes an entry from the list of unlistable groups that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.
--unlistable-users <string>
    Specifies a user that cannot be listed in the provider if --restrict-listable is enabled. Repeat this option to specify multiple list items. This option overwrites the entries in the unlistable users list; to add or remove users without affecting current entries, use --add-unlistable-users or --remove-unlistable-users.
--clear-unlistable-users
    Removes all entries from the list of unlistable users.
--add-unlistable-users <string>
    Adds an entry to the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.
--remove-unlistable-users <string>
    Removes an entry from the list of unlistable users that is checked if --restrict-listable is enabled. Repeat this option to specify multiple list items.
--user-domain <string>
    Specifies the domain that the provider will use to qualify users. The default user domain is NIS_USERS.
--ypmatch-using-tcp {yes | no}
    Uses TCP for YP Match operations.
{--verbose | -v}
    Displays the results of running the command.

isi auth nis view

Displays the properties of a NIS provider.

Syntax
isi auth nis view <provider-name>
Options

<provider-name>

Specifies the name of the provider to view.

isi auth privileges

Displays a list of system privileges.

Syntax

isi auth privileges

[ --format {table | json | csv | list} ]
[ --no-header ]
[ --no-footer ]
[ --verbose ]

Options

--format {table | json | csv | list}

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}

Displays table and CSV output without headers.

{--no-footer | -z}

Displays table output without footers.

{--verbose | -v}

Displays more detailed information.

isi auth refresh

Refreshes authentication system configuration settings.

Syntax

isi auth refresh

Options

There are no options for this command.

isi auth roles create

Creates a custom role.

This command creates an empty role. To assign privileges and add members to the role, run the isi auth roles modify command.

Syntax

isi auth roles create <name>

[ --description <string> ]
[ --verbose ]

Options

<name>

Specifies the name of the role.

--description <string>

Specifies a description of the role.

{--verbose | -v}
Displays the results of running the command.

**isi auth roles delete**

Deletes a role.

**Syntax**

```markdown
isi auth roles delete <role>
[--force]
[--verbose]
```

**Options**

- `<role>`
  - Specifies the name of the role to delete.
- `--force | -f`
  - Suppresses command-line prompts and messages.
- `--verbose | -v`
  - Displays more detailed information.

**isi auth roles list**

Displays a list of roles.

**Syntax**

```markdown
isi auth roles list
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

**Options**

- `--limit | -l <integer>`
  - Displays no more than the specified number of items.
- `--format {table | json | csv | list}`
  - Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
- `--no-header | -a`
  - Displays table and CSV output without headers.
- `--no-footer | -z`
  - Displays table output without footers.
- `--verbose | -v`
  - Displays more detailed information.

**isi auth roles members list**

Displays a list of the members of a role.

**Syntax**

```markdown
isi auth roles members list <role>
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
```
Options

<role>

Specifies a role by name.

{--limit | -l} <integer>

Displays no more than the specified number of items.

--format {table | json | csv | list}

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}

Displays table and CSV output without headers.

{--no-footer | -z}

Displays table output without footers.

{--verbose | -v}

Displays more detailed information.

Examples

To view the members of the SystemAdmin role, run the following command:

isi auth roles members list systemadmin

In the following sample output, the SystemAdmin role currently contains one member, a user named "admin":

<table>
<thead>
<tr>
<th>Type</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>user</td>
<td>admin</td>
</tr>
</tbody>
</table>

Total: 1

isi auth roles modify

Modifies a role.

Syntax

isi auth roles modify <role>

|--name <string>]
[|--description <string>]
[|--add-group <string>]
[|--remove-group <string>]
[|--add-gid <integer>]
[|--remove-gid <integer>]
[|--add-uid <integer>]
[|--remove-uid <integer>]
[|--add-user <string>]
[|--remove-user <string>]
[|--add-sid <string>]
[|--remove-sid <string>]
[|--add-wellknown <string>]
[|--remove-wellknown <string>]
[|--add-priv <string>]
[|--add-priv-ro <string>]
[|--remove-priv <string>]
[|--verbose]
Specifies the name of the role to modify.

--name <string>
  Specifies a new name for the role. Applies to custom roles only.

--description <string>
  Specifies a description of the role.

--add-group <string>
  Adds a group with the specified name to the role. Repeat this option for each additional item.

--remove-group <string>
  Removes a group with the specified name from the role. Repeat this option for each additional item.

--add-gid <integer>
  Adds a group with the specified GID to the role. Repeat this option for each additional item.

--remove-gid <integer>
  Removes a group with the specified GID from the role. Repeat this option for each additional item.

--add-uid <integer>
  Adds a user with the specified UID to the role. Repeat this option for each additional item.

--remove-uid <integer>
  Removes a user with the specified UID from the role. Repeat this option for each additional item.

--add-user <string>
  Adds a user with the specified name to the role. Repeat this option for each additional item.

--remove-user <string>
  Removes a user with the specified name from the role. Repeat this option for each additional item.

--add-sid <string>
  Adds a user or group with the specified SID to the role. Repeat this option for each additional item.

--remove-sid <string>
  Removes a user or group with the specified SID from the role. Repeat this option for each additional item.

--add-wellknown <string>
  Adds a well-known SID with the specified name—for example, Everyone—to the role. Repeat this option for each additional item.

--remove-wellknown <string>
  Removes a well-known SID with the specified name from the role. Repeat this option for each additional item.

--add-priv <string>
  Adds a read/write privilege to the role. Applies to custom roles only. Repeat this option for each additional item.
--add-priv-ro <string>

    Adds a read-only privilege to the role. Applies to custom roles only. Repeat this option for each additional item.

--remove-priv <string>

    Removes a privilege from the role. Applies to custom roles only. Repeat this option for each additional item.

{-verbose | -v}

    Displays the results of running the command.

### isi auth roles privileges list

Displays a list of privileges that are associated with a role.

#### Syntax

```
isi auth roles privileges list <role>
```

{-limit <integer>}

    Displays no more than the specified number of items.

--format {table | json | csv | list}

    Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{-no-header | -a}

    Displays table and CSV output without headers.

{-no-footer | -z}

    Displays table output without footers.

{-verbose | -v}

    Displays more detailed information.

#### Examples

The following command displays the privileges that are associated with the built-in SecurityAdmin role:

```
isi auth roles privileges list securityadmin
```

The system displays output similar to the following example:

```
ID
----------------------
ISI_PRIV_LOGIN_CONSOLE
ISI_PRIV_LOGIN_PAPI
ISI_PRIV_LOGIN_SSH
ISI_PRIV_AUTH
ISI_PRIV_ROLE
----------------------
Total: 5
```
isi auth roles view

Displays the properties of a role.

Syntax
isi auth roles view <role>

Options
<role>
Specifies the name of the role to view.

isi auth settings global modify

Modifies the global authentication settings.

Syntax
isi auth settings global modify
[|--send-ntlmv2 {yes | no} | --revert-send-ntlmv2]
[|--space-replacement <character> | --revert-space-replacement]
[|--workgroup <string> | --revert-workgroup]
[|--provider-hostname-lookup <string>]
[|--cache-cred-lifetime <duration> | --revert-cache-cred-lifetime]
[|--cache-id-lifetime <duration> | --revert-cache-id-lifetime]
[|--on-disk-identity {native | unix | sid}]
[|--alloc-retries <integer>]
[|--cache-id-lifetime <duration> | --revert-cache-id-lifetime]
[|--cache-cred-lifetime <duration> | --revert-cache-cred-lifetime]
[|--on-disk-identity {native | unix | sid}]
[|--alloc-retries <integer>]
[|--cache-id-lifetime <duration> | --revert-cache-id-lifetime]
[|--cache-cred-lifetime <duration> | --revert-cache-cred-lifetime]
[|--on-disk-identity {native | unix | sid}]
[|--alloc-retries <integer>]
[|--verbose]

Options
--send-ntlmv2 {yes | no}
Specifies whether to send only NTLMv2 responses to an SMB client. The default value is no. Accepted values: yes, no. Default value: no.

--revert-send-ntlmv2
Reverts the --send-ntlmv2 setting to the system default value.

--space-replacement <character>
For clients that have difficulty parsing spaces in user and group names, specifies a substitute character. Be careful to choose a character that is not in use.

--revert-space-replacement
Reverts the --space-replacement setting to the system default value.

--workgroup <string>
Specifies the NetBIOS workgroup. The default value is WORKGROUP.

--revert-workgroup
Reverts the --workgroup setting to the system default value.

--provider-hostname-lookup <string>
Allows hostname lookup through authentication providers. Applies to NIS only.

--alloc-retries <integer>
Specifies the number of times to retry an ID allocation before failing.
**--revert-alloc-retries**

Reverts the --alloc-retries setting to the system default value.

**--cache-cred-lifetime <duration>**

Specifies the length of time to cache credential responses from the ID mapper, in the format `<integer>[Y | M | W | D | H | m | s]`.

**--revert-cache-cred-lifetime**

Reverts the --cache-cred-lifetime setting to the system default value.

**--cache-id-lifetime <duration>**

Specifies the length of time to cache ID responses from the ID mapper, in the format `<integer>[Y | M | W | D | H | m | s]`.

**--revert-cache-id-lifetime**

Reverts the --cache-id-lifetime setting to the system default value.

**--on-disk-identity <string>**

Controls the preferred identity to store on disk. If OneFS is unable to convert an identity to the preferred format, it is stored as is. This setting does not affect identities that are already stored on disk.

The accepted values are listed below.

- **NATIVE** — Lets OneFS determine the identity to store on disk. This is the recommended setting.
- **UNIX** — Always stores incoming UNIX identifiers (UIDs and GIDs) on disk.
- **SID** — Stores incoming Windows security identifiers (SIDs) on disk unless the SID was generated from a UNIX identifier. If the SID was generated from a UNIX identifier, OneFS converts it back to the UNIX identifier and stores it on disk.

**Note**

To prevent permission errors after changing the on-disk identity, run the Repair Permissions job with the 'Convert Permissions' task selected.

**--gid-range-enabled {true | false}**

Enables or disables the automatic allocation of GIDs in the ID mapper. By default, this setting is true. Use --gid-range-min and --gid-range-max to modify the default range.

**--gid-range-min <integer>**

Specifies the lower limit of the GID range if --gid-range-enabled is set to true. The default value is 1,000,000.

**--revert-gid-range-min**

Sets the --gid-range-min setting to the system default value.

**--gid-range-max <integer>**

Specifies the upper limit of the GID range if --gid-range-enabled is set to true. The default value is 2,000,000.

**--revert-gid-range-max**

Sets the --gid-range-max setting to the system default value.

**--uid-range-enabled {true | false}**

Enables or disables the automatic allocation of UIDs in the ID mapper. Accepted values: yes, no. Default value: yes. Use --uid-range-min and --uid-range-max to modify the default range.

**--revert-uid-range-enabled**

Sets the --uid-range-enabled setting to the system default value.
--uid-range-min <integer>
  Specifies the lower limit of the UID range if --uid-range-enabled is set to true. The default value is 1,000,000.
--revert-uid-range-min
  Sets the --uid-range-min setting to the system default value.
--uid-range-max <integer>
  Specifies the upper limit of the UID range if --uid-range-enabled is set to true. The default value is 2,000,000.
--revert-uid-range-max
  Sets the --uid-range-max setting to the system default value.
--unknown-gid <integer>
  Specifies the GID to use for the unknown (anonymous) group.
--revert-unknown-gid
  Sets the --unknown-gid setting to the system default value.
--unknown-uid <integer>
  Specifies the UID to use for the unknown (anonymous) user.
--revert-unknown-uid
  Sets the --unknown-uid setting to the system default value.

{--verbose | -v}
  Displays more detailed information.

**isi auth settings global view**

Displays global authentication settings.

**Syntax**

```
isi auth settings global view
```

**Options**

There are no options for this command.

**Examples**

To view the current authentication settings on the cluster, run the following command:

```
isid auth settings global view
```

The system displays output similar to the following example:

```
Send NTLMv2: No
Space Replacement:
  Workgroup: WORKGROUP
Provider Hostname Lookup: disabled
  Alloc Retries: 5
Cache Cred Lifetime: 15m
Cache ID Lifetime: 15m
On Disk Identity: native
  RPC Block Time: 5s
  RPC Max Requests: 16
  RPC Timeout: 30s
System GID Threshold: 80
System UID Threshold: 80
  GID Range Enabled: Yes
  GID Range Min: 1000000
  GID Range Max: 2000000
  UID Range Enabled: Yes
  UID Range Min: 1000000
```
isi auth users create

Creates a user account.

Syntax

```
isi auth users create <name>
[--enabled {true | false}]
[--expiry <timestamp>]
[--locked {yes | no}]
[--email <string>]
[--gecos <string>]
[--home-directory <path>]
[--password <string>]
[--password-expires {yes | no}]
[--primary-group <name> | --primary-group-gid <integer>]
[--primary-group-sid <string>]
[--prompt-password-change {yes | no}]
[--shell <path>]
[--uid <integer>]
[--zone <string>]
[--provider <string>]
[--set-password]
[--verbose]
[--force]
```

Options

- `<name>`
  Specifies the user name.

- `--enabled {true | false}`
  Enables or disables the user.

- `(--expiry | -x) <timestamp>`
  Specifies the time at which the user account will expire, using the date format
  `<YYYY>-<MM>-<DD>` or the date/time format `<YYYY>-<MM>-<DD> [T<hh>:<mm>[<ss>]].`

- `--locked {yes | no}`
  Locks the user account.

- `--email <string>`
  Specifies the email address of the user.

- `--gecos <string>`
  Specifies the values for the following Gecos field entries in the user's password file:
  - Full Name:
  - Office Location:
  - Office Phone:
  - Home Phone:
  - Other information:

  Values must be entered as a comma-separated list, and values that contain spaces
  must be enclosed in quotation marks. For example, the `--gecos="Jane Doe", Seattle, 555-5555, "Temporary worker"` option results in the
  following entries:
  - Full Name: Jane Doe
  - Office Location: Seattle
--home-directory <path>
  Specifies the path to the user's home directory.

--password <string>
  Sets the user's password to the specified value. This option cannot be used with the
  --set-password option.

--password-expires {yes | no}
  Specifies whether to allow the password to expire.

--primary-group <name>
  Specifies the user's primary group by name.

--primary-group-gid <integer>
  Specifies the user's primary group by GID.

--primary-group-sid <string>
  Specifies the user's primary group by SID.

--prompt-password-change {yes | no}
  Prompts the user to change the password during the next login.

--shell <path>
  Specifies the path to the UNIX login shell.

--uid <integer>
  Overrides automatic allocation of the UNIX user identifier (UID) with the specified
  value. Setting this option is not recommended.

--zone <string>
  Specifies the access zone in which to create the user.

--provider <string>
  Specifies a local authentication provider within the specified access zone.

--set-password
  Sets the password interactively. This option cannot be used with the --password
  option.

{--verbose | -v}
  Displays the results of running the command.

{--force | -f}
  Suppresses command-line prompts and messages.

### isi auth users delete

Deletes a local user from the system.

**Syntax**

```bash
isi auth users delete {<user> | --uid <integer> | --sid <string>}
[--zone <string>]
[--provider <string>]
[--force]
[--verbose]
```

**Options**

This command requires `<user>`, `--uid <integer>`, or `--sid <string>`. 
<user>
    Specifies the user by name.
--uid <integer>
    Specifies the user by UID.
--sid <string>
    Specifies the user by SID.
--zone <string>
    Specifies the name of the access zone that contains the user.
--provider <string>
    Specifies the name of the authentication provider that contains the user.
{--force <string> | -f}
    Suppresses command-line prompts and messages.
{--verbose | -v}
    Displays the results of running the command.

isi auth users flush
Flushes cached user information.

Syntax
isi auth users flush

Options
There are no options for this command.

Examples
To flush all cached user information, run the following command:
isi auth user flush

isi auth users list
Displays a list of users. If no options are specified, all users in the system zone are displayed.

Syntax
isi auth users list
    [--domain <string>]
    [--zone <string>]
    [--provider <string>]
    [--limit <integer>]
    [--format {table | json | csv | list}]
    [--no-header]
    [--no-footer]
    [--verbose]

Options
--domain <string>
    Displays only the users in the specified provider domain.

--zone <string>
    Specifies the access zone whose users you want to list. The default access zone is System.
--provider <string>
    Displays only the users in the specified authentication provider.

{--limit | -l} <integer>
    Displays no more than the specified number of items.

--format {table | json | csv | list}
    Displays output in table (default), JavaScript Object Notation (JSON), comma-
    separated value (CSV), or list format.

{--no-header | -a}
    Displays table and CSV output without headers.

{--no-footer | -z}
    Displays table output without footers.

{--verbose | -v}
    Displays more detailed information.

isi auth users modify

Modifies a local user.

Syntax
isi auth users modify {<user> | --uid <integer> | --sid <string>}
    {--enabled {true | false}}
    {--expiry <timestamp>}
    {--locked {yes | no}}
    {--email <string>}
    {--gecos <string>}
    {--home-directory <path>}
    {--password <string>}
    {--password-expires {yes | no}}
    [{--primary-group <string> | --primary-group-gid <integer> |
      --primary-group-sid <string>}]}
    {--prompt-password-change {yes | no}}
    {--shell <path>}
    {--new-uid <integer>}
    {--zone <string>}
    {--add-group <name>}
    {--add-gid <id>}
    {--remove-group <name>}
    {--remove-gid <id>}
    {--provider <string>}
    {--set-password}
    {--verbose}
    {--force}

Options
This command requires <user>, --uid <integer>, or --sid <string>.

<user>
    Specifies the user by name.

--uid <integer>
    Specifies the user by UID.

--sid <string>
    Specifies the user by SID.

--enabled {true | false}
    Enables or disables the user.

{--expiry | -x} <timestamp>
Specifies the time at which the user account will expire, using the date format <YYYY>-<MM>-<DD> or the date/time format <YYYY>-<MM>-<DD>[T<hh>:<mm>[:<ss>]].

--locked {yes | no}
Locks the user account.

--email <string>
Specifies the email address of the user.

--gecos <string>
Specifies the values for the following Gecos field entries in the user's password file:

- Full Name:
- Office Location:
- Office Phone:
- Home Phone:
- Other information:

Values must be entered as a comma-separated list, and values that contain spaces must be enclosed in quotation marks. For example, the --gecos="Jane Doe",Seattle,555-5555,"Temporary worker" option results in the following entries:

- Full Name: Jane Doe
- Office Location: Seattle
- Office Phone: 555-5555
- Home Phone:
- Other information: Temporary worker

--home-directory <path>
Specifies the path to the user's home directory.

--password <string>
Sets the user's password to the specified value. This option cannot be used with the --set-password option.

--password-expires {yes | no}
Specifies whether to allow the password to expire.

--primary-group <name>
Specifies the user's primary group by name.

--primary-group-gid <integer>
Specifies the user's primary group by GiD.

--primary-group-sid <string>
Specifies the user's primary group by SiD.

--prompt-password-change {yes | no}
Prompts the user to change the password during the next login.

--shell <path>
Specifies the path to the UNIX login shell.

--new-uid <integer>
Specifies a new UID for the user. Setting this option is not recommended.

--zone <string>
Specifies the name of the access zone that contains the user.

--add-group <name>
Specifies the name of a group to add the user to. Repeat this option to specify multiple list items.
--add-gid <integer>
    Specifies the GID of a group to add the user to. Repeat this option to specify multiple
    list items.

--remove-group <name>
    Specifies the name of a group to remove the user from. Repeat this option to specify
    multiple list items.

--remove-gid <integer>
    Specifies the GID of a group to remove the user from. Repeat this option to specify
    multiple list items.

--provider <string>
    Specifies the name of the authentication provider that contains the user.

--set-password
    Sets the password interactively. This option cannot be used with the --password
    option.

{--verbose | -v}
    Displays the results of running the command.

{--force | -f}
    Suppresses command-line prompts and messages.

isi auth users view

Displays the properties of a user.

Syntax

isi auth users view {<user> | --uid <integer> | --sid <string>}

[--cached]
[--show-groups]
[--resolve-names]
[--zone <string>]
[--provider <string>]

Options
This command requires <user>, --uid <integer>, or --sid <string>.

<user>
    Specifies the user by name.

--uid <integer>
    Specifies the user by UID.

--sid <string>
    Specifies the user by SID.

--cached
    Returns only cached information.

--show-groups
    Displays groups that include the user as a member.

--resolve-names
    Resolves the names of all related groups and related identities.

--zone <string>
    Specifies the name of the access zone that contains the user.
--provider <string>
   Specifies the name of the authentication provider that contains the user.

isi zone restrictions create

Add a user restriction for an access zone.

Syntax
isi zone restrictions create <zone> {<user> | --uid <integer> | --group <string> | --gid <integer> | --sid <string> | --wellknown <string>} [--verbose]

Options
<zone>
   Specifies an access zone by name.

[user]
   Specifies a user by name.

--uid <integer>
   Specifies a user by UID.

--group <string>
   Specifies a group by name.

--gid <integer>
   Specifies a group by GID.

--sid <string>
   Specifies an object by its user or group SID.

--wellknown <string>
   Specifies a well-known SID.

[--verbose | -v]
   Returns a success or fail message after running the command.

isi zone restrictions delete

Removes a user restriction for an access zone.

Syntax
isi zone restrictions delete <zone> {<user> | --uid <integer> | --group <string> | --gid <integer> | --sid <string> | --wellknown <string>} [--force] [--verbose]

Options
<zone>
   Specifies an access zone by name.

[user]
   Specifies a user by name.

--uid <integer>
   Specifies a user by UID.

--group <string>
   Specifies a group by name.
Specifies a group by name.

--gid <integer>
   Specifies a group by GID.

--sid <string>
   Specifies an object by its user or group SID.

--wellknown <string>
   Specifies a well-known SID.

{--force | -f}
   Suppresses command-line prompts and warning messages.

{--verbose | -v}
   Returns a success or fail message after running the command.

**isi zone restrictions list**

Displays a list of restricted users for an access zone.

**Syntax**

`isi zone restrictions list <zone>`

[|--limit <integer>]
[|--format {table | json | csv | list}]
[|--no-header]
[|--no-footer]
[|--verbose]

**Options**

<zone>
   Specifies an access zone by name.

{--limit | -l} <integer>
   Displays no more than the specified number of items.

--format {table | json | csv | list}
   Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}
   Displays table and CSV output without headers.

{--no-footer | -z}
   Displays table output without footers.

{--verbose | -v}
   Displays more detailed information.

**Examples**

The following command displays a list of restricted users for the system zone:

`isi zone restrictions list system`

**isi zone zones create**

Creates an access zone.

**Syntax**

`isi zone zones create <name>`

[|--cache-size <size>]
Options

<name>
   Specifies the name of the access zone.

--cache-size <size>
   Specifies the maximum size of the zone’s in-memory cache.

--map-untrusted <string>
   Maps untrusted domains to this NetBIOS workgroup during authentication.

--smb-shares <string>
   Specifies an SMB share to be used by this zone. Repeat this option to specify
   multiple list items.

--auth-providers <string>
   Specifies an authentication provider to be used by this zone. Repeat this option to
   specify multiple list items.

--local-provider {enable | disable}
   Enables or disables the local provider.

--netbios-name <string>
   Specifies the NetBIOS name.

--all-smb-shares {yes | no}
   Specifies whether to use all available SMB shares.

--all-auth-providers {yes | no}
   Specifies whether to use all available authentication providers.

--user-mapping-rules <string>
   Specifies a user mapping rule to be used by this zone. Repeat this option to specify
   multiple list items.

--home-directory-umask <integer>
   Specifies the permissions to set on auto-created user home directories.

--skeleton-directory <string>
   Sets the skeleton directory for user home directories.

{--verbose | -v}
   Returns a success or fail message after running the command.
isi zone zones delete

Deletes an access zone. The built-in system zone cannot be deleted.

Syntax
isi zone zones delete <zone>
[--force]
[--verbose]

Options
<zone>
  Specifies the name of the access zone to delete.

{--force | -f}
  Suppresses command-line prompts and warning messages.

{--verbose | -v}
  Displays a success or fail message after running the command.

isi zone zones list

Displays a list of access zones in the cluster.

Syntax
isi zone zones list
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]

Options
{--limit | -l} <integer>
  Displays no more than the specified number of items.

--format {table | json | csv | list}
  Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}
  Displays table and CSV output without headers.

{--no-footer | -z}
  Displays table output without footers.

{--verbose | -v}
  Displays more detailed information.

Examples
To view a list of all access zones in the cluster, run the following command:
isi auth zone zones list

isi zone zones modify

Modifies an access zone.

Syntax
isi zone zones modify <zone>
   [--name <string>]

Authentication and access control commands
Options
<zone>
  Specifies the name of the access zone to modify. You cannot change the name of the system access zone.

--name <string>
  Specifies a new name for the access zone.

--cache-size <size>
  Specifies the maximum size of zone in-memory cache.

--map-untrusted <string>
  Maps untrusted domains to this NetBIOS workgroup during authentication.

--smb-shares <string>
  Specifies an SMB share to be used by this zone. Repeat this option to specify multiple list items. This option overwrites any existing entries in the SMB shares list; to add or remove shares without affecting current entries, use --add-smb-shares or --remove-smb-shares.

--clear-smb-shares
  Removes all entries from the list of SMB shares used on this zone.

--add-smb-shares <string>
  Adds an entry to the list of SMB shares used on this zone. Repeat this option to specify multiple list items.

--remove-smb-shares <string>
  Removes an entry from the list of SMB shares used on this zone. Repeat this option to specify multiple list items.

--auth-providers <string>
  Specifies an authentication provider to be used by this zone. Repeat this option to specify multiple list items. This option overwrites any existing entries in the authentication providers list; to add or remove providers without affecting current entries, use --add-auth-providers or --remove-auth-providers.

--clear-auth-providers
  Removes all entries from the list of authentication providers used on this zone.

--add-auth-providers <string>

--remove-auth-providers <string>

--local-provider {enable | disable}

--netbios-name <string>

--all-smb-shares {yes | no}

--all-auth-providers {yes | no}

--user-mapping-rules <string>

--clear-user-mapping-rules

--add-user-mapping-rules <string>

--remove-user-mapping-rules <string>

--home-directory-umask <integer>

--skeleton-directory <string>

--verbose
Adds an entry to the list of authentication providers used on this zone. Repeat this option to specify multiple list items.

--remove-auth-providers <string>
Removes an entry from the list of authentication providers used on this zone. Repeat this option to specify multiple list items.

--local-provider {enable | disable}
Enables or disables the local provider.

--netbios-name <string>
Specifies the NetBIOS name.

--all-smb-shares {yes | no}
Specifies whether to use all available SMB shares.

--all-auth-providers {yes | no}
Specifies whether to use all available authentication providers.

--user-mapping-rules <string>
Specifies a user mapping rule to be used by this zone. Repeat this option to specify multiple list items. This option overwrites any existing entries in the user mapping rules list; to add or remove mapping rules without affecting current entries, use --add-user-mapping-rules or --remove-user-mapping-rules.

--clear-user-mapping-rules
Removes all entries from the list of user mapping rules.

--add-user-mapping-rules <string>
Adds an entry to the list of user mapping rules for this zone. Repeat this option to specify multiple list items.

--remove-user-mapping-rules <string>
Removes an entry from the list of user mapping rules for this zone. Repeat this option to specify multiple list items.

--home-directory-umask <integer>
Specifies the permissions to set on auto-created user home directories.

--skeleton-directory <string>
Sets the skeleton directory for user home directories.

{---verbose | -v}
Returns a success or fail message after running the command.

**isi zone zones view**

Displays the properties of an access zone.

**Syntax**

```
isic zone zones view <zone>
```

**Options**

<zone>
Specifies the name of the access zone to view.
Authentication and access control commands
You can control data replication to other Isilon clusters through the data replication commands. Data replication commands apply specifically to the SyncIQ tool, and are available only if a SyncIQ license is configured on the cluster.

- isi sync policy create
- isi sync policy assess
- isi sync policy modify
- isi sync policy delete
- isi sync policy disable
- isi sync policy enable
- isi sync policy run
- isi sync policy pause
- isi sync policy stop
- isi sync policy resume
- isi sync policy resolve
- isi sync policy reset
- isi sync policy report
- isi sync policy enable
- isi sync policy disable
- isi sync policy resolve
- isi sync policy reset
- isi sync policy report
- isi sync reports config
- isi sync reports policyconf
- isi sync reports rotate
- isi sync reports rebuild
- isi sync policy list
- isi sync job list
- isi sync job report
- isi sync job stop
- isi sync job pause
- isi sync job resume
- isi sync target allow_write
- isi sync resync prep
- isi sync target break
- isi sync target cancel
- isi sync target list
- isi sync target report
- isi sync bandwidth create
- isi sync bandwidth modify
- isi sync bandwidth delete
- isi sync bandwidth disable
- isi sync bandwidth enable
- isi sync bandwidth list
- isi sync throttle create
- isi sync throttle modify
- isi sync throttle delete
- isi sync throttle disable
- isi sync throttle enable
- isi sync throttle list
- isi sync config
Data replication commands

- isi sync stop........................................................................................................ 163
- isi sync pause..................................................................................................... 164
- isi sync resume................................................................................................... 164
isi sync policy create

Creates a replication policy.

Syntax

`isi sync policy create <name> <action> [<-desc <string>] [<-passwd <password>] [<-include <string>...] [<-exclude <string>...] [<-predicate "<predicate>" ] [<-schedule <schedule>] [<-state {enabled | disabled}] [<-integrity {true | false}] [<-loglevel <level>] [<-logremoved {yes | no}] [<-workers <integer>] [<-snapshot {on | off}] [<-snapshot_pattern <naming-pattern>] [<-snapshot_alias <alias>] [<-snapshot_expiration <duration>] [<-rotate_report_period <duration>] [<-max_reports <number>] [<-target_restrict {on | off}] [<-restrict_by <subnet>:<pool>] [<-force_interface {on | off}] [<-diff_sync {on | off}] [<-rename_pattern <naming-pattern>] [<-rename_expiration <duration>]

Options

**<name>**

Specifies a name for the replication policy.
Specify as any string.

**<action>**

Specifies the type of replication policy.
The following types of replication policy are valid:

- **COPY** — Creates a copy policy that adds copies of all files from the source to the target.
- **SYNC** — Creates a synchronization policy that synchronizes data on the source cluster to the target cluster and deletes all files on the target cluster that are not present on the source cluster.

**<target_clu>**

Specifies the cluster that the policy replicates data to. Specify as a URL of a node on the target cluster or as a domain name.
Specify as one of the following:

- The fully qualified domain name of any node in the target cluster.
- The host name of any node in the target cluster.
- The name of a SmartConnect zone in the target cluster.
- The IPv4 or IPv6 address of any node in the target cluster.
- localhost
  This will replicate data to another directory on the local cluster.

**Note** Replication does not support dynamic pools.

**<target_path>**

Data replication commands
Specifies the directory on the target cluster that files are replicated to. Specify as a full directory path.

<root_path>
Specifies the directory on the local cluster that files are replicated from. Specify as a full directory path.

--desc <string>
Specifies a description of this replication policy.

--passwd <password>
Specifies a password to access the target cluster. If the target cluster requires a password for authentication purposes, you must specify this parameter.

{--include | -i} <path>
Includes only the specified directories in replication. Specify as any directory path contained in the root directory. You can specify multiple directories. For example, if the root directory is /ifs/data, you could specify the following:

```
--include /ifs/data/music --include /ifs/data/movies
```

{--exclude | -e} <path>
Does not include the specified directories in replication. Specify as any directory path contained in the root directory. If --include is specified, --exclude directories must be contained in the included directories. For example, you could specify the following:

```
--include /ifs/data/music --include /ifs/data/movies --exclude /ifs/data/music/working
```

{--predicate | -P} "<predicate>"
Specifies the predicate (also known as the file-matching criteria) that determines which files are replicated.
The following options are valid for both copy and synchronisation policies:

- **-size +<nn>{B | KB | MB | GB | TB | PB}**
Selects files that are larger than the specified size. The default suffix is KB.

- **-size -<nn>{B | KB | MB | GB | TB | PB}**
Selects files that are smaller than the specified size. The default suffix is KB.

- **-size <nn>{B | KB | MB | GB | TB | PB}**
Selects files that are the same size as the value specified. The default suffix is KB.

- **-type <type>**
Selects only the specified file-system object type.
The following values are valid:

- **F** — Specifies regular files
- **D** — Specifies directories
- **L** — Specifies soft links

The following options are valid only for copy policies:

- **-aolder '{<mm>/}<dd>/|yyyy> [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
Selects files that have not been accessed since the specified time.

- **-anewer '{<mm>/}<dd>/|yyyy> [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
Selects files that have been accessed since the specified time.
-atime '<integer>{days | weeks | months | years} ago'
Selects files that were accessed during the specified time interval.
-bolder '{<mm>/<dd>/<yyyy>[<HH>:<mm>]} | <integer>{days | weeks | months | years} ago}'
Selects files that were created before the specified time.
-bnewer '{<mm>/<dd>/<yyyy>[<HH>:<mm>]} | <integer>{days | weeks | months | years} ago}'
Selects files that were created after the specified time.
-btime '<integer>{days | weeks | months | years} ago'
Selects files that were created during the specified time interval.
-colder '{<mm>/<dd>/<yyyy>[<HH>:<mm>]} | <integer>{days | weeks | months | years} ago}'
Selects files that have not been modified since the specified time.
-cnewer '{<mm>/<dd>/<yyyy>[<HH>:<mm>]} | <integer>{days | weeks | months | years} ago}'
Selects files that have been modified since the specified time.
-ctime '<integer>{days | weeks | months | years} ago'
Selects files that were modified during the specified time interval.
-path <path>
Selects only files on the specified path.

You can include the following wildcards:

<table>
<thead>
<tr>
<th>Wildcard</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Matches any string in place of the asterisk. For example, specifying &quot;m*&quot; would match &quot;movies&quot; and &quot;m123&quot;</td>
</tr>
<tr>
<td>[]</td>
<td>Matches any characters contained in the brackets or a range of characters separated by a dash. For example, specifying &quot;b[aei]t&quot; would match &quot;bat&quot;, &quot;bet&quot;, and &quot;bit&quot; For example, specifying &quot;1[4-7]2&quot; would match &quot;142&quot;, &quot;152&quot;, &quot;162&quot;, and &quot;172&quot; You can exclude characters within brackets by following the first bracket with an exclamation mark. For example, specifying &quot;b[!ie]t&quot; would match &quot;bat&quot; but not &quot;bit&quot; or &quot;bet&quot; You can match a bracket within a bracket if it is either the first or last character. For example, specifying &quot;[[c]at&quot; would match &quot;cat&quot;, and &quot;[at&quot;</td>
</tr>
</tbody>
</table>
**Wildcard** | **Definition**
---|---
You can match a dash within a bracket if it is either the first or last character. For example, specifying "car[-s]" would match "cars", and "car-"

? | Matches any character in place of the question mark. For example, specifying "t?p" would match "tap", "tip", and "top"

---
**-name <string>**
Selects only files whose names match the specified string. You can include the following wildcards:
- *
- []
- ?

**-regex <POSIX-regular-expression>**
Selects only files whose names match the specified POSIX regular expression. IEEE Std 1003.2 (POSIX.2) regular expressions are supported.

You can use the following values to combine and alter the options available for predicates:

- **-and**
Selects files that meet the criteria of the options that come before and after this value. For example, to select files that are larger than 1 GB and were created after January 1, 2011, specify the following:

```
-size +1GB -and -bnewer "01/01/2011"
```

- **-or**
Selects files that meet either the criterion of the option that comes before this value or the criterion of the option that follows this value. For example, to select files that are larger than 1 GB or created after January 1, 2011, specify the following:

```
-size +1GB -or -bnewer "01/01/2011"
```

- **!**
Does not select files that meet the criterion of the following option. For example, to exclude any files whose names contain archive, specify the following:

```
! -name *archive*
```

- **--schedule <schedule>**
Specifies how often data will be replicated. Specify in the following format:

```
"<interval> [><<frequency>]"
```

Specify `<interval>` in one of the following formats:
- Every [{other | <integer>}] [weekday | day]
- Every [{other | <integer>}] week [on <day>]
- Every [{other | <integer>}] month [on the <integer>]
- Every [<day>[, ...] of every [{other | <integer>}] week]
- The last {day | weekday | <day>} of every {{other | <integer>}} month
- The <integer> {weekday | <day>} of every {{other | <integer>}} month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} {weekday | <day>} of <month>

Specify <frequency> in one of the following formats:
- at <hh>[<mm>] [{AM | PM}]
- every [<integer>] {hours | minutes} [between <hh>[<mm>] [{AM | PM}]] and <hh>[<mm>] [{AM | PM}]
- every [<integer>] {hours | minutes} [from <hh>[<mm>] [{AM | PM}]] to <hh>[<mm>] [{AM | PM}]

You can optionally append "st", "th", or "rd" to <integer>. For example, you can specify "Every 1st month"

Specify <day> as any day of the week or a three-letter abbreviation for the day. For example, both "saturday" and "sat" are valid.

--state {enabled | disabled}
    Determines whether the policy is enabled or disabled.
    The default value is enabled.

--integrity {true | false}
    Specifies whether to perform a checksum on each file data packet that is affected by
    the SyncIQ job. If this option is set to true and the checksum values do not match,
    SyncIQ retransmits the file data packet.
    The default value is true.

--loglevel <level>
    Specifies the amount of data recorded in logs.
    The following values are valid, organized from least to most information:
    - fatal
    - error
    - notice
    - info
    - copy
    - debug
    - trace
    The default value is info.

--log-removed {yes | no}
    Determines whether OneFS retains a log of all files that are deleted when a
    synchronization policy is run. If the policy is a copy policy, this parameter has no
    effect.
    The default value is no.

--workers <integer>
    Specifies the number of workers per node that are generated by OneFS to perform
    each replication job for the policy.
    The default value is 3.

--snapshot {on | off}
    Determines whether archival snapshots are generated on the target cluster. If this
    option is set to off, OneFS will still maintain exactly one snapshot at a time on the

target cluster for failback purposes. You must configure a SnapshotIQ license on the
target cluster to use this option. If this option is set to on and a SnapshotIQ license is
not configured on the target cluster, this option has no effect.

`--snapshot_pattern <naming-pattern>`

Specifies the snapshot naming pattern for snapshots that are generated by
replication jobs on the target cluster.
The default naming pattern is the following string:

```
SIQ-%{SrcCluster}- %{PolicyName}-%Y-%m-%d_%H-%M
```

`--snapshot_alias <alias>`

Specifies the naming pattern of the most recent snapshot that is generated by
replication jobs.
The default alias is the following string:

```
SIQ-%{SrcCluster}- %{PolicyName}-latest
```

`--snapshot_expiration <duration>`

Specifies a length of time that snapshots that are generated according to the
schedule remain on the cluster before they are automatically deleted by OneFS.
If this option is not specified, snapshots that are generated by replication jobs will
remain indefinitely.
Specify in the following format:

```
<integer><units>
```

The following `<units>` are valid:

- years
- months
- days
- hours

`--rotate_report_period <duration>`

Specifies how long replication reports are retained before they are automatically
deleted by OneFS.
Specify in the following format:

```
<integer><units>
```

The following `<units>` are valid:

- years
- months
- days
- hours

`--max_reports <number>`

Specifies the maximum number of reports to retain for this replication policy.

`--target_restrict {on | off}`

If you specify on, and you specify the target cluster as a SmartConnect zone,
replication jobs connect only to nodes in the specified zone. If off is specified, does
not restrict replication jobs to specific nodes on the target cluster.

`--restrict_by <subnet>:<pool>`

Restricts replication jobs to running only on nodes in the specified subnet and pool
on the local cluster. If the --target_restrict option is set to false, this option has no
effect.
--force_interface {on | off}
Determines whether data is sent over only the default interface of the subnet specified by the --restrict_by option. This option can be useful if there are multiple interfaces for the given subnet.
If you enable this option, you must specify a default interface. To view interfaces, run the following command:

```
isi network list interfaces
```

To specify a default interface, run the following command:
```
sysctl net.inet.ip.choose_ifa_by_ipsrc=<interface_id>
```

--diff_sync {on | off}
Determines whether the full or differential replications are performed for this policy. Full or differential replications are performed the first time a policy is run and after a policy has been reset. If set to on, performs a differential replication. If set to off, performs a full replication.
If differential replication is enabled the first time a replication policy is run, it can cause the policy to run slower and offers no benefit. It is recommended that you do not specify on.
The default value is off.

--rename_pattern <naming-pattern>
Determines whether the snapshots that are generated for the replication policy on the source cluster are deleted when the next replication policy is run.
If specified, the snapshots that are generated for the replication policy on the source cluster are retained and renamed according to the rename pattern. If not specified, the snapshots that are generated on the source cluster are deleted. Specifying this setting does not require that a SnapshotIQ license be configured on the cluster.
For example, the following pattern is valid:
```
SIQ-source-%{PolicyName}-%Y-%m-%d_%H-%M
```

--rename_expiration <duration>
If you specify --rename_pattern, specifies an expiration period for the snapshots retained on the source cluster.
If this option is not specified, renamed snapshots will exist indefinitely.
Specify in the following format:
```
<integer><units>
```
The following <units> are valid:

- years
- months
- days
- hours

Examples
The following command creates a policy that synchronizes files larger than 2 KB from /ifs/data/source on the local cluster to /ifs/data/target on cluster.domain.name:
```
isi sync policy create newPolicy sync cluster.domain.name /ifs/data/target /ifs/data/source --predicate "-size +2KB"
```
The following command creates a policy that copies /ifs/data/source on the local cluster to /ifs/data/target on cluster.domain.name. The command also creates archival snapshots on the target cluster.

```bash
isi sync policy create newPol3 copy cluster.domain.name /ifs/data/target /ifs/data/source --snapshot on --snapshot_pattern "%{PolicyName}-Archive-%{SrcCluster}%e" --snapshot_expiration 1year
```

**isi sync policy assess**

Creates a replication policy report that reflects the number of files and directories that would be replicated if the replication policy was run. This command can be run only for policies that have not been run before.

You can view the replication policy report generated by this command by running the `isi sync policy report` command.

**Syntax**

```bash
isi sync policy assess <policy>
[--use_snap <snapshot>]
```

**Options**

- `--name <name>`
  
  Creates a replication policy report for the specified replication policy. Specify as a replication policy name or ID.

- `--use_snap <snapshot>`
  
  Creates a replication policy report assuming that data is replicated according to the specified snapshot, rather than the current state of the directory.

**Examples**

The following command creates a replication report for newPol without replicating any data:

```bash
isi sync policy assess newPol
```

**isi sync policy modify**

Modifies existing replication policies.

**Syntax**

```bash
isi sync policy modify <policy>
|--name <new-policy-name>
 | |--action <policy-type> | --target_clu <target-cluster>
 | |--target_path <target-path> | --root_path <root-path>
 | | --desc <string> | --passwd <password> | --include <string>
 | | --exclude <string> | --predicate <predicate>
 | | --schedule <schedule> | --state {enabled | disabled}
 | | --integrity {true | false} | --loglevel <level>
 | | --logremoved {yes | no} | --workers <integer>
 | | --snapshot {on | off} | --snapshot_pattern <naming-pattern>
 | | --snapshot_alias <alias> | --snapshot_expiration <duration>
 | | --rotate_report_period <duration> | --max_reports <number>
 | | --target_restrict {on | off}
 | | | --restrict_by <subnet>:<pool>
 | | | | --force_interface {on | off}
 | | | | --diff_sync {on | off}
 | | | | --rename_pattern <naming-pattern>
 | | | | | --rename_expiration <duration>
```

**Options**

- `<policy>`
Modifies the specified replication policy. Specify as a replication policy name or ID.

--name <new-policy-name>
Specifies a new name for this replication policy.

--action <policy-type>
Specifies the type of replication policy. The following types of replication policy are valid:

- COPY — Creates a copy policy that adds copies of all files from the source to the target.
- SYNC — Creates a synchronization policy that synchronizes data on the source cluster to the target cluster and deletes all files on the target cluster that are not present on the source cluster.

--target_cluster <target-cluster>
Specifies the cluster that the policy replicates data to. Specify as a URL of a node on the target cluster or as a domain name. Specify as one of the following:

- The fully qualified domain name of any node in the target cluster.
- The host name of any node in the target cluster.
- The name of a SmartConnect zone in the target cluster.
- The IPv4 or IPv6 address of any node in the target cluster.
- localhost
  This will replicate data to another directory on the local cluster.

Note Replication does not support dynamic pools.

--target_path <target-path>
Specifies the directory on the target cluster that files are replicated to. Specify as a full directory path.

--root_path <root-path>
Specifies the directory on the local cluster that files are replicated from. Specify as a full directory path.

--desc <string>
Specifies a description of this replication policy.

--passwd <password>
Specifies a password to access the target cluster. If the target cluster requires a password for authentication purposes, you must specify this parameter.

{-include | -i} <path>
Includes only the specified directories in replication. Specify as any directory path contained in the root directory. You can specify multiple directories. For example, if the root directory is /ifs/data, you could specify the following:

--include /ifs/data/music --include /ifs/data/movies

{-exclude | -e} <path>
Does not include the specified directories in replication. Specify as any directory path contained in the root directory. If --include is specified, --exclude directories must be contained in the included directories. For example, you could specify the following:

--include /ifs/data/music --include /ifs/data/movies --exclude /ifs/data/music/working
{--predicate | -P} <predicate>

Specifies the predicate (also known as the file-matching criteria) that determines which files are replicated.

The following options are valid for both copy and synchronisation policies:

- **-size +<nn>{{B | KB | MB | GB | TB | PB}}**
  Selects files that are larger than the specified size. The default suffix is KB.

- **-size -<nn>{{B | KB | MB | GB | TB | PB}}**
  Selects files that are smaller than the specified size. The default suffix is KB.

- **-size <nn>{{B | KB | MB | GB | TB | PB}}**
  Selects files that are the same size as the value specified. The default suffix is KB.

- **-type <type>**
  Selects only the specified file-system object type.

  The following values are valid:

  - F — Specifies regular files
  - D — Specifies directories
  - L — Specifies soft links

The following options are valid only for copy policies:

- **-older '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that have not been accessed since the specified time.

- **-anewer '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that have been accessed since the specified time.

- **-atime '{<integer> {days | weeks | months | years} ago}'**
  Selects files that were accessed during the specified time interval.

- **-bolder '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that were created before the specified time.

- **-bnewer '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that were created after the specified time.

- **-btime '{<integer> {days | weeks | months | years} ago}'**
  Selects files that were created during the specified time interval.

- **-colder '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that have not been modified since the specified time.

- **-cnewer '{<mm>/}<dd>/yyyy [HH]:<mm> | <integer> {days | weeks | months | years} ago}'**
  Selects files that have been modified since the specified time.

- **-ctime '{<integer> {days | weeks | months | years} ago}'**
  Selects files that were modified during the specified time interval.

- **-path <path>**
Selects only files on the specified path.
You can include the following wildcards:

<table>
<thead>
<tr>
<th>Wildcard</th>
<th>Description</th>
</tr>
</thead>
</table>
| *        | Matches any string in place of the asterisk.
          | For example, specifying "m*" would match "movies" and "m123" |
| [ ]      | Matches any characters contained in the brackets or a range of characters separated by a dash. |
          | For example, specifying "b[aei]t" would match "bat", "bet", and "bit" |
          | For example, specifying "1[4-7]2" would match "142", "152", "162", and "172" |
          | You can exclude characters within brackets by following the first bracket with an exclamation mark. |
          | For example, specifying "b[!ie]t" would match "bat" but not "bit" or "bet" |
          | You can match a bracket within a bracket if it is either the first or last character. |
          | For example, specifying "[[c]at" would match "cat", and "[at" |
          | You can match a dash within a bracket if it is either the first or last character. |
          | For example, specifying "car[-s]" would match "cars", and "car-" |
| ?        | Matches any character in place of the question mark. |
          | For example, specifying "t?p" would match "tap", "tip", and "top" |

- **-name <string>**
Selects only files whose names match the specified string.
You can include the following wildcards:

- *
- [ ]
- ?

- **-regex <POSIX-regular-expression>**
Selects only files whose names match the specified POSIX regular expression. IEEE Std 1003.2 (POSIX.2) regular expressions are supported.
You can use the following values to combine and alter the options available for predicates:

- **-and**
Selects files that meet the criteria of the options that come before and after this value. For example, to select files that are larger than 1GB and were created after January 1, 2011, specify the following:

```bash
-size +1GB -and -bnewer "01/01/2011"
```

-or

Selects files that meet either the criterion of the option that comes before this value or the criterion of the option that follows this value. For example, to select files that are larger than 1 GB or created after January 1, 2011, specify the following:

```bash
-size +1GB -or -bnewer "01/01/2011"
```

! Does not select files that meet the criterion of the following option. For example, to exclude any files whose names contain archive, specify the following:

```bash
! -name *archive*
```

--schedule <schedule>

Specifies how often data will be replicated. Specify in the following format:

```
"<interval> [<frequency>]"
```

Specify `<interval>` in one of the following formats:

- Every [other | <integer>] [weekday | day]
- Every [other | <integer>] week [on <day>]
- Every [other | <integer>] month [on the <integer>]
- Every [<day>, ...] [of every [other | <integer>]] week]
- The last {day | weekday | <day>} of every [other | <integer>] month
- The <integer> {weekday | day} of every [other | <integer>] month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} [weekday | <day>] of <month>

Specify `<frequency>` in one of the following formats:

- at <hh>[:<mm>] [(AM | PM)]
- every [integer] {hours | minutes} [between <hh>[:<mm>] [(AM | PM)] and <hh>[:<mm>] [(AM | PM)]]
- every [integer] {hours | minutes} [from <hh>[:<mm>] [(AM | PM)] to <hh>[:<mm>] [(AM | PM)]]

You can optionally append "st", "th", or "rd" to `<integer>`. For example, you can specify "Every 1st month”

Specify `<day>` as any day of the week or a three-letter abbreviation for the day. For example, both "saturday" and "sat" are valid.

--state {enabled | disabled}

Determines whether the policy is enabled or disabled. The default value is enabled.

--integrity {true | false}

Specifies whether to perform a checksum on each file data packet that is affected by the SyncIQ job. If this option is set to true and the checksum values do not match, SyncIQ retransmits the file data packet. The default value is true.

--loglevel <level>
Specifies the amount of data recorded in logs. The following values are valid, organized from least to most information:

- fatal
- error
- notice
- info
- copy
- debug
- trace

The default value is info.

--log-removed {yes | no}
Determines whether OneFS retains a log of all files that are deleted when a synchronization policy is run. If the policy is a copy policy, this parameter has no effect.
The default value is no.

--workers <integer>
Specifies the number of workers per node that are generated by OneFS to perform each replication job for the policy.
The default value is 3.

--snapshot {on | off}
Determines whether archival snapshots are generated on the target cluster. If this option is set to off, OneFS will still maintain exactly one snapshot at a time on the target cluster for failback purposes. You must configure a SnapshotIQ license on the target cluster to use this option. If this option is set to on and a SnapshotIQ license is not configured on the target cluster, this option has no effect.

--snapshot_pattern <naming_pattern>
Specifies the snapshot naming pattern for snapshots that are generated by replication jobs on the target cluster.
The default naming pattern is the following string:

```
SIQ-%{SrcCluster}-%{PolicyName}-%Y-%m-%d_%H-%M
```

--snapshot_alias <alias>
Specifies the naming pattern of the most recent snapshot that is generated by replication jobs.
The default alias is the following string:

```
SIQ-%{SrcCluster}-%{PolicyName}-latest
```

--snapshot_expiration <duration>
Specifies a length of time that snapshots that are generated according to the schedule remain on the cluster before they are automatically deleted by OneFS.
If this option is not specified, snapshots that are generated by replication jobs will remain indefinitely.
Specify in the following format:

```
<integer><units>
```

The following <units> are valid:

- years
- months
- days
- hours

--rotate_report_period <duration>

Specifies how long replication reports are retained before they are automatically deleted by OneFS. Specify in the following format:

<integer><units>

The following <units> are valid:

- years
- months
- days
- hours

--max_reports <number>

Specifies the maximum number of reports to retain for this replication policy.

--target_restrict {on | off}

If you specify on, and you specify the target cluster as a SmartConnect zone, replication jobs connect only to nodes in the specified zone. If off is specified, does not restrict replication jobs to specific nodes on the target cluster.

--restrict_by <subnet>:<pool>

Restricts replication jobs to running only on nodes in the specified subnet and pool on the local cluster. If the --target_restrict option is set to false, this option has no effect.

--force_interface {on | off}

Determines whether data is sent over only the default interface of the subnet specified by the --restrict_by option. This option can be useful if there are multiple interfaces for the given subnet. If you enable this option, you must specify a default interface. To view interfaces, run the following command:

isi network list interfaces

To specify a default interface, run the following command:

sysctl net.inet.ip.choose_ifa_by_ipsrc=<interface_id>

--diff_sync {on | off}

Determines whether the full or differential replications are performed for this policy. Full or differential replications are performed the first time a policy is run and after a policy has been reset. If set to on, performs a differential replication. If set to off, performs a full replication. If differential replication is enabled the first time a replication policy is run, it can cause the policy to run slower and offers no benefit. It is recommended that you do not specify on.

The default value is off.

--rename_pattern <naming-pattern>

Determines whether the snapshots that are generated for the replication policy on the source cluster are deleted when the next replication policy is run. If specified, the snapshots that are generated for the replication policy on the source cluster are retained and renamed according to the rename pattern. If not specified, the snapshots that are generated on the source cluster are deleted. Specifying this setting does not require that a SnapshotIQ license be configured on the cluster.
For example, the following pattern is valid:

```
SIQ-source-%{PolicyName}-%Y-%m-%d_%H-%M
```

**--rename_expiration <duration>**

If you specify `--rename_pattern`, specifies an expiration period for the snapshots retained on the source cluster.
If this option is not specified, renamed snapshots will exist indefinitely.

Specify in the following format:

```
<integer><units>
```

The following `<units>` are valid:

- years
- months
- days
- hours

**Examples**

Assuming that `newPolicy` has been reset and has not been run since it was reset, the following command causes a differential replication to be performed the next time `newPolicy` is run:

```
isi sync policy modify newPolicy --diff_sync on
```

### isi sync policy delete

Deletes a replication policy.

**Syntax**

```
isi sync policy delete <policy>
[--force]
[--local_only]
```

**Options**

`<policy>`

Deletes the specified replication policy.
Specify as a replication policy name, a replication policy ID, or specify "all" to delete all replication policies.

`--force`

Deletes the policy, even if an associated job is currently running.

⚠️ **CAUTION**

Forcing a policy to delete might cause errors if an associated replication job is currently running.

`--local_only`

Does not delete the policy association on the target cluster. Not deleting a policy association on the target cluster will cause the target directory to remain in a read-only state.

**Examples**

The following command deletes `newPolicy`:

```
isi sync policy delete newPolicy
```
isi sync policy disable

Temporarily disables a replication policy. If a replication policy is disabled, the policy will not create replication jobs. However, if a replication job is currently running for a replication policy, disabling the policy will not pause or stop the job.

Syntax
isi sync policy disable <policy>

Options
<policy>
Disables the specified replication policy.
Specify as a replication policy name, a replication policy ID, or specify "all" to disable all replication policies.

Examples
The following command disables newPolicy:
isi sync policy disable newPolicy

isi sync policy enable

Enables a disabled replication policy.

Syntax
isi sync policy enable <policy>

Options
<policy>
Enables the specified replication policy.
Specify as a replication policy name, a replication policy ID, or specify "all" to enable all replication policies.

Examples
The following command enables newPolicy:
isi sync policy enable newPolicy

isi sync policy run

Creates a replication job that replicates data according to a replication policy.

Syntax
isi sync policy run <policy>
   [--use_snap <snapshot>]

Options
<policy>
Creates a replication job according to the specified replication policy.
Specify as a replication policy name, a replication policy ID, or specify "all" to resume all replication jobs.

--use_snap <snapshot>
Replicates data according to the specified snapshot. If specified, a snapshot is not generated for the replication job. Replicating data according to snapshots generated by the SyncIQ tool is not supported.
Specify as a snapshot name or ID. The root directory of the specified snapshot must contain the source directory of the replication policy. This option is valid only if the last replication job completed successfully or if you are performing a full or differential replication. If the last replication job completed successfully, the specified snapshot must be more recent than the snapshot referenced by the last replication job.

Examples
The following command creates a replication job according to newPolicy:

```bash
isi sync policy run newPolicy
```

The following command replicates data contained in Snapshot-7-23-2012 to the target directory of newPolicy:

```bash
isi sync policy run newPolicy --use_snap Snapshot-7-23-2012
```

### isi sync policy pause

Temporarily pauses a running replication job. Pausing a replication job temporarily stops data from being replicated. However, pausing a replication job does not free the cluster resources that were being used to replicate data.

**Syntax**

```bash
isi sync policy pause <job>
```

**Options**

**<job>**

Pauses a job that was run by the specified replication policy.

Specify as a replication policy name, a replication policy ID, or specify "all" to pause all replication jobs.

**Examples**

The following command pauses a replication job created according to newPolicy:

```bash
isi sync policy pause newPolicy
```

### isi sync policy stop

Stops a running or paused replication job. Stopping a replication job stops data from being replicated and frees the cluster resources that were replicating data. You cannot resume a stopped replication job; in order to restart replication, you must start the replication policy again.

**Syntax**

```bash
isi sync policy stop <job>
```

**Options**

**<job>**

Cancels a replication job created according to the specified replication policy.

Specify as a replication policy name, a replication policy ID, or specify all to stop all replication jobs.

**Examples**

The following command stops a replication job created according to newPolicy:

```bash
isi sync policy stop newPolicy
```
isi sync policy resume

Resumes a paused replication job.

**Syntax**

isi sync policy resume <job>

**Options**

<job>
- Resumes a job created according to the specified replication policy.
- Specify as a replication policy name, a replication policy ID, or specify all to resume all replication jobs.

**Examples**

The following command resumes a paused replication job created according to newPolicy:

```bash
isi sync policy resume newPolicy
```

isi sync policy resolve

Resolves a conflicted replication policy after the policy encounters an error and the cause of the error is fixed. If the cause of the error cannot be fixed, run the `isi sync policy reset` command instead.

**Syntax**

isi sync policy resolve <policy>

**Options**

<policy>
- Resolves the specified replication policy.
- Specify as a replication policy name, a replication policy ID, or specify all to resolve all replication policies.

**Examples**

The following command resolves newPolicy:

```bash
isi sync policy reset resolve newPolicy
```

isi sync policy reset

Resets a replication policy after the policy encounters an error and the cause of the error cannot be identified or fixed. If you fix the cause of the error, run `isi sync policy resolve` instead.

Resetting a replication policy causes either a full replication or a differential replication to be performed the next time the policy is run.

**Syntax**

isi sync policy reset <policy>

**Options**

<policy>
- Resets the specified replication policy.
Specify as a replication policy name, a replication policy ID, or specify all to reset all replication policies.

Examples
The following command resets newPolicy:

```bash
isi sync policy reset newPolicy
```

isi sync policy report

Displays information about completed replication jobs.

Syntax

```bash
isi sync policy report
```

```bash
[--policy <policy> [--subreport <id> [--job_id <id>]]]
[--status <filter>]
[--mode <string>]
[--mail]
[--quantity <integer>]
[--verbose]
```

Options
If no options are specified, displays basic information about all completed replication jobs.

```bash
--policy <policy>
```
Displays information about only replication jobs created according to the specified replication policy.
Specify as a replication policy name or ID.

```bash
--job_id <id>
```
Displays information about only specified replication job created according to a given replication policy.
Specify as a replication job ID.

```bash
--subreport <id>
```
Displays the specified sub-report for a given job.
Specify as a sub-report ID.

```bash
{--status | -s} <filter>
```
Filters output by whether the replication job completed successfully.
The following values are valid:

- success
- failed
- all
The default setting is all.

```bash
{--mail | -m}
```
Sends the output to specified email addresses. To specify email addresses to send reports to, run the following command:

```bash
isi sync report config --email <email-addresses>
```

```bash
{--quantity | -N} <integer>
```
Displays the specified number of reports. The default value is 10.

```bash
{--verbose | -v}
```
Displays detailed information in an indented list.
Examples
To view basic information on all completed replication jobs, run the following command:

`isi sync policy report`

The system displays output similar to the following example:

```
newPolicy1:
Start              Stop              Act             Status
07/19/12 16:10:30  07/19/12 16:10:38 sync            Success
07/19/12 16:12:42  07/19/12 16:12:59 sync            Success
07/19/12 16:13:35  07/19/12 16:13:50 sync            Success
07/19/12 16:17:09  07/19/12 16:17:22 sync            Success
07/19/12 16:17:50  07/19/12 16:18:07 sync            Success
07/19/12 16:20:22  07/19/12 16:20:38 sync            Success
07/19/12 16:22:28  07/19/12 16:22:43 sync            Success
07/19/12 16:23:20  07/19/12 16:23:36 sync            Success

newPolicy2:
   No reports for this policy selected or created

newPolicy3:
Start              Stop              Act             Status
07/19/12 16:36:26  07/19/12 16:36:32 sync            Success
07/19/12 16:44:32  07/19/12 16:44:38 sync            Success
```

The following command displays detailed information about a job that was created according to newPolicy1:

`isi sync policy report --policy newPolicy1 --job_id 1 --verbose`

The system displays output similar to the following example:

```
Id: b746ba74c004087c1a2878cfb87ece26
Name: newPolicy1
    Action: sync
    Sync Type: initial
    Job ID: 1
    Started: Thu Jul 19 16:10:30 PDT 2012
    Run time: 8 secs
    Ended: Thu Jul 19 16:10:38 PDT 2012
    Status: Success
    Details:
        Directories:
            Visited on source: 1
            Deleted on destination: 0
        Files:
            Total Files: 1
            Actually transferred: 1
            New files: 1
            Updated files: 0
            Automatically retransmitted files: 0
            Deleted on destination: 0
            Skipped for some reason:
                Up-to-date (already replicated): 0
                Modified while being replicated: 0
                IO errors occurred: 0
                Network errors occurred: 0
                Integrity errors occurred: 0
        Bytes:
            Total Network Traffic: 315 KB (322209 bytes)
            Total Data: 313 KB (320841 bytes)
            File Data: 313 KB (320841 bytes)
            Sparse Data: 0B
        Snapshots:
            Target: SIQ-Failover-newPolicy1-2012-07-19_16-10-37
        Phases (2/2):
            Treewalk (STF_PHASE_TW)
                Start: Thu Jul 19 16:10:34 PDT 2012
                End: Thu Jul 19 16:10:34 PDT 2012
            ID map backup (STF_PHASE_IDMAP_SEND)
```
isi sync reports config

Displays and modifies default replication report settings.

Syntax

```
isi sync reports config

[ --email <email-address>... ]
[ --keep <duration> ]
[ --max_reports <integer> ]
```

Options

If no options are specified, displays current default replication report settings.

```
--email | -e <email-address>
```

Specifies the default email address to send replication policy reports to. To mail reports to the specified email addresses, run the following command:

```
isi sync policy report --mail
```

Specify as an email address. You can specify multiple email addresses by separating addresses with a space. Do not separate email addresses with commas.

```
--keep | -k <duration>
```

Specifies the default amount of time that OneFS retains reports before automatically deleting them.

Specify in the following format:

```
<integer><units>
```

The following <units> are valid:

- **Y** — Specifies years
- **M** — Specifies months
- **D** — Specifies days
- **H** — Specifies hours

```
--max_reports <integer>
```

Specifies the default maximum number of reports to retain for a policy.

Examples

The following command configures OneFS to send replication reports to user@company.com and admin@company.com when the `isi sync policy report --mail` command is run:

```
isi sync reports config --email user@company.com admin@company.com
```

isi sync reports policyconf

Displays and modifies replication report settings for a specific replication policy.

Syntax

```
isi sync reports policyconf <policy>

[ --keep <duration> | --max_reports <integer> ]
```

Options

<policy>
Modifies or displays the replication report settings for the specified policy.

`{--keep | -k} <duration>`

Specifies the amount of time that OneFS retains reports about the policy before automatically deleting them.
Specify in the following format:

`<integer><units>`

The following `<units>` are valid:

- **Y** — Specifies years
- **M** — Specifies months
- **D** — Specifies days
- **H** — Specifies hours

`--max_reports <integer>`

Specifies the maximum number of reports to retain for the policy.

**Examples**
The following command sets the maximum number of retained reports for newPolicy to 5000.

```bash
isi sync report policyconf newPolicy --max_reports 5000
```

**isi sync reports rotate**

If the number of replication reports has exceeded the maximum, deletes replication reports. The system intermittently deletes excess reports automatically. However, this command causes excess reports to be deleted immediately.

**Syntax**

```bash
isi sync reports rotate
```

**Options**

There are no options for this command.

**Examples**
The following command deletes excess replication reports:

```bash
isi sync reports rotate
```

**isi sync reports rebuild**

Rebuilds a broken replication report database.

**Syntax**

```bash
isi sync reports rebuild
    [--policy <policy>]
```

**Options**

If no options are specified, rebuilds replication report databases for all replication policies.

`--policy <policy>`

Rebuilds the report database for the specified replication policy.
Specify as a replication policy name or ID.
Examples
To rebuild all replication report databases, run the following command:

`isi sync reports rebuild`

### isi sync policy list

Displays a list of replication policies.

#### Syntax

```
isi sync policy list
 [--policy <policy>]
 [--verbose]
 [--wide]
```

#### Options

If no options are specified, displays a table of all replication policies.

`--policy <policy>`

Displays information about only the specified replication policy. Specify as a replication policy name or ID.

`[--verbose | -v]`

Displays detailed information in an indented list.

`[--wide | -w]`

Displays table output in wide mode without truncations.

#### Examples

To view a table of all replication policies run the following command:

`isi sync policy list`

The system displays output similar to the following example:

```
Name       | Path                 | Action | State | Target
-----------+----------------------|--------+-------+--------
           +---------------------+--------+-------+--------
newPolicy1 | /ifs/data/source1    | Copy   | On    |
           | cluster.ip.address1  |        |       |
newPolicy2 | /ifs/data/source2    | Sync   | Off   |
           | cluster.ip.address2  |        |       |
newPolicy3 | /ifs/data/source3    | Sync   | On    |
           | cluster.ip.address3  |        |       |
```

The following command displays detailed information on newPolicy1:

`isi sync policy list --policy newPolicy1 --verbose`

The system displays output similar to the following example:

```
Id: b746ba74c004087c1a2878c87e87e87e87
data replication commands
```

Spec:

```
Name: newPolicy1
Description:
Source paths:
  Root Path: /ifs/data/source
  Exclude: /ifs/data/media
  Exclude: /ifs/data/movies
Source node restriction:
Destination:
  Cluster: localhost
Password is present: no
Path: /ifs/data/target
Make snapshot: off
Restrict target by zone name: off
```
isi sync job list

Displays information about the most recently completed and next scheduled replication jobs of replication policies.

Syntax

isi sync job list

```
[--job <name>]
[--state <state>]
[--wide]
```

Options

If no options are specified, displays information about replication jobs for all policies.

```
--job <policy>
```

Displays only jobs that were run according to the specified replication policy. Specify as a replication policy name or ID.

```
--state <state>
```

Displays only jobs in the specified state. The following values are valid:

- **DEFAULT** — Displays all jobs
- **PAUSED** — Displays paused jobs
- **RUNNING** — Displays running jobs

The default value is default.

```
(--wide | -w)
```

Displays output in wide mode without truncations.

Examples

To view information about replication jobs for all policies, run the following command:

```
isi sync job list
```

The system displays output similar to the following example:

```
Name   | Action | State | Started/Last run | Next Run/Duration
-------+--------+-------+-------------------+------------------
newpol | sync   | on    | 07/16/12 15:53:39 | 07/22/12 01:00:00
```
isi sync job report

Displays information about running or recently completed replication jobs.

Syntax

isi sync job report
   [[--job <policy>]]
   [ [--mode <mode>]]
   [ [--verbose]]
   [ [--wide]]

Options

If no options are specified, displays a table of all running or recently completed replication jobs.

--job <name>

   Displays information about only replication jobs that were created according to the specified replication policy.
   Specify as a replication policy name or ID.

--mode <mode>

   Displays only jobs in the specified mode.
   The following values are valid:
   - DEFAULT — Displays a table of all running or recently completed replication jobs.
   - FULL — Displays output in an indented list including information on phases.
   - WORKER — Displays output in an indented list including information on phases and workers.

   The default value is default.

{--verbose | -v}

   Displays output in an indented list.

{--wide | -w}

   Displays table output in wide mode without truncations.

Examples

To view information about all recently completed or currently running replication jobs, run the following command:

    isi sync job report

The system displays output similar to the following example:

    Name      | Act  | St      | Duration | Transfer | Throughput
    ----------+------+---------+----------+----------+-----------
    newPolicy | sync | Success | 6 secs   | 486B     | 627b/s

isi sync job stop

Cancels running or paused replication jobs.

Syntax

isi sync job stop <job>

Options

<job>

   Cancels a job that was created according to the specified replication policy.
Data replication commands

Specify as a replication policy name or ID.

**Examples**
The following command resumes a job created according to newPolicy:

```
isi sync job resume newPolicy
```

### isi sync job pause

Pauses a running replication job.

**Syntax**

```
isi sync job pause <job>
```

**Options**

- `<job>`
  
  Pauses a job that was created according to the specified replication policy. Specify as a replication policy name or ID.

**Examples**
The following command pauses a job created according to newPolicy:

```
isi sync job pause newPolicy
```

### isi sync job resume

Resumes paused replication jobs.

**Syntax**

```
isi sync job resume <job>
```

**Options**

- `<job>`
  
  Resumes a job that was run by the specified policy. Specify as a replication policy name or ID.

**Examples**
The following command resumes a job created according to newPolicy:

```
isi sync job resume newPolicy
```

### isi sync target allow_write

Allows modifications to data in a target directory of a replication policy without breaking the association between the local cluster and the policy. The `isi sync target allow_write` command is most commonly used in failover and failback operations.

**Syntax**

```
isi sync target allow_write <policy>... | --revert]
```

**Options**

- `<policy>`
  
  Allows writes for the target directory of the specified replication policy. Specify as a replication policy name, a replication policy ID, or the path of a target directory.
--loglevel <level>
Specifies the amount of data recorded in logs. The following values are valid, organized from least to most information:

- fatal
- error
- notice
- info
- copy
- debug
- trace
The default value is info.

--workers <integer>
Specifies the number of workers per node that are generated by OneFS to perform the allow-writes job.
The default value is 3.

--revert
Reverts an allow-writes operation on the local cluster only. This action does not affect the source cluster of the replication policy.

Examples
The following command allows modifications to data in the /ifs/data/target directory:

isi sync target allow_write /ifs/data/target

isi sync resync prep
Disables the specified policy, reverts the source directory of the policy to the last recovery point, and creates a mirror policy on the target cluster. The isi sync resync prep command is most commonly used in failback operations.

Syntax
isi sync resync prep <policy>

Options
<policy>
Resynchronizes the following replication policy. Specify as a replication policy name or ID. The replication policy must be a synchronization policy.

Examples
The following command resynchronizes newPolicy:

isi sync resync prep newPolicy
isi sync target break

Breaks the association between a local cluster and a target cluster for a replication policy.

**Note**  
Breaking a source and target association requires you to reset the replication policy before you can run the policy again. Depending on the amount of data being replicated, a full or differential replication can take a very long time to complete.

**Syntax**

```bash
isi sync target break <policy>  
[--force]
```

**Options**

- `<policy>`: Removes the association of the specified replication policy targeting this cluster. Specify as a replication policy name, a replication policy ID, or the path of a target directory.
- `--force`: Forces the replication policy association to be removed, even if an associated job is currently running.

**CAUTION**

Forcing a target break might cause errors if an associated replication job is currently running.

**Examples**

The following command breaks the association between the local cluster and newPolicy:

```bash
isi sync target break newPolicy
```

The system displays output similar to the following example:

```
!! Breaking a policy's target association will result in a full  
!! synchronization of all data. Type 'yes' to continue. (yes, [no])
```

Type yes and then press ENTER.

The system displays output similar to the following example:

```
Breaking target association for policy 'newPolicy'
```

isi sync target cancel

Cancels running replication jobs targeting the local cluster.

**Syntax**

```bash
isi sync target cancel <policy>
```

**Options**

- `<policy>`: Cancels a replication job created according to the specified replication policy. Specify as a replication policy name, a replication policy ID, or specify "all" to cancel all replication jobs targeting the local cluster.
Examples
The following command cancels a job created according to newPolicy:

```
isi sync target cancel newPolicy
```

**isi sync target list**

Displays a list of replication policies targeting the local cluster.

**Syntax**

```
isi sync target list
[--policy <policy>]
[--target_path <target>]
[--verbose]
[--wide]
```

**Options**

If no options are specified, displays a table of all replication policies currently targeting the local cluster.

`--policy <policy>`

Displays information only about the specified replication policy targeting the local cluster.
Specify as a replication policy name or ID.

`{--target_path | -p} <target>`

Displays information only about the replication policy targeting the specified directory.
Specify as a target directory path of a replication policy targeting the local cluster.

`{--verbose | -v}`

Displays detailed information in an indented list.

`{--wide | -w}`

Displays table output in wide mode without truncations.

**Examples**

To view detailed information about all replication policies currently targeting the local cluster, run the following command:

```
isi sync target list --verbose
```

The system displays output similar to the following example:

```
ID: 1b1182cf987a5074e7a95ce7bc0684da
Policy Name: newpol
Target Dir: /ifs/data/target
Source Information:
  Cluster: jgregory
  Cluster ID: 00505630021786b50d502b0bb8ac2979a6f1
  Last Coordinator IP: 127.0.0.1
  Legacy Policy: No
Job Status: Canceled
FOFB State: writes disabled
Last Update: Tue Jul 24 08:21:25 2012
```

**isi sync target report**

Displays information about replication jobs targeting the local cluster.

**Syntax**

```
isi sync target report
[--policy <policy> [--subreport <id> [--job_id <id>]]]
```
Options
If no options are specified, displays basic information about all completed replication jobs.

--policy <policy>
Displays information about only replication jobs created according to the specified replication policy.
Specify as a replication policy name or ID.

--job_id <id>
Displays information about only specified replication job created according to a given replication policy.
Specify as a replication job ID.

--subreport <id>
Displays the specified sub-report for a given job.
Specify as a sub-report ID.

{--status | -s} <filter>
Filters output by whether the replication job completed successfully.
The following values are valid:
  • success
  • failed
  • all
The default setting is all.

{--mail | -m}
Sends the output to specified email addresses. To specify email addresses to send reports to, run the following command:
isi sync report config --email <email-addresses>

{--quantity | -N} <integer>
Displays the specified number of reports. If you do not specify this option, displays all reports.

{--verbose | -v}
Displays detailed information in an indented list.

Examples
To view basic information on all completed replication jobs that targeted the local cluster, run the following command:
isi sync target report

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>newPolicy1:</th>
<th>Start</th>
<th>Stop</th>
<th>Act</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>07/19/12 16:10:30</td>
<td>07/19/12 16:10:38</td>
<td>sync</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>07/19/12 16:11:42</td>
<td>07/19/12 16:12:05</td>
<td>sync</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>07/19/12 16:17:50</td>
<td>07/19/12 16:18:07</td>
<td>sync</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>07/19/12 16:20:22</td>
<td>07/19/12 16:20:38</td>
<td>sync</td>
<td>Success</td>
</tr>
<tr>
<td></td>
<td>07/19/12 16:22:28</td>
<td>07/19/12 16:22:43</td>
<td>sync</td>
<td>Success</td>
</tr>
</tbody>
</table>
The following command displays detailed information about a job that was created according to newPolicy1:

`isi sync policy report --policy newPolicy1 --job_id 1 --verbose`

The system displays output similar to the following example:

```
Id: 1b1182cf987a5074e7a95ce7bc0684da
Name: newPolicy1
Action: sync
Sync Type: initial
Job ID: 1
Started: Mon Jul 23 16:26:52 PDT 2012
Run time: 11 secs
Ended: Mon Jul 23 16:27:03 PDT 2012
Status: Success
Details:
Directories:
  Visited on source: 1
  Deleted on destination: 0
Files:
  Total Files: 4
  Actually transferred: 4
  New files: 4
  Updated files: 0
  Automatically retransmitted files: 0
  Deleted on destination: 0
  Skipped for some reason:
    Up-to-date (already replicated): 0
    Modified while being replicated: 0
    IO errors occurred: 0
    Network errors occurred: 0
    Integrity errors occurred: 0
Bytes:
  Total Network Traffic: 3.8 MB (4036443 bytes)
  Total Data: 3.8 MB (4029284 bytes)
  File Data: 3.8 MB (4029284 bytes)
  Sparse Data: 0B
Snapshots:
  Target: SIQ-Failover-newPolicy1-2012-07-23_16-27-02
Phases (2/2):
  Treewalk (STF_PHASE_TW)
    Start: Mon Jul 23 16:26:56 PDT 2012
    End: Mon Jul 23 16:26:59 PDT 2012
  ID map backup (STF_PHASE_IDMAP_SEND)
    Start: Mon Jul 23 16:26:59 PDT 2012
    End: Mon Jul 23 16:27:00 PDT 2012
```

**isi sync bandwidth create**

Creates a network-traffic rule that controls the amount of replication-generated network traffic that OneFS can process during a specified time period.

**Syntax**

```
isi sync bandwidth create <interval> <days> <limit>
[--desc <string>]
```

**Options**

```
<interval>
Applies the network-traffic rule during the specified time interval.
```
Specify in the following format:

<hh>:<mm>-<hh>:<mm>

**<days>**
Applies the network-traffic rule on the specified days of the week.
The following values are valid:

- **X** — Specifies Sunday
- **M** — Specifies Monday
- **T** — Specifies Tuesday
- **W** — Specifies Wednesday
- **R** — Specifies Thursday
- **F** — Specifies Friday
- **S** — Specifies Saturday

You can include multiple days by specifying multiple values separated by commas.
You can also include a range of days by specifying two values separated by a dash.

**<limit>**
Limits network traffic to the specified number of Kb per second.
Specify as any integer.

```bash
--desc <string>
```

Specifies an optional description for this network-traffic rule.
Specify as any string.

**Examples**
The following command creates a network-traffic rule that limits bandwidth consumption
to 100 Kb per second from 9:00 AM to 5:00 PM every weekday:

```bash
isi sync bandwidth create 9:00-17:00 M-F 100
```

**isi sync bandwidth modify**
Modifies a network-traffic rule that controls the amount of replication-generated network traffic that OneFS can process during specified a time period.

**Syntax**
```
isi sync bandwidth modify <bw>
|--interval <interval> | --days <days> | --limit <integer>
|--desc <string>
```

**Options**

```
bw
 Modifies the specified network-traffic rule.
 Specify as a network-traffic rule ID.
```

```
|--interval | -i <interval>
 Applies the network-traffic rule during the specified time interval.
 Specify in the following format:
 <hh>:<mm>-<hh>:<mm>
 <hh>:<mm>-<hh>:<mm>
```

```
|--days | -d <days>
 Applies the network-traffic rule on the specified days of the week.
```
The following values are valid:

- X — Specifies Sunday
- M — Specifies Monday
- T — Specifies Tuesday
- W — Specifies Wednesday
- R — Specifies Thursday
- F — Specifies Friday
- S — Specifies Saturday

You can include multiple days by specifying multiple values separated by commas. You can also include a range of days by specifying two values separated by a dash.

`{-limit | -L} <integer>`
Limits network traffic to the specified number of Kb per second.

`--desc <string>`
Specifies an optional description for this network-traffic rule. Specify as any string.

Examples
The following example causes a network-traffic rule to be enforced between 1:00 PM and 3:00 PM:

```
isi sync bandwidth modify 1 --interval 13:00-15:00
```

### isi sync bandwidth delete

Deletes a network-traffic rule that controls the amount of replication-generated network traffic that OneFS can process during a specified time period.

**Syntax**

`isi sync bandwidth delete <bw>`

**Options**

- `<bw>`
  - Deletes the specified network-traffic rule.
  - Specify as a network-traffic rule ID, or specify all to delete all network-traffic rules.

**Examples**

To disable all network-traffic rules, run the following command:

```
isi sync bandwidth delete all
```

### isi sync bandwidth disable

Disables a network-traffic rule that controls the amount of replication-generated network traffic that OneFS can process during a specified time period.

**Syntax**

`isi sync bandwidth disable <bw>`

**Options**

- `<bw>`
  - Disables the specified network-traffic rule.
Specify as a network-traffic rule ID, or specify all to disable all network-traffic rules.

**Examples**
To disable all network traffic rules, run the following command:

```
isi sync bandwidth disable all
```

**isi sync bandwidth enable**

Enables a disabled network-traffic rule that controls the amount of replication-generated network traffic that OneFS can process during a specified time period.

**Syntax**

```
isu sync bandwidth enable <bw>
```

**Options**

- `<bw>`
  
  Enables the specified network-traffic rule.
  
  Specify as a network-traffic rule ID, or specify all to enable all network-traffic rules.

**Examples**

To enable all network traffic rules, run the following command:

```
isu sync bandwidth enable all
```

**isi sync bandwidth list**

Displays list of network-traffic rules.

**Syntax**

```
isu sync bandwidth list
[<bw>]
[<id>]
[<verbose>]
[<wide>]
```

**Options**

If no options are specified, displays a table of all network-traffic rules.

- `<bw> <id>`
  
  Displays information about only the specified network-traffic rule.
  
  Specify as a network-traffic rule ID.

- `<verbose | -v>`
  
  Displays detailed information in an indented list.

- `<wide | -w>`
  
  Displays table output in wide mode without truncations. If `--verbose` is specified, this option has no effect.

**Examples**

To view information about network-traffic rules in a table, run the following command:

```
isu sync bandwidth list
```

The system displays output similar to the following example:

```
Id  | Limit(kb/s) | State | Days    | Time Interval | Description
---+-------------+-------+---------+---------------+------------
 1  | 5000        | on    | Sat     | 12:00-13:00   |            
 2  | 1000        | on    | Mon-Fri | 09:00-17:00   |            
 3  | 1000        | on    | Sun     | 12:00-17:00   |            
```
To view detailed information about network-traffic rules in an indented list, run the following command:

```
isi sync bandwidth list --verbose
```

The system displays output similar to the following example:

```
Id = 1
Limit = 5000 (kb/s)
Description = None
State = on
Schedule:
    Days = Sat
    Interval = 12:00-13:00
====
Id = 2
Limit = 1000 (kb/s)
Description = None
State = on
Schedule:
    Days = Mon-Fri
    Interval = 09:00-17:00
====
Id = 3
Limit = 1000 (kb/s)
Description = None
State = on
Schedule:
    Days = Sun
    Interval = 12:00-17:00
```

**isi sync throttle create**

Creates a file-operations rule that limits the number of files that replication policies can send per second.

**Syntax**

```
isi sync throttle create <interval> <days> <limit>
    [--desc <string>]
```

**Options**

**<interval>**

Applies the file-operations rule during the specified time interval. Specify in the following format.

```
<hh>:<mm>-<hh>:<mm>
```

**<days>**

Applies the file-operations rule on the specified days of the week. The following values are valid:

- X — Specifies Sunday
- M — Specifies Monday
- T — Specifies Tuesday
- W — Specifies Wednesday
- R — Specifies Thursday
- F — Specifies Friday
- S — Specifies Saturday

You can include multiple days by specifying multiple values separated by commas. You can also include a range of days by specifying two values separated by a dash.
Limits the speed at which files can be sent to the specified number of files per second.
Specify as any integer.

--desc <string>
Specifies an optional description for this file-operations rule.
Specify as any string.

Examples
The following command creates a file-operations rule that prevents OneFS from sending more than three files per second from 9:00 AM to 5:00 PM every weekday:

isi sync throttle create 9:00-17:00 M-F 3

isi sync throttle modify

Modifies a file-operations rule that limits the number of files that replication policies can send per second.

Syntax

isi sync throttle modify <thr> {--interval <interval> | --days <days> | --limit <limit> | --desc <string>}

Options

<thr>
Modifies the specified file-operations rule.
Specify as a file-operations rule ID.

{--interval | -i} <interval>
Applies the file-operations rule during the specified time interval.
Specify in the following format:

<hh>:<mm> - <hh>:<mm>

{--days | -d} <days>
Applies the file-operations rule on the specified days of the week.
The following values are valid:

- X — Specifies Sunday
- M — Specifies Monday
- T — Specifies Tuesday
- W — Specifies Wednesday
- R — Specifies Thursday
- F — Specifies Friday
- S — Specifies Saturday

You can include multiple days by specifying multiple values separated by commas. You can also include a range of days by specifying two values separated by a dash.

{--limit | -L} <limit>
Limits the speed at which files can be sent to the specified number of files per second.
Specify as any integer.

--desc <string>
Specifies an optional description for this file-operations rule.
Specify as any string.
Examples
The following command causes a file-operations rule to be enforced from 8:00 AM to 5:00 PM:

```
isi sync throttle modify 1 --interval 8:00-17:00
```

**isi sync throttle delete**

Deletes a file-operations rule that limits the number of files that replication policies can send per second.

**Syntax**

```
isi sync throttle delete <thr>
```

**Options**

- `<thr>`
  - Deletes the specified file-operations rule. To delete all file-operations rules, specify all.
  - Specify as a file-operations rule ID, or specify all to delete all file-operations rules.

**Examples**

To delete all file-operations rules, run the following command:

```
isi sync throttle delete all
```

**isi sync throttle disable**

Disables a file-operations rule that limits the number of files that replication policies can send per second.

**Syntax**

```
isi sync throttle disable <thr>
```

**Options**

- `<thr>`
  - Disables the specified file-operations rule.
  - Specify as a file-operations rule ID, or specify all to disable all file-operations rules.

**Examples**

To disable all file-operations rules, run the following command:

```
isi sync throttle disable all
```

**isi sync throttle enable**

Enables a file-operations rule that limits the number of files that replication policies can send per second.

**Syntax**

```
isi sync throttle enable <thr>
```

**Options**

- `<thr>`
  - Enables the specified file-operations rule.
  - Specify as a file-operations rule ID, or specify all to enable all file-operations rules.
Examples
To enable all file-operations rules, run the following command:

```
isi sync throttle enable all
```

isi sync throttle list

Displays a list of file-operations rules.

Syntax

```
isi sync throttle list
    [--thr <id>]
    [--verbose]
    [--wide]
```

Options
If no options are specified, displays a table of all file-operations rules.

`--thr <id>`
Displays information about only the specified file-operations rule. Specify as a file-operations rule ID.

`{---verbose | -v}`
Displays detailed information in an indented list.

`{---wide | -w}`
Displays table output in wide mode without truncations. If --verbose is specified, this option has no effect.

Examples
To view information about file-operations rules in a table, run the following command:

```
isi sync throttle list
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Id</th>
<th>Limit (Files/s)</th>
<th>State</th>
<th>Days</th>
<th>Time Interval</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>on</td>
<td>Sat</td>
<td>10:00-13:00</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>on</td>
<td>Mon-Fri</td>
<td>09:00-17:00</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2</td>
<td>on</td>
<td>Sun</td>
<td>10:00-17:00</td>
<td></td>
</tr>
</tbody>
</table>

To view detailed information about file-operations rules in an indented list, run the following command:

```
isi sync cpu list --verbose
```

The system displays output similar to the following example:

```
Id = 1
Limit = 1 (files/s)
Description = None
State = on
Schedule:
  Days = Sat
  Interval = 10:00-13:00

Id = 2
Limit = 3 (files/s)
Description = None
State = on
Schedule:
  Days = Mon-Fri
  Interval = 09:00-17:00

Id = 3
Limit = 2 (files/s)
```
isi sync config

Manages global replication settings.

Syntax

```
isi sync config {--restrict_by <subnet>:<pool>
| --target_restrict {on | off}
| --force_interface {on | off}}...
```

Options

If no options are specified, displays current global replication settings.

`--restrict_by <subnet>:<pool>`

Restricts replication policies to running only on nodes in the specified subnet and pool on the local cluster. If the `--target_restrict` option is set to false, this option has no effect.

`--target_restrict {on | off}`

If you specify on, and you specify the target cluster as a SmartConnect zone, replication policies connect only to nodes in the specified zone. If off is specified, does not restrict replication policies to specific nodes on the target cluster.

`--force_interface {on | off}`

Determines whether data is sent over only the default interface of the subnet specified by the `--restrict_by` option. This option can be useful if there are multiple interfaces for the given subnet.

If you enable this option, you must specify a default interface. To view interfaces, run the following command:

```
isni network list interfaces
```

To specify a default interface, run the following command:

```
sysctl net.inet.ip.choose_ifa_by_ipsrc=<interface_id>
```

Examples

To restrict replication policies to connect only to nodes in the zone specified by the target cluster, run the following command:

```
isni sync config --target_restrict on
```

isi sync start

The `isi sync start` command is an alias of the `isi sync resume` command. For usage information and examples, see `isi sync resume`.

isi sync stop

Prevents replication jobs from being created by stopping SyncIQ activity. It is recommended that you run this command only if instructed to do so by Isilon Technical
Support. If you have not contacted Isilon Technical Support, it is recommended that you run the isi sync pause command instead.

Syntax
isi sync stop
   [--quiet]

Options
   (--quiet | -q)
      If specified and the command succeeds, does not display a confirmation message. However, if specified and the command fails, the system still displays error message.

Examples
The following command stops replication activity on a cluster:
isi sync start
The system displays output similar to the following example:
SyncIQ change state: on -> off

isi sync pause

Prevents replication jobs from being created by pausing SyncIQ activity.

Syntax
isi sync pause
   [--quiet]

Options
   (--quiet | -q)
      If specified and the command succeeds, does not display a confirmation message. However, if specified and the command fails, the system still displays error message.

Examples
To prevent replication jobs from being created, run the following command:
isi sync pause
The system displays output similar to the following example:
SyncIQ change state: on -> paused

isi sync resume

Allows replication jobs to be created after SyncIQ activity has been paused or stopped.

Syntax
isi sync resume
   [--quiet]

Options
   (--quiet | -q)
      If specified and the command succeeds, does not display a confirmation message. However, if specified and the command fails, the system still displays error message.
Examples
To allow replication jobs to be created after SyncIQ activity has been paused or stopped, run the following command:

```bash
isi sync resume
```

The system displays output similar to the following example:

```
SyncIQ change state: paused -> on
```
Data replication commands
CHAPTER 5

NDMP backup commands

You can control Network Data Management Protocol (NDMP) backups through the NDMP backup commands.

- isi ndmp user create
- isi ndmp user modify
- isi ndmp user delete
- isi ndmp user list
- isi tape rescan
- isi tape rename
- isi tape delete
- isi tape list
- isi fc set
- isi fc disable
- isi fc enable
- isi fc list
- isi ndmp kill
- isi ndmp list
- isi ndmp probe
- isi ndmp settings set
- isi ndmp settings list
**isi ndmp user create**

Creates an NDMP user account.

**Syntax**

`isi ndmp user create <name> <password>`

**Options**

- `<name>`
  
  Specifies a name for the NDMP user account.

- `<password>`
  
  Specifies a password for the NDMP user account.

**Examples**

The following command creates an NDMP user account with a name of `ndmp_user` and a password of `1234`:

`isi ndmp user create ndmp_user 1234`

**isi ndmp user modify**

Modifies the password of an NDMP user account.

**Syntax**

`isi ndmp user modify <name> <password>`

**Options**

- `<name>`
  
  Modifies the password of the specified NDMP user account.

- `<password>`
  
  Assigns the specified password to the given NDMP user account.

**Examples**

The following command sets the password of `ndmp_user` to `newpassword`:

`isi ndmp user modify ndmp_user newpassword`

**isi ndmp user delete**

Deletes an NDMP user account.

**Syntax**

`isi ndmp user delete <name>`

**Options**

- `<name>`
  
  Deletes the specified NDMP user account.

**Examples**

The following example deletes `ndmp_user`:

`isi ndmp user delete ndmp_user`
isi ndmp user list

Displays information about NDMP users.

Syntax
isi ndmp user list
     [--name <name>]

Options
If no options are specified, displays information about all NDMP users.

--name <name>
     Displays information about only the specified NDMP user.

Examples
To view information about all NDMP user accounts, run the following command:
isi ndmp user list

isi tape rescan

Scans Fibre Channel ports for undetected NDMP backup devices that are attached to Backup Accelerator nodes. If the scan reveals new devices, the cluster creates entries for the new devices.

Syntax
isi tape rescan
     [--node <lnn>]
     [--port <integer>]
     [--reconcile]

Options
If no options are specified, scans all nodes and ports.

--node <lnn>
     Scans only the node of the specified logical node number (LNN).

--port <integer>
     Scans only the specified port. If you specify --node, scans only the specified port on the specified node. If you do not specify --node, scans the specified port on all nodes.

--reconcile
     Removes entries for devices or paths that have become inaccessible.

Examples
To scan the entire cluster for NDMP devices, and remove entries for devices and paths that have become inaccessible, run the following command:
isi tape rescan --reconcile

isi tape rename

Renames an NDMP device that is currently connected to a Backup Accelerator node on the cluster.

Syntax
isi tape rename <devname> <rename>
NDMP backup commands

**Options**

`<devname>`

Modifies the name of the specified NDMP device.

`<rename>`

Specifies a new name for the given NDMP device.

**Examples**

The following example renames tape003 to tape005:

```
isi tape rename tape003 tape005
```

### isi tape delete

Disconnects the cluster from an NDMP backup device that is currently connected to a Backup Accelerator node on the cluster.

**Syntax**

```
isi tape delete {<dev-name> | --all}
```

**Options**

`<devname>`

Disconnects the cluster from the specified device. Specify as an NDMP device name.

`--all`

Disconnects the cluster from all devices.

**Examples**

The following command disconnects tape001 from the cluster:

```
isi tape delete tape001
```

### isi tape list

Displays a list of NDMP devices that are currently connected to the cluster.

**Syntax**

```
isi tape list [--devname <name>] [--node <lnn>] [--tape] [--mc] [--verbose]
```

**Options**

`--devname | --n <name>`

Displays only the specified device. Specify as a device name.

`--node <lnn>`

Displays only devices that are attached to the node of the specified logical node number (LNN).

`--tape`

Displays only tape devices.

`--mc`

Displays only media changer devices.

`--verbose | -v`
Displays more detailed information.

Examples
To view a list of all NDMP devices, run the following command:

```
iserti tape list
```

### isi fc set

Configures a Fibre Channel port on a Backup Accelerator node.

This command is valid only if a Backup Accelerator node is attached to the cluster, and the specified port is disabled.

**Syntax**

```
isifi c set <port> {--wwnn <wwnn> | --wwpn <wwpn> | --topology <topology> | --rate <rate>}
```

**Options**

- **<port>**
  - Configure the specified port.
  - Specify as a port ID.

- **--wwnn <wwnn>**
  - Specifies the world wide node name (WWNN) of the port.
  - Specify as a string of 16 hexadecimal characters.

- **--wwpn <wwpn>**
  - Specifies the world wide port name (WWPN) of the port.
  - Specify as a string of 16 hexadecimal characters.

- **--topology <topology>**
  - Specifies the type of Fibre Channel topology that the port expects.
  - The following values are valid:
    - **PTP** — Causes the port to expect a point-to-point topology, with one backup device or Fibre Channel switch directly connected to the port.
    - **LOOP** — Causes the port to expect an arbitrated loop topology, with multiple backup devices connected to a single port in a circular formation.
    - **AUTO** — Causes the port to detect the topology automatically. This is the recommended setting. If you are using a fabric topology, specify this setting.

- **--rate <rate>**
  - Specifies the rate that OneFS will attempt to send data through the port.
  - The following values are valid:
    - **AUTO** — The rate that data is sent is determined by the data management application, not OneFS.
    - **1** — Attempts to send data through the port at a speed of 1 Gb per second.
    - **2** — Attempts to send data through the port at a speed of 2 Gb per second.
    - **4** — Attempts to send data through the port at a speed of 4 Gb per second.
Examples
The following command causes port 1 on node 5 to expect a point-to-point Fibre Channel topology:

```
isid fc set 5:1 --topology ptp
```

**isi fc disable**

Disables a Fibre Channel port.

**Syntax**

```
isid fc disable <port>
```

**Options**

- `<port>`
  - Disables the specified port.
  - Specify as a port ID.

**Examples**

The following command disables port 1 on node 5:

```
isid fc disable 5:1
```

**isi fc enable**

Enables a Fibre Channel port.

**Syntax**

```
isid fc enable <port>
```

**Options**

- `<port>`
  - Enables the specified port.
  - Specify as a port ID.

**Examples**

The following command enables port 1 on node 5:

```
isid fc enable 5:1
```

**isi fc list**

Displays a list of Fibre Channel ports on Backup Accelerator nodes connected to the cluster.

**Syntax**

```
isid fc list
   [--port <id>]
   [--node <id>]
```

**Options**

If no options are specified, displays all Fibre Channel ports on Backup Accelerator nodes connected to the cluster.

- `<port <id>`
  - Displays the specified port.
  - Specify as a port ID.
--node <id>

Displays all ports on the specified node.
Specify as a node ID.

Examples
The following command displays all ports on node 5:

```
isi fc list --node 5
```

The system displays output similar to the following example:

```
Port       WWNN             WWPN         State   Topology  Rate
5:1 2000001b3214ccc3 2100001b3214ccc3  enabled    auto    auto
5:2 2000001b3234ccc3 2101001b3234ccc3  enabled    auto    auto
5:3 2000001b3254ccc3 2100001b3254ccc3  enabled    auto    auto
5:4 2000001b3234ccc3 2103001b3274ccc3  enabled    auto    auto
```

The following command displays information about port 1 on node 5:

```
isi fc list --port 1:5
```

The system displays output similar to the following example:

```
Port       WWNN             WWPN         State   Topology  Rate
5:1 2000001b3214ccc3 2100001b3214ccc3  enabled    auto    auto
```

isi ndmp kill

Terminates an NDMP session.

Syntax

```
isi ndmp kill <session>
```

Options

- `<session>`
  Terminates the specified session. Specify as a session ID.

Examples

The following command terminates a session with an ID of 4.36339:

```
isi ndmp kill 4.36339
```

isi ndmp list

Displays NDMP sessions.

Syntax

```
isi ndmp list
[--session <id>]
[--node <id>]
[--verbose]
```

Options

If no options are specified, displays all NDMP sessions.

- `<session <id>`
  Displays only the session of the specified ID.

- `<node <id>`
  Displays only sessions running on the node of the specified ID.

- `[--verbose | -v]`
Displays detailed information.

**Examples**

Run the following command to view all NDMP sessions:

```bash
isi ndmp list
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Session</th>
<th>Data</th>
<th>Mover</th>
<th>OP</th>
<th>Elapsed Time</th>
<th>Bytes Moved</th>
<th>Throughput</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.36339</td>
<td>A</td>
<td>A</td>
<td>R</td>
<td>03d 00:58:24</td>
<td>16.201 TB</td>
<td>12.737 MB/s</td>
</tr>
</tbody>
</table>

The following list describes the values for the Data, Mover, and OP columns:

- **A** — Active
- **I** — Idle
- **P** — Paused
- **R** — Recover
- **B** — Backup

### isi ndmp probe

Displays diagnostic information about an NDMP session.

**Syntax**

```bash
isi ndmp probe <session>
```

**Options**

<session>

Disables diagnostic information about the specified NDMP session. Specify as a session ID.

**Examples**

The following command displays diagnostic information for session 4.34729:

```bash
isi ndmp probe 4.34729
```

### isi ndmp settings set

Configures NDMP settings.

**Syntax**

```bash
isi ndmp settings set <name> <value>
```

**Options**

<name>

Modifies the specified setting.

The following values are valid:

- **DMA** — Configures the cluster to interact with the specified data management vendor (DMA).
- **PORT** — Specifies the port through which a DMA vendor connects to the cluster.

<value>
Specifies a value for the setting. If you are modifying the port setting, specify a TCP/IP port.

If you are modifying the DMA setting, the following values are valid:

- ATEMPO — Atempo Time Navigator
- BAKBONE — BakBone NetVault
- COMMVAULT — CommVault Simpana
- EMC — EMC Networker
- SYMANTEC — Symantec Netbackup
- TIVOLI — IBM Tivoli Storage Manager
- SYMANTEC-NETBACKUP — Symantec Netbackup
- SYMANTEC-BACKUPEXEC — Symantec Backup Exec
- GENERIC — Unsupported DMA vendor

Examples
To set the vendor of the current data management application to EMC Networker, run the following command:

```
isi ndmp settings set --name dma --value emc
```

The following command sets the port number on which the NDMP daemon listens for incoming connections to 10001:

```
isi ndmp settings set port 10001
```

**isi ndmp settings list**

Displays NDMP settings and values.

**Syntax**

```
isi ndmp settings list
[--name <setting>]
```

**Options**

If no options are specified, all settings are displayed.

`--name <setting>`

Displays only the value of the specified setting.

The following values are valid:

- PORT — The port through which a Data Management Application (DMA) connects.
- DMA — The DMA vendor that the cluster is currently configured to interact with.

**Examples**

To view a list of NDMP settings and values, run the following command:

```
isi ndmp settings list
```

The system displays output similar to the following example:

```
Setting   Value
---------- ------------
port      10000
dma       EMC
```
NDMP backup commands
You can control and access snapshots through the snapshot commands. Most snapshot commands apply specifically to the SnapshotIQ tool and are available only if a SnapshotIQ license is configured on the cluster.

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Snapshot naming patterns

If you schedule snapshots to be automatically generated by OneFS, either according to a snapshot schedule or a replication policy, you must assign a snapshot naming pattern that determines how the snapshots are named. Snapshot naming patterns contain variables that include information about how and when the snapshot is created.

The following variables can be included in a snapshot naming pattern:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%A</td>
<td>The day of the week.</td>
</tr>
<tr>
<td>%a</td>
<td>The abbreviated day of the week. For example, if the snapshot is generated on a Sunday, %a is replaced with &quot;Sun&quot;.</td>
</tr>
<tr>
<td>%B</td>
<td>The name of the month.</td>
</tr>
<tr>
<td>%b</td>
<td>The abbreviated name of the month. For example, if the snapshot is generated in September, %b is replaced with &quot;Sep&quot;.</td>
</tr>
<tr>
<td>%C</td>
<td>The first two digits of the year. For example, if the snapshot is created in 2012, %C is replaced with &quot;20&quot;.</td>
</tr>
<tr>
<td>%c</td>
<td>The time and day. This variable is equivalent to specifying &quot;%a %b %e %T %Y&quot;.</td>
</tr>
<tr>
<td>%d</td>
<td>The two digit day of the month.</td>
</tr>
<tr>
<td>%e</td>
<td>The day of the month. A single-digit day is preceded by a blank space.</td>
</tr>
<tr>
<td>%F</td>
<td>The date. This variable is equivalent to specifying &quot;%Y-%m-%d&quot;</td>
</tr>
<tr>
<td>%G</td>
<td>The year. This variable is equivalent to specifying &quot;%Y&quot;. However, if the snapshot is created in a week that has less than four days in the current year, the year that contains the majority of the days of the week is displayed. The first day of the week is calculated as Monday. For example, if a snapshot is created on Sunday, January 1, 2017, %G is replaced with &quot;2016&quot;, because only one day of that week is in 2017.</td>
</tr>
</tbody>
</table>
| %g       | The abbreviated year. This variable is equivalent to specifying "%Y". However, if the snapshot was created in a week that has less than four days in the current year, the year that contains the majority of the days of the week is displayed. The first day of the week is calculated as Monday. For example, if a snapshot is created on Sunday, January 1,
<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>%g</td>
<td>2017, %g is replaced with &quot;16&quot;, because only one day of that week is in 2017.</td>
</tr>
<tr>
<td>%H</td>
<td>The hour. The hour is represented on the 24-hour clock. Single-digit hours are preceded by a zero. For example, if a snapshot is created at 1:45 AM, %H is replaced with &quot;01&quot;.</td>
</tr>
<tr>
<td>%h</td>
<td>The abbreviated name of the month. This variable is equivalent to specifying &quot;%b&quot;.</td>
</tr>
<tr>
<td>%l</td>
<td>The hour represented on the 12-hour clock. Single-digit hours are preceded by a zero. For example, if a snapshot is created at 1:45 AM, %l is replaced with &quot;01&quot;.</td>
</tr>
<tr>
<td>%j</td>
<td>The numeric day of the year. For example, if a snapshot is created on February 1, %j is replaced with &quot;32&quot;.</td>
</tr>
<tr>
<td>%k</td>
<td>The hour represented on the 24-hour clock. Single-digit hours are preceded by a blank space.</td>
</tr>
<tr>
<td>%l</td>
<td>The hour represented on the 12-hour clock. Single-digit hours are preceded by a blank space. For example, if a snapshot is created at 1:45 AM, %l is replaced with &quot;1&quot;.</td>
</tr>
<tr>
<td>%M</td>
<td>The two-digit minute.</td>
</tr>
<tr>
<td>%m</td>
<td>The two-digit month.</td>
</tr>
<tr>
<td>%p</td>
<td>AM or PM.</td>
</tr>
<tr>
<td>%{PolicyName}</td>
<td>The name of the replication policy that the snapshot was created for. This variable is valid only if you are specifying a snapshot naming pattern for a replication policy.</td>
</tr>
<tr>
<td>%R</td>
<td>The time. This variable is equivalent to specifying &quot;%H : %M&quot;.</td>
</tr>
<tr>
<td>%r</td>
<td>The time. This variable is equivalent to specifying &quot;%I : %M : %S %p&quot;.</td>
</tr>
<tr>
<td>%S</td>
<td>The two-digit second.</td>
</tr>
<tr>
<td>%s</td>
<td>The second represented in UNIX or POSIX time.</td>
</tr>
<tr>
<td>%{SrcCluster}</td>
<td>The name of the source cluster of the replication policy that the snapshot was created for. This variable is valid only if you are specifying a snapshot naming pattern for a replication policy.</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>%T</td>
<td>The time. This variable is equivalent to specifying &quot;%H:%M:%S&quot;</td>
</tr>
<tr>
<td>%U</td>
<td>The two-digit numerical week of the year. Numbers range from 00 to 53. The first day of the week is calculated as Sunday.</td>
</tr>
<tr>
<td>%u</td>
<td>The numerical day of the week. Numbers range from 1 to 7. The first day of the week is calculated as Monday. For example, if a snapshot is created on Sunday, %u is replaced with &quot;7&quot;.</td>
</tr>
<tr>
<td>%V</td>
<td>The two-digit numerical week of the year that the snapshot was created in. Numbers range from 01 to 53. The first day of the week is calculated as Monday. If the week of January 1 is four or more days in length, then that week is counted as the first week of the year.</td>
</tr>
<tr>
<td>%v</td>
<td>The day that the snapshot was created. This variable is equivalent to specifying &quot;%e-%b-%Y&quot;.</td>
</tr>
<tr>
<td>%W</td>
<td>The two-digit numerical week of the year that the snapshot was created in. Numbers range from 00 to 53. The first day of the week is calculated as Monday.</td>
</tr>
<tr>
<td>%w</td>
<td>The numerical day of the week that the snapshot was created on. Numbers range from 0 to 6. The first day of the week is calculated as Sunday. For example, if the snapshot was created on Sunday, %w is replaced with &quot;0&quot;.</td>
</tr>
<tr>
<td>%X</td>
<td>The time that the snapshot was created. This variable is equivalent to specifying &quot;%H:%M:%S&quot;.</td>
</tr>
<tr>
<td>%Y</td>
<td>The year that the snapshot was created in.</td>
</tr>
<tr>
<td>%y</td>
<td>The last two digits of the year that the snapshot was created in. For example, if the snapshot was created in 2012, %y is replaced with &quot;12&quot;.</td>
</tr>
<tr>
<td>%Z</td>
<td>The time zone that the snapshot was created in.</td>
</tr>
<tr>
<td>%z</td>
<td>The offset from coordinated universal time (UTC) of the time zone that the snapshot was created in. If preceded by a plus sign, the time zone is east of UTC. If preceded by a minus sign, the time zone is west of UTC.</td>
</tr>
<tr>
<td>Variable</td>
<td>Description</td>
</tr>
<tr>
<td>----------</td>
<td>-------------</td>
</tr>
<tr>
<td>%+</td>
<td>The time and date that the snapshot was created. This variable is equivalent to specifying &quot;%a %b %e %X %Z %Y&quot;.</td>
</tr>
<tr>
<td>%%</td>
<td>Escapes a percent sign. &quot;100%%&quot; is replaced with &quot;100%&quot;.</td>
</tr>
</tbody>
</table>

isi snapshot schedules create

Creates a snapshot schedule. A snapshot schedule determines when OneFS regularly generates snapshots on a recurring basis.

**Syntax**

```bash
isi snapshot schedules create <name> <path> <pattern> <schedule>
[--alias <alias>]
[--duration <duration>]
[--verbose]
```

**Options**

- `<name>`
  - Specifies a name for the snapshot schedule.

- `<path>`
  - Specifies the path of the directory to include in the snapshots.

- `<pattern>`
  - Specifies a naming pattern for snapshots created according to the schedule.

- `<schedule>`
  - Specifies how often snapshots are created.
  - Specify in the following format:
    
    "<interval> ["<frequency>"]"

**Specify <interval> in one of the following formats:**

- Every `[other | <integer>]` [weekday | day]
- Every `[other | <integer>]` week [on <day>]
- Every `[other | <integer>]` month [on the <integer>]
- Every `[<day>[], ...] [of every [other | <integer>] week]`
- The last `{day | weekday | <day>} of every [other | <integer>]` month
- The `<integer> {weekday | <day>} of every [other | <integer>]` month
- Yearly on `<month>` `<integer>`
- Yearly on the `{last | <integer>} {weekday | <day>} of <month>`

**Specify <frequency> in one of the following formats:**

- at `<hh>[<mm>]` [AM | PM]
- every `<integer>` [hours | minutes] [between `<hh>[<mm>]` [AM | PM]] and `<hh>[<mm>]` [AM | PM]
- every `<integer>` [hours | minutes] from `<hh>[<mm>]` [AM | PM] to `<hh>[<mm>]` [AM | PM]
You can optionally append "st", "th", or "rd" to <integer>. For example, you can specify "Every 1st month"

Specify <day> as any day of the week or a three-letter abbreviation for the day. For example, both "saturday" and "sat" are valid.

--alias <alias>

Specifies an alias for the latest snapshot generated based on the schedule. The alias enables you to quickly locate the most recent snapshot that was generated according to the schedule.

Specify as any string.

{-duration | -x} <duration>

Specifies how long snapshots generated according to the schedule are stored on the cluster before OneFS automatically deletes them.

Specify in the following format:

<integer><units>

The following <units> are valid:

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days
- H — Specifies hours

{-verbose | -v}

Displays a message confirming that the snapshot schedule was created.

Examples

The following command creates a snapshot schedule that generates snapshots for /ifs/data every month:

isi snapshot schedules create weeklySnap /ifs/data/ "WeeklyBackup_%m-%d" "Every month" --duration 1Y

isi snapshot schedules modify

Modifies the attributes of an existing snapshot schedule.

If you modify a snapshot schedule, snapshots that have already been generated based on the schedule are not affected by the changes.

Syntax

isi snapshot schedules modify <schedule-name>

|--name <name> | --alias <name> | --path <path>
| --pattern <naming-pattern> | --schedule <schedule>
| --duration <duration> | --clear-duration|...

|--verbose

Options

<schedule-name>

Modifies the specified snapshot schedule.

Specify as a snapshot schedule name or ID.

--name <name>

Specifies a new name for the schedule.

Specify as any string.
{--alias | -a} <name>
 Specifies an alias for the latest snapshot generated based on the schedule. The alias enables you to quickly locate the most recent snapshot that was generated according to the schedule. If specified, the specified alias will be applied to the next snapshot generated by the schedule, and all subsequently generated snapshots. Specify as any string.

--path <path>
 Specifies a new directory path for this snapshot schedule. If specified, snapshots generated by the schedule will contain only this directory path. Specify as a directory path.

--pattern <naming-pattern>
 Specifies a pattern by which snapshots created according to the schedule are named.

--schedule <schedule>
 Specifies how often snapshots are created. Specify in the following format:
 "<interval> [<frequency>]"

Specify <interval> in one of the following formats:

- Every [{other | <integer>}] {weekday | day}
- Every [{other | <integer>}] week [on <day>]
- Every [{other | <integer>}] month [on the <integer>]
- Every [<day>[, ...] of every [{other | <integer>}] week]
- The last {day | weekday | <day>} of every [{other | <integer>}] month
- The <integer> {weekday | <day>} of every [{other | <integer>}] month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} {weekday | <day} of <month>

Specify <frequency> in one of the following formats:

- at <hh>[:<mm>] [{AM | PM}]
- every [<integer>] {hours | minutes} [between <hh>[:<mm>] [{AM | PM}] and <hh>[:<mm>] [{AM | PM}]]
- every [<integer>] {hours | minutes} [from <hh>[:<mm>] [{AM | PM}] to <hh>[:<mm>] [{AM | PM}]

You can optionally append "st", "th", or "rd" to <integer>. For example, you can specify "Every 1st month"

Specify <day> as any day of the week or a three-letter abbreviation for the day. For example, both "saturday" and "sat" are valid.

{--duration | -x} <duration>
 Specifies how long snapshots generated according to the schedule are stored on the cluster before OneFS automatically deletes them. Specify in the following format:
 "<integer><units>

The following <units> are valid:

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days
- H — Specifies hours

--clear-duration
Removes the duration period for snapshots created according to the schedule. If specified, generated snapshots will exist on the cluster indefinitely.

{-verbose | -v}
Displays a message confirming that the snapshot schedule was modified.

Examples
The following command causes snapshots generated according to weeklySnap to be deleted one month after they are generated:

```sh
isist snapshot schedules modify weeklySnap --duration 1M
```

**isi snapshot schedules delete**

Deletes a snapshot schedule. Once a snapshot schedule is deleted, snapshots will no longer be generated according to the schedule. However, snapshots previously generated according to the schedule are not affected.

Snapshots previously generated based on a snapshot schedule are not affected by the deletion of the schedule.

**Syntax**

```sh
isi snapshot schedules delete <schedule-name>
[--force]
[--verbose]
```

**Options**

- `<schedule-name>`: Deletes the specified snapshot schedule. Specify as a snapshot schedule name or ID.

- `{--force | -f}`: Does not prompt you to confirm that you want to delete this snapshot schedule.

- `{--verbose | -v}`: Displays a message confirming that the snapshot schedule was deleted.

**Examples**

The following command deletes weeklySnap without a confirmation prompt:

```sh
isist snapshot schedules delete weeklySnap3 --force
```

**isi snapshot schedules list**

Displays a list of all snapshot schedules.

**Syntax**

```sh
isi snapshot schedules list
[--limit <integer>]
[--sort <attribute>]
[--descending]
[--format {table | json | csv | list}]
[--no-header]
```
Options

{-limit | -l} <integer>
Displays no more than the specified number of items.

--sort <attribute>
Sorts output displayed by the specified attribute.
The following values are valid:

- ID — Sorts output by the ID of a snapshot schedule.
- NAME — Sorts output alphabetically by the name of a snapshot schedule.
- PATH — Sorts output by the absolute path of the directory contained by snapshots created according to a schedule.
- PATTERN — Sorts output alphabetically by the snapshot naming pattern assigned to snapshots generated according to a schedule.
- SCHEDULE — Sorts output alphabetically by the schedule. For example, "Every week" precedes "Yearly on January 3rd"
- DURATION — Sorts output by the length of time that snapshots created according to the schedule endure on the cluster before being automatically deleted.
- ALIAS — Sorts output alphabetically by the name of the alias assigned to the most recent snapshot generated according to the schedule.
- NEXT_RUN — Sorts output by the next time that a snapshot will be created according to the schedule.
- NEXT_SNAPSHOT — Sorts output alphabetically by the name of the snapshot that is scheduled to be created next.

{-descending | -d}
Displays output in reverse order.

--format <output-format>
Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{-no-header | -a}
Displays table and CSV output without headers.

{-no-footer | -z}
Displays table output without footers.

{-verbose | -v}
Displays more detailed information.

Examples
To view detailed information about snapshot schedules, run the following command:

isi snapshot schedules list --verbose

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Path</th>
<th>Pattern</th>
<th>Schedule</th>
<th>Duration</th>
<th>Alias</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>dailySnap</td>
<td>/ifs/data</td>
<td>%A_Backup</td>
<td>Every day</td>
<td>1W</td>
<td>latest_Daily</td>
</tr>
</tbody>
</table>
## isi snapshot schedules view

Displays information about a snapshot schedule.

### Syntax

```bash
isi snapshot schedules view <schedule-name>
```

### Options

* `<schedule-name>`
  - Displays information about the specified snapshot schedule.
  - Specify as a snapshot schedule name or ID.

### Examples

The following command displays information about `newSnapSchedule`:

```bash
isi snapshot schedules view newSnapSchedule
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>ID</th>
<th>Name</th>
<th>Path</th>
<th>Pattern</th>
<th>Schedule</th>
<th>Duration</th>
<th>Alias</th>
<th>Next Run</th>
<th>Next Snapshot</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>weeklySnap</td>
<td>/ifs/data</td>
<td>WeeklyBackup_%m-%d</td>
<td>Every week</td>
<td>1M</td>
<td>latest_Weekly</td>
<td>2012-07-29T07:00:00</td>
<td>WeeklyBackup_07-29</td>
</tr>
<tr>
<td>3</td>
<td>yearlySnap</td>
<td>/ifs/data</td>
<td>Annual_%Y</td>
<td>Yearly on January 1</td>
<td>1Y11M5D</td>
<td>latest_Yearly</td>
<td>2013-01-01T08:00:00</td>
<td>Annual_2013</td>
</tr>
<tr>
<td>4</td>
<td>monthlySnap</td>
<td>/ifs/data</td>
<td>MonthlyBackup_%m</td>
<td>Every month</td>
<td>12M4D</td>
<td>latest_Monthly</td>
<td>2012-08-01T07:00:00</td>
<td>MonthlyBackup_08</td>
</tr>
</tbody>
</table>
isi snapshot schedules pending list

Displays a list of snapshots that are scheduled to be generated by snapshot schedules.

**Syntax**

```bash
isi snapshot schedules pending list
[--begin <timestamp>]
[--end <timestamp>]
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

**Options**

```bash
{--begin | -b} <timestamp>

Displays only snapshots that are scheduled to be generated after the specified date. Specify `<timestamp>` in the following format:

```
<yyyy>-<mm>-<dd>[T<HH>:<MM>[::<SS>]]
```

If this option is not specified, the output displays a list of snapshots that are scheduled to be generated after the current time.

```bash
{--end | -e} <time>

Displays only snapshots that are scheduled to be generated before the specified date. Specify `<time>` in the following format:

```
<yyyy>-<mm>-<dd>[T<HH>:<MM>[::<SS>]]
```

If this option is not specified, the output displays a list of snapshots that are scheduled to be generated before 30 days after the begin time.

```bash
{--limit | -l} <integer>

Displays no more than the specified number of items.
```

```bash
--format <output-format>

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
```

```bash
{--no-header | -a}

Displays table and CSV output without headers.
```

```bash
{--no-footer | -z}

Displays table output without footers.
```

```bash
{--verbose | -v}

Displays more detailed information.
```

**Examples**

To view detailed information about snapshots scheduled to be created during the next 30 days, run the following command:

```bash
isi snapshot schedules pending list --format table --verbose
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Schedule</th>
<th>Time</th>
<th>Snapshot</th>
<th>Path</th>
</tr>
</thead>
<tbody>
<tr>
<td>dailySnap</td>
<td>2012-07-26T07:00:00</td>
<td>Thursday_Backup</td>
<td>/ifs/data</td>
</tr>
<tr>
<td>dailySnap</td>
<td>2012-07-27T07:00:00</td>
<td>Friday_Backup</td>
<td>/ifs/data</td>
</tr>
<tr>
<td>dailySnap</td>
<td>2012-07-28T07:00:00</td>
<td>Saturday_Backup</td>
<td>/ifs/data</td>
</tr>
</tbody>
</table>
### isi snapshot snapshots create

Creates a snapshot of a directory.

**Syntax**

```
isi snapshot snapshots create <name> <path>
[--expires {<timestamp> | <duration>}]  
[--alias <name>]  
[--verbose]
```

**Options**

- `<name>`
  - Specifies a name for the snapshot.

- `<path>`
  - Specifies the path of the directory to include in this snapshot.

- `--expires | -x` `{<timestamp> | <duration>}`
  - Specifies when OneFS will automatically delete this snapshot.
  - If this option is not specified, the snapshot will exist indefinitely.

  Specify `<timestamp>` in the following format:

  `<yyyy>-<mm>-<dd>[T<HH>:<MM>:<SS>]`

  Specify `<duration>` in the following format:

  `<integer><units>`

The following `<units>` are valid:
Y — Specifies years
M — Specifies months
W — Specifies weeks
D — Specifies days
H — Specifies hours

{-alias | -a} <name>
Specifies an alias for this snapshot. A snapshot alias is an alternate name for a snapshot. Specify as any string.

{-verbose | -v}
Displays a message confirming that the snapshot was created.

Examples
The following command creates a snapshot of /ifs/data that expires on October 10, 2012:

```
isi snapshot snapshots create newSnap1 /ifs/data/ --expires 2012-10-10
```

### isi snapshot snapshots modify

Modifies attributes of a snapshot or snapshot alias.

**Syntax**

```
isi snapshot snapshots modify <snapshot>
{-name <name> | --expires {<timestamp> | <duration>} | --clear-expires | --alias <name>}...
[--verbose]
```

**Options**

- `<snapshot>`
  Modifies the specified snapshot or snapshot alias. Specify as the name or ID of a snapshot or snapshot alias.
- `-name <name>`
  Specifies a new name for the snapshot or snapshot alias. Specify as any string.
- `{--expires | -x} {<timestamp> | <duration>}`
  Specifies when OneFS will automatically delete this snapshot. Specify `<timestamp>` in the following format:
  
  `<yyyy>-<mm>-<dd>[T<HH>:<MM>[:<SS>]]`

  Specify `<duration>` in the following format:
  
  `<integer><time>`

  The following `<time>` values are valid:

  - Y — Specifies years
  - M — Specifies months
  - W — Specifies weeks
  - D — Specifies days
  - H — Specifies hours
You cannot modify the expiration date of a snapshot alias.

**--clear-expires**

Removes the expiration date from the snapshot, allowing the snapshot to exist on the cluster indefinitely.
You cannot modify the expiration date of a snapshot alias.

**{--alias | -a} <name>**

Specifies an alias for the snapshot. A snapshot alias is an alternate name for a snapshot. You cannot specify an alias for a snapshot alias.
Specify as any string.

**{--verbose | -v}**

Displays a message confirming that the snapshot or snapshot alias was modified.

**Examples**
The following command renames newSnap to oldSnap and sets the snapshot to expire in two weeks:

```bash
isi snapshot snapshots modify newSnap --name oldSnap --expires 2W
```

The following command causes newSnapshot to be automatically deleted by the system on June 1, 2013 at 3:00 PM:

```bash
isi snapshot snapshots modify newSnap --expires 2013-06-01
```

### isi snapshot snapshots delete

Deletes a snapshot. If a snapshot is deleted, it can no longer be accessed by a user or the system.

**Syntax**

```bash
isi snapshot snapshots delete {--all | --snapshot <snapshot> | --schedule <schedule> | --type <type>} [--force] [--verbose]
```

**Options**

**--all**

Deletes all snapshots.

**--snapshot <snapshot>**

Deletes the specified snapshot.
Specify as a snapshot name or ID.

**--schedule <schedule>**

Deletes all snapshots created according to the specified schedule.
Specify as a snapshot schedule name or ID.

**--type <type>**

Deletes all snapshots of the specified type.
The following types are valid:

- **ALIAS** — Deletes all snapshot aliases.
- **REAL** — Deletes all snapshots.

**{--force | -f}**

Does not prompt you to confirm that you want to delete the snapshot.

**{--verbose | -v}**
Displays a message confirming that the snapshot was deleted.

Examples
The following command deletes newSnap1:

```
isi snapshot snapshots delete --snapshot newSnap1
```

**isi snapshot snapshots list**

Displays a list of all snapshots and snapshot aliases.

**Syntax**

```
isi snapshot snapshots list
```

```
[--state <state>]
[--limit <integer>]
[--sort <attribute>]
[--descending]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

**Options**

`--state <state>`
Displays only snapshots and snapshot aliases that exist in the specified state. The following states are valid:

- **ALL** — Displays all snapshots and snapshot aliases that are currently occupying space on the cluster.
- **ACTIVE** — Displays only snapshots and snapshot aliases that have not been deleted.
- **DELETING** — Displays only snapshots that have been deleted but are still occupying space on the cluster. The space occupied by deleted snapshots will be freed the next time the snapshot delete job is run.

`{--limit | -l} <integer>`
Displays no more than the specified number of items.

`--sort <attribute>`
Sorts output displayed by the specified attribute. The following values are valid:

- **ID** — Sorts output by the ID of a snapshot.
- **NAME** — Sorts output alphabetically by the name of a snapshot.
- **PATH** — Sorts output by the absolute path of the directory contained in a snapshot.
- **HAS_LOCKS** — Sorts output by whether any snapshot locks have been applied to a snapshot.
- **SCHEDULE** — If a snapshot was generated according to a schedule, sorts output alphabetically by the name of the snapshot schedule.
- **ALIAS_TARGET** — If a snapshot is an alias, sorts output by the ID of the snapshot that the alias is applied to.
- **CREATED** — Sorts output by the time that a snapshot was created.
- **EXPIRES** — Sorts output by the time at which a snapshot is scheduled to be automatically deleted.
- **SIZE** — Sorts output by the amount of disk space taken up by a snapshot.
- **SHADOW_BYTES** — Sorts output based on the amount of data that a snapshot references from shadow stores. Snapshots reference shadow store data if a file contained in a snapshot is cloned or a snapshot is taken of a cloned file.

- **PCT_reserve** — Sorts output by the percentage of the snapshot reserve that a snapshot occupies.

- **PCT_FILESYSTEM** — Sorts output by the percent of the file system that a snapshot occupies.

- **STATE** — Sorts output based on the state of snapshots.

**Options**

- `--descending | -d`
  - Displays output in reverse order.

- `--format {table | json | csv | list}`
  - Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

- `--no-header | -a`
  - Displays table output without headers.

- `--no-footer | -z`
  - Displays table output without footers. Footers display snapshot totals, such as the total amount of storage space consumed by snapshots.

- `--verbose | -v`
  - Displays more detailed information.

**Examples**

To view all snapshots and snapshot aliases in CSV format, run the following command:

`isi snapshot snapshots list --format csv`

The system displays output similar to the following example:

```
ID,Name,Path
30,Wednesday_Backup,/ifs/data
32,Thursday_Backup,/ifs/data
34,Friday_Backup,/ifs/data
36,Saturday_Backup,/ifs/data
42,Sunday_Backup,/ifs/data
43,Monday_Backup,/ifs/data
```

To view detailed information about all snapshots and snapshot aliases in a table, run the following command:

`isi snapshot snapshots ls --verbose --format table`

---

**isi snapshot snapshots view**

Displays the properties of an individual snapshot.

**Syntax**

`isi snapshot snapshots view <snapshot>`

**Options**

- `<snapshot>`
  - Displays information about the specified snapshot.
  - Specify as a snapshot name or ID.
Examples
The following command displays information about newSnapshot:

`isi snapshot snapshots view newSnapshot`

The system displays output similar to the following example:

```
ID: 2
  Name: newSnap
  Path: /ifs/data
  Has Locks: No
  Schedule: -
  Alias: -
  Created: 2012-08-14T12:46:13
  Expires: -
  Size: 0b
  Shadow Bytes: 0b
  % Reserve: 0.00%
  % Filesystem: 0.00%
  State: active
```

isi snapshot settings modify

Modifies snapshot settings.

Syntax

```
isi snapshot settings modify
  [--service {enable | disable}]
  [--autocreate {enable | disable}]
  [--autodelete {enable | disable}]
  [--reserve <integer>]
  [--global-visible-accessible {yes | no}]
  [--nfs-root-accessible {yes | no}]
  [--nfs-root-visible {yes | no}]
  [--nfs-subdir-accessible {yes | no}]
  [--smb-root-accessible {yes | no}]
  [--smb-root-visible {yes | no}]
  [--smb-subdir-accessible {yes | no}]
  [--local-root-accessible {yes | no}]
  [--local-root-visible {yes | no}]
  [--local-subdir-accessible {yes | no}]
  [--verbose]
```

Options

--service {enable | disable}
  Determines whether snapshots can be generated.

  **Note** Disabling snapshot generation might cause some OneFS operations to fail. It is recommended that you do not disable this setting.

--autocreate {enable | disable}
  Determines whether snapshots are automatically generated according to snapshot schedules. Specifying disable does not prevent OneFS applications from generating snapshots.

--autodelete {enable | disable}
  Determines whether snapshots are automatically deleted according to their expiration dates. All snapshots that pass their expiration date while this option is disabled will immediately be deleted when the option is enabled again.

--reserve <integer>
  Specifies the percentage of the file system to reserve for snapshot usage. Specify as a positive integer between 1 and 100.
This option limits only the amount of space available to applications other than SnapshotIQ. It does not limit the amount of space that snapshots are allowed to occupy. Snapshots can occupy more than the specified percentage of system storage space.

---

**--global-visible-accessible {yes | no}**
Specifying yes causes snapshot directories and sub-directories to be visible and accessible through all protocols, overriding all other snapshot visibility and accessibility settings. Specifying no causes visibility and accessibility settings to be controlled through the other snapshot visibility and accessibility settings.

**--nfs-root-accessible {yes | no}**
Determines whether snapshot directories are accessible through NFS.

**--nfs-root-visible {yes | no}**
Determines whether snapshot directories are visible through NFS.

**--nfs-subdir-accessible {yes | no}**
Determines whether snapshot subdirectories are accessible through NFS.

**--smb-root-accessible {yes | no}**
Determines whether snapshot directories are accessible through SMB.

**--smb-root-visible {yes | no}**
Determines whether snapshot directories are visible through SMB.

**--smb-subdir-accessible {yes | no}**
Determines whether snapshot subdirectories are accessible through SMB.

**--local-root-accessible {yes | no}**
Determines whether snapshot directories are accessible through the local file system.

**--local-root-visible {yes | no}**
Determines whether snapshot directories are visible through the local file system.

**--local-subdir-visible {yes | no}**
Determines whether snapshot subdirectories are accessible through the local file system.

**(--verbose | -v)**
Displays a message displaying which snapshot settings were modified.

**Examples**
To prevent snapshots from being automatically deleted according to their specified expiration dates, run the following command:

`isi snapshot settings modify --autodelete disable`

**isi snapshot settings view**
Displays current SnapshotIQ settings.

**Syntax**

`isi snapshot settings view`

**Options**
There are no options for this command.
Examples
To view current SnapshotIQ settings, run the following command:

```
isi snapshot settings view
```

The system displays output similar to the following example:

```
Service: Yes
Autocreate: Yes
Autodelete: Yes
Reserve: 0.00%
Global Visible Accessible: Yes
NFS Root Accessible: Yes
NFS Root Visible: Yes
NFS Subdir Accessible: Yes
SMB Root Accessible: Yes
SMB Root Visible: Yes
SMB Subdir Accessible: Yes
Local Root Accessible: Yes
Local Root Visible: Yes
Local Subdir Accessible: Yes
```

**isi snapshot locks create**

Creates a snapshot lock.

**Note** It is recommended that you do not create snapshot locks and do not use this command. If the maximum number of locks on a snapshot is reached, some applications, such as SyncIQ, might not function properly.

**Syntax**

```
isi snapshot locks create <snapshot>
[--comment <string>]
[--expires {<timestamp> | <duration>}]
[--verbose]
```

**Options**

**<snapshot>**

Specifies the name of the snapshot to apply this lock to.

** [--comment | -c] <string>**

Specifies a comment to describe the lock.
Specify as any string.

** [--expires | -x] {<timestamp> | <duration>}**

Specifies when the lock will be automatically deleted by the system.
If this option is not specified, the snapshot lock will exist indefinitely.

Specify **<timestamp>** in the following format:

```
<yyyy>-<mm>-<dd>[T<HH>:<MM>:<SS>]]
```

Specify **<duration>** in the following format:

```
<integer><time>
```

The following **<time>** values are valid:

- **Y** — Specifies years
- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days
- H — Specifies hours

{--verbose | -v}
Displays a message confirming that the snapshot lock was deleted.

Examples
The following command creates a snapshot lock for Wednesday_Backup and sets it to expire in two days:

`isi snapshot locks create Wednesday_Backup --expires 2D`

**isi snapshot locks modify**

Modifies the expiration date of a snapshot lock.

⚠️ **CAUTION**

It is recommended that you do not modify the expiration date of snapshot locks and do not run this command. Modifying the expiration date of a snapshot lock that was created by OneFS might result in data loss.

**Syntax**

```
isi snapshot locks modify <snapshot> <id>
|--expires {<timestamp> | <duration>} | --clear-expires
[--verbose]
```

**Options**

- **<snapshot>**
  Modifies a snapshot lock that has been applied to the specified snapshot. Specify as a snapshot name or ID.

- **<id>**
  Modifies the snapshot lock of the specified ID.

- **{--expires | -x} {<timestamp> | <duration>}**
  Specifies when the lock will be automatically deleted by the system. If this option is not specified, the snapshot lock will exist indefinitely.

  Specify `<timestamp>` in the following format:
  
  `<yyyy>-<mm>-<dd>[T<HH>:<MM>:<SS>]]`

  Specify `<duration>` in the following format:
  
  `<integer><time>`

  The following `<time>` values are valid:

  - Y — Specifies years
  - M — Specifies months
  - W — Specifies weeks
  - D — Specifies days
  - H — Specifies hours

- **--clear-expires**
  Removes the duration period for the snapshot lock. If specified, the snapshot lock will exist on the cluster indefinitely.

{--verbose | -v}
Displays a message confirming that the snapshot lock was modified.

Examples
The following command causes a snapshot lock applied to Wednesday_Backup to expire in three weeks:

```
isi snapshot locks modify Wednesday_Backup 1 --expires 3W
```

**isi snapshot locks delete**

Deletes a snapshot lock. Deleting a snapshot lock might result in data loss.

⚠️ **CAUTION**

It is recommended that you do not delete snapshot locks and do not run this command. Deleting a snapshot lock that was created by OneFS might result in data loss.

Syntax

```
isi snapshot locks delete <snapshot> <id>
[--force]
[--verbose]
```

Options

- **<snapshot>** Deletes a snapshot lock that has been applied to the specified snapshot. Specify as a snapshot name or ID.

- **<id>** Modifies the snapshot lock of the specified ID.

- **{--force | -f}**
  - Does not prompt you to confirm that you want to delete this snapshot lock.

- **{--verbose | -v}**
  - Displays a message confirming that the snapshot lock was deleted.

Examples

The following command deletes a snapshot lock applied to Wednesday_Backup:

```
isi snapshot locks delete Wednesday_Backup 6
```

**isi snapshot locks list**

Displays a list of all locks applied to a specific snapshot.

Syntax

```
isi snapshot locks list <snapshot>
[--limit <integer>]
[--sort <attribute>]
[--descending]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

Options

- **<snapshot>** Displays all locks belonging to the specified snapshot. Specify as a snapshot name.
### isi snapshot locks list

Displays information about snapshot locks.

#### Syntax

`isi snapshot locks list <snapshot> <id>`

#### Options

**<name>**

Specifies the snapshot to view locks for.

**<id>**

Specify as a snapshot name or ID.

---

### Examples

The following command displays detailed information about snapshot locks applied to **Wednesday_Backup**:

```
isi snapshot locks list Wednesday_Backup -v --format table
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>ID</th>
<th>Comment</th>
<th>Expires</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2012-08-08T22:17:47</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>2012-08-08T22:17:54</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>2012-08-22T22:18:01</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>2012-07-26T22:18:11</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>2012-07-27T22:29:05</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>syncIQ treewalk</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

---

### isi snapshot locks view

Displays information about a snapshot lock.

#### Syntax

`isi snapshot locks view <snapshot> <id>`

#### Options

**<name>**

Specifies the snapshot to view locks for.

**<id>**

Specify as a snapshot name or ID.
Displays the specified lock.
Specify as a snapshot lock ID.

Examples
The following example displays information about a lock assigned to
Wednesday_Backup:

```bash
isi snapshot locks view Wednesday_Backup 3
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>ID: 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comment:</td>
</tr>
<tr>
<td>Expires: 2012-08-15T20:33:29</td>
</tr>
<tr>
<td>Count: 1</td>
</tr>
</tbody>
</table>
CHAPTER 7

SmartLock commands

You can control file retention through the WORM commands. WORM commands apply specifically to the SmartLock tool, and are available only if you have configured a SmartLock license on the cluster.

The isi smartlock prefix is an alias of the isi worm prefix. All isi worm commands can also be run with isi smartlock. For example, both isi worm cdate and isi smartlock cdate are valid commands.

- isi worm mkdir.................................................................202
- isi worm create..............................................................204
- isi worm modify..............................................................204
- isi worm list.................................................................206
- isi worm info...............................................................207
- isi worm cdate set..........................................................208
- isi worm cdate..............................................................208
- isi worm filedelete.........................................................208
- isi domain create..........................................................209
- isi domain modify.........................................................209
- isi domain filedelete....................................................209
# isi worm mkdir

Creates a SmartLock directory and optionally applies SmartLock configuration settings to the directory.

## Syntax

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>isi worm mkdir</strong> --path &lt;path&gt;</td>
<td>Creates a SmartLock directory at the specified path. Specify as a directory path.</td>
</tr>
<tr>
<td><strong>--default</strong> {&lt;duration&gt;</td>
<td>none</td>
</tr>
<tr>
<td></td>
<td>&lt;integer&gt;&lt;time&gt;</td>
</tr>
<tr>
<td><strong>--override</strong> {&lt;date&gt;</td>
<td>inf}</td>
</tr>
<tr>
<td></td>
<td>&lt;YYYY&gt;&lt;MM&gt;&lt;DD&gt;</td>
</tr>
<tr>
<td><strong>--min</strong> {&lt;duration&gt;</td>
<td>inf</td>
</tr>
<tr>
<td></td>
<td>&lt;integer&gt;&lt;time&gt;</td>
</tr>
<tr>
<td><strong>--privdel &lt;state&gt;</strong></td>
<td></td>
</tr>
<tr>
<td><strong>--autocommit</strong> {&lt;duration&gt;</td>
<td>none}</td>
</tr>
<tr>
<td><strong>--compliance</strong></td>
<td></td>
</tr>
</tbody>
</table>

## Options

**--path** [-p] <path>

Creates a SmartLock directory at the specified path. Specify as a directory path.

**--default** [-d] {<duration> | none | inf}

Specifies a default retention period. The default retention period is the default amount of time that a file is retained in a WORM state. The default retention period is applied if a file is committed to a WORM state before the file is assigned a retention period expiration date. Specify <duration> in the following format:

| <time> as one of the following values: |
| Y — Specifies years |
| M — Specifies months |
| W — Specifies weeks |
| D — Specifies days |

To specify no default retention period, specify none. To specify an infinite default retention period, specify inf. The default setting is none.

**--override** [-o] {<date> | none}

Specifies an override retention date. The override retention date is a specific date that files committed to a WORM state within this directory are released from a WORM state. You can only increase the retention period expiration date of WORM committed files. Specify <date> in the following format:

| <date> in the following format: |
| <YYYY><MM><DD> |

To specify no override retention period, specify none. The default value is none.

**--min** [-m] {<duration> | inf | none}

Specifies a minimum retention period. The minimum retention period is the minimum amount of time that a file is retained in a WORM state. Specify <duration> in the following format:

| <time> as one of the following values: |
| Y — Specifies years |
- M — Specifies months
- W — Specifies weeks
- D — Specifies days

To specify no minimum retention period, specify none. To specify an infinite minimum retention period, specify inf. The default value is none.

```
{--max | -x} {<duration>| inf | none}
```

Specifies a maximum retention period. The maximum retention period is the maximum amount of time that a file is retained in a WORM state. Specify `<duration>` in the following format:

```
<integer><time>
```

Specify `<time>` as one of the following values:

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days

To specify no minimum retention period, specify none. To specify an infinite minimum retention period, specify inf. The default value is none.

```
--privdel <state>
```

Determines whether the privileged deleted functionality is enabled for this directory. The privileged delete functionality determines whether WORM committed files can be deleted from the directory through the `isi worm privdelete` command. This option is available only for SmartLock enterprise directories. Specify `<state>` as one of the following values:

- ON — Allows WORM committed files to be deleted from the SmartLock directory by a root user.
- OFF — Prevents WORM committed files from being deleted from the SmartLock directory.
- DISABLE — Permanently prevents WORM committed files from being deleted from the SmartLock directory.

**Note** If you specify disable, you can never enable the privileged delete functionality for the SmartLock directory. If a file is then committed to a WORM state in the directory, you will not be able to delete the file until the retention period expiration date has passed.

The default value is off.

```
--autocommit {<duration>| none}
```

Specifies an autocommit time period. After a file exists in a SmartLock directory without being modified for the specified length of time, the file is committed the next time the file is accessed by a user. Specify `<duration>` in the following format:

```
<integer><time>
```

Specify `<time>` as one of the following values:

- M — Specifies months
- W — Specifies weeks
- **D** — Specifies days
- **H** — Specifies hours
- **N** — Specifies minutes

To specify no autocommit time period, specify none. The default value is none.

```bash
{-compliance | -c}
```

Specifies the SmartLock directory as a SmartLock compliance directory. This option is valid only on clusters in SmartLock compliance mode.

**Examples**
The following example creates a SmartLock enterprise directory with a minimum retention period of three years, a default retention period of four years, and a maximum retention period of 5 years:

```bash
isi worm mkdir --path /ifs/data/enterprise --min 2y --default 4y --max 5y
```

### isi worm create

Designates an existing directory as a WORM root directory. The `isi smartlock create` command is an alias of this command.

**Syntax**

```
isi worm create <path>
```

**Options**

`<path>`

Designates the specified directory as a SmartLock directory. The specified directory must be empty.

Specify as a directory path.

**Examples**
The following command designates `/ifs/data/smartlock` as a SmartLock directory:

```
isi worm create /ifs/data/smartlock
```

### isi worm modify

Modifies SmartLock settings of a SmartLock directory. The `isi smartlock modify` command is an alias of this command.

**Syntax**

```
isi worm modify

{-path <directory-path> | --id <directory-id>}
{-default {<integer><time> | none | inf}}
{-override {<date> | inf}}
{-min {<integer><time> | none | inf}}
{-max {<integer><time> | none | inf}}
{-privdel <state>}
{-autocommit {<integer><time> | none}}
{-compliance}
```

**Options**

`{-path | -p} <directory-path>`

Modifies the SmartLock directory of the specified path.

`{-id | -i} <directory-id>`
Modifies the SmartLock root directory of the specified ID.

```bash
{--default | -d} {<integer><time> | none | inf}
```

Specifies a default retention period. The default retention period is the default amount of time that a file is retained in a WORM state. The default retention period is applied if a file is committed to a WORM state before the file is assigned a retention period expiration date.

Specify `<time>` as one of the following values:

- **Y** — Specifies years
- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days

To specify no default retention period, specify none. To specify an infinite default retention period, specify inf.

```bash
{--override | -o} {<date> | none}
```

Specifies an override retention date. The override retention date is a specific date that files committed to a WORM state within this directory are released from a WORM state. You can only increase the retention period expiration date of WORM committed files.

Specify `<date>` in the following format:

```
<YYYY><MM><DD>
```

To specify no override retention period, specify none. The default value is none.

```bash
{--min | -m} {<integer><time> | inf | none}
```

Specifies a minimum retention period. The minimum retention period is the minimum amount of time that a file is retained in a WORM state.

Specify `<time>` as one of the following values:

- **Y** — Specifies years
- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days

To specify no minimum retention period, specify none. To specify an infinite minimum retention period, specify inf.

```bash
{--max | -x} {<integer><time> | inf | none}
```

Specifies a maximum retention period. The maximum retention period is the maximum amount of time that a file is retained in a WORM state.

Specify `<time>` as one of the following values:

- **Y** — Specifies years
- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days

To specify no maximum retention period, specify none or inf.

```bash
--privdel <state>
```

Determines whether the privileged deleted functionality is enabled for this directory. The privileged delete functionality determines whether WORM committed files can be
deleted from the directory through the `isi worm privdelete` command. This option is only available for SmartLock enterprise directories. Specify `<state>` as one of the following values:

- **ON** — Allows WORM committed files to be deleted from the SmartLock directory by a root user.
- **OFF** — Prevents WORM committed files from being deleted from the SmartLock directory.
- **DISABLE** — Permanently prevents WORM committed files from being deleted from the SmartLock directory.

**Note** If you specify disable, you can never enable the privileged delete functionality for the SmartLock directory. If a file is then committed to a WORM state in the directory, you will not be able to delete the file until the retention period expiration date has passed.

`--autocommit {<integer><time> | none}`

Specifies an autocommit time period. After a file exists in a SmartLock directory without being modified for the specified time period, the file is committed the next time the file is accessed by a user. Specify `<time>` as one of the following values:

- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days
- **H** — Specifies hours
- **N** — Specifies minutes

To specify no autocommit time period, specify none.

`{--compliance | -c}`

Specifies the SmartLock directory as a SmartLock compliance directory. This option is valid only for empty SmartLock enterprise directories on clusters running in SmartLock compliance mode.

**Examples**
The following command makes the `/ifs/data/compliance` SmartLock enterprise directory a SmartLock compliance directory:

```
sudo isi worm modify --path /ifs/data/compliance --compliance
```

**isi worm list**

Displays a list of WORM directories. The `isi smartlock list` command is an alias of this command.

**Syntax**

```
issi worm list
    [--long]
    [--wide]
```

**Options**

`{--long | -l}`

Displays detailed information about WORM directories.

`{--wide | -w}`
Displays table output in wide mode without truncations.

**Examples**

To view detailed information about WORM directories, run the following command:

```bash
isi worm list --long
```

**isi worm info**

Displays WORM information about a specific directory or file. The `isi smartlock info` command is an alias of this command.

**Syntax**

```bash
isi worm info <path>  
|--nosymlink  
|--verbose
```

**Options**

- `<path>`
  - Displays WORM information about the specified file or directory.
- `--nosymlink`
  - If `<path>` refers to a file, and the given file is a symbolic link, displays WORM information about the symbolic link. If this option is not specified, and the file is a symbolic link, displays WORM information about the file that the symbolic link points to.
- `{--verbose | -v}`
  - Displays detailed output.

**Examples**

The following command displays detailed information about all SmartLock directories under `/ifs/data`:

```bash
isi worm info /ifs/data --verbose
```

The system displays output similar to the following:

```
SmartLock Info for: /ifs/data
SmartLock Root Directory
--------------------
None

Contains These SmartLock Root Directories
-----------------------------------------
SmartLock Root Directory65537
---
  Root Path: /ifs/data/enterprise
  Type: SmartLock
  Default Retention Offset: None
  Minimum Retention Offset: None
  Maximum Retention Offset: None
  Autocommit Offset: None
  Override Retention/Litigation Hold Date: None
  Privileged Delete: Off
```
isi worm cdate set

Sets the SmartLock compliance clock to the current time on the system clock.

**CAUTION**

You can set the compliance clock only once. After the compliance clock has been set, you cannot modify the compliance clock time.

**Syntax**

```bash
isi worm cdate set
```

**Options**

There are no options for this command.

**Examples**

To set the compliance clock, run the following command:

```bash
sudo isi worm cdate set
```

isi worm cdate

Displays whether or not the SmartLock compliance clock is set. If the compliance clock is set, displays the current time on the compliance clock.

**Syntax**

```bash
isi worm cdate
```

**Options**

There are no options for this command.

**Examples**

To view the current time of the compliance clock, run the following command:

```bash
sudo isi worm cdate
```

The system displays output similar to the following:

```
Current Compliance Clock Date/Time: 2012-06-07 02:39:11
```

isi worm filedelete

Deletes a file committed to a WORM state. This command can be run only by a root user. `<isi smartlock filedelete>` and `<isi domain filedelete>` are aliases of this command.

**Syntax**

```bash
isi worm filedelete <path> [--force]
```

**Options**

- `<path>`
  - Deletes the specified file. The file must exist in a SmartLock enterprise directory with the privileged delete functionality enabled. Specify as a file path.

- `--force`
  - Does not prompt you to confirm that you want to delete the file.
Examples
The following command deletes wormCommittedFile:

\texttt{isi worm filedelete /ifs/data/source/wormCommittedFile.txt}

\textbf{isi domain create}

The \texttt{isi domain create} command is an alias of the \texttt{isi worm create} command. For usage information and examples, see \texttt{isi worm create}.

\textbf{isi domain modify}

The \texttt{isi domain modify} command is an alias of the \texttt{isi worm modify} command. For usage information and examples, see \texttt{isi worm delete}.

\textbf{isi domain filedelete}

The \texttt{isi domain filedelete} command is an alias of the \texttt{isi worm filedelete} command. For usage information and examples, see \texttt{isi worm filedelete}.
SmartLock commands
 CHAPTER 8

Domain commands

You can view and control protection domains through the domain commands.

- isi domain info.................................................................212
- isi domain list.................................................................212
isi domain info

Displays information about domains associated with a directory and SmartLock directories that are contained in the directory.

Syntax

**isi domain info**  
--path <path>  
[--nosymlink]  
[--verbose]

Options

{-path | -p} <path>

Displays information about the specified directory. Specify as a directory path.

--nosymlink

If --path refers to a file, and the given file is a symbolic link, displays WORM information about the symbolic link. If this option is not specified, and the file is a symbolic link, displays WORM information about the file that the symbolic link points to.

{-verbose | -v}

Displays more detailed information.

Examples

The following command displays detailed information about domains associated with /ifs/data/:

```
isi domain info --path /ifs/data --verbose
```

The system displays output similar to the following example:

```
Domain Info for: /ifs/data/smartlock

Domains
-------
ID    | Root Path           | Type
-------|---------------------|-------------------
65541 | /ifs/data/smartlock | SmartLock
65545 | /ifs/data           | Writable,SnapRevert
```

isi domain list

Displays protection domains on the cluster.

Syntax

**isi domain list**

[-long]

[-wide]

Options

{-long | -l}

Displays more detailed information.

{-wide | -w}

Displays table in wide format without truncations.
Examples
To view information about protection domains on the cluster, run the following command:

```bash
isi domain list -l
```
You can control antivirus scanning activity on an Isilon cluster through the antivirus commands.

- isi avscan policy add
- isi avscan policy edit
- isi avscan policy delete
- isi avscan policy
- isi avscan policy run
- isi avscan manual
- isi avscan quarantine
- isi avscan unquarantine
- isi avscan report threat
- isi avscan report scan
- isi avscan report purge
- isi avscan config
- isi avscan get
isi avscan policy add

Creates an antivirus scan policy.

Syntax

```
isi avscan policy add --name <name>
[  [--id <id>]
  [--enable {true | false}]
  [--description <string>]
  [--path <path>...]
  [--recurse <integer>]
  [--force {true | false}]
  [--schedule <schedule>]
```

Options

--name <name>

Specifies a name for the policy.

--id <id>

Specifies an ID for the policy. If no ID is specified, one is dynamically generated.

--enable {true | false}

Determines whether the policy is enabled or disabled. If set to true, the policy is enabled. The default value is false.

--description <string>

Specifies a description for the policy.

--path <path>

Specifies a directory to scan when the policy is run.

--recurse <integer>

Specifies the depth of subdirectories to include in the scan.

--force {true | false}

Determines whether to force policy scans. If a scan is forced, all files are scanned regardless of whether OneFS has marked files as having been scanned, or if global settings specify that certain files should not be scanned.

--schedule <schedule>

Specifies when the policy is run.

Specify in the following format:

```
"<interval> [<frequency>]"
```

Specify <interval> in one of the following formats:

- Every [{other | <integer>}] [weekday | day]
- Every [{other | <integer>}] week [on <day>]
- Every [{other | <integer>}] month [on the <integer>]
- Every [<day>, ...,] [of every [{other | <integer>}] week]
- The last {day | weekday | <day>} of every [{other | <integer>}] month
- The <integer> {weekday | <day>} of every [{other | <integer>}] month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} [weekday | <day>] of <month>

Specify <frequency> in one of the following formats:
At `<hh>[:<mm>] [('AM' | 'PM')]`

- Every `<integer>` {hours | minutes} [between `<hh>[:<mm>] [('AM' | 'PM)]` and `<hh>[:<mm>] [('AM' | 'PM)]`]
- Every `<integer>` {hours | minutes} [from `<hh>[:<mm>] [('AM' | 'PM)]` to `<hh>[:<mm>] [('AM' | 'PM)]`

You can optionally append "st", "th", or "rd" to `<integer>`. For example, you can specify "Every 1st month"

Specify `<day>` as any day of the week or a three-letter abbreviation for the day. For example, both "Saturday" and "sat" are valid.

Examples
The following command creates an enabled policy that will scan the `/ifs/data/archive` directory every Friday at 4:00 PM:

```
isi avscan policy add --name newpolicy --enable true --description "This policy scans the ifs directory" --schedule "every Friday at 4:00 PM" --path /ifs/data/archive
```

isi avscan policy edit

Modifies an antivirus scan policy.

Syntax
```
isi avscan policy edit --id <id>  
  [--enable {true | false}]  
  [--name <new-name>]  
  [--description <string>]  
  [--path <path>...]  
  [--recurse <integer>]  
  [--force {true | false}]  
  [--schedule <schedule>]
```

Options
- `--option <id>`
  MODIFIES THE POLICY OF THE SPECIFIED ID.
- `--name <new-name>`
  SPECIFIES A NEW NAME FOR THIS POLICY.
- `--enable {true | false}`
  DETERMINES WHETHER THIS POLICY IS ENABLED OR DISABLED. IF SET TO TRUE, THE POLICY IS ENABLED. THE DEFAULT VALUE IS FALSE.
- `--description <string>`
  SPECIFIES A NEW DESCRIPTION FOR THIS POLICY.
- `--path <path>`
  SPECIFIES A DIRECTORY TO SCAN WHEN THIS POLICY IS RUN.
- `--recurse <integer>`
  SPECIFIES THE DEPTH OF SUBDIRECTORIES TO INCLUDE IN THE SCAN.
- `--force {true | false}`
  DETERMINES WHETHER TO FORCE POLICY SCANS. IF A SCAN IS FORCED, ALL FILES ARE SCANNED REGARDLESS OF WHETHER ONEFS HAS MARKED FILES AS HAVING BEEN SCANNED, OR IF GLOBAL SETTINGS SPECIFY THAT CERTAIN FILES SHOULD NOT BE SCANNED.
- `--schedule <schedule>`
  SPECIFIES WHEN THE POLICY IS RUN.
Specify in the following format:
"<interval> [<frequency>]"

Specify <interval> in one of the following formats:

- Every [{other | <integer>}] {weekday | day}
- Every [{other | <integer>}] week [on <day>]
- Every [{other | <integer>}] month [on the <integer>]
- Every <day>[, ...] [of every [{other | <integer>}] week]]
- The last {day | weekday | <day>} of every [{other | <integer>}] month
- The <integer> {weekday | day} of every [{other | <integer>}] month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} [weekday | <day>] of <month>

Specify <frequency> in one of the following formats:

- at <hh>[:<mm>] [{AM | PM}]
- every [<integer>] {hours | minutes} [between <hh>:<mm>] [{AM | PM}] and <hh>:<mm>] [{AM | PM}]
- every [<integer>] {hours | minutes} [from <hh>:<mm>] [{AM | PM}] to <hh>:<mm>] [{AM | PM}]

You can optionally append "st", "th", or "rd" to <integer>. For example, you can specify "Every 1st month"

Specify <day> as any day of the week or a three-letter abbreviation for the day. For example, both "Saturday" and "sat" are valid.

Examples
The following command disables a policy with an ID of 2dafc5c9161c51:

\[
\text{isi avscan policy edit --id 2dafc5c9161c51 --enable false}
\]

**isi avscan policy delete**

Deletes an antivirus scan policy.

**Syntax**

\[
\text{isi avscan policy delete --id <id>}
\]

**Options**

--id <id>

Deletes the policy of the specified ID.

**Examples**

The following command deletes a policy with an id of 2dafc5c9161c51:

\[
\text{isi avscan policy delete --id 2dafc5c9161c51}
\]

**isi avscan policy**

Displays information about antivirus scan policies.

**Syntax**

\[
\text{isi avscan policy --id <id>}
\]
Options
--id <id>
Displays information on only the policy of the specified ID.

Examples
The following command displays information about a policy with an ID of "4db5d4b7100681":

```
isi avscan policy --id 4db5d4b7100681
```

The system displays output similar to the following example:

```
Policy id: 4db5d4b7100681
Status: enabled
Name: newpolicy
Description: This policy scans the etc folder
Paths: /ifs/home
Recursion depth: unlimited
Force: disabled
Last run: 04-25-2011 13:08
Scheduled run: every Friday at 4:00pm
Next run: 04-29-2011 16:00
```

isi avscan policy run

Runs an antivirus policy.

Syntax
```
isi avscan policy run --id <policy-id>
[--report <id>]
[--force {true | false}]
[--update {yes | no}]
```

Options
--id <policy-id>
Runs the policy of the specified ID.
--report <id>
Assigns the specified ID to the report generated for this run of the avscan policy.
--force {true | false}
Determines whether to force the scan. If the scan is forced, all files are scanned regardless of whether OneFS has marked files as having been scanned, or if global settings specify that certain files should not be scanned.
--update {yes | no}
Specifies whether to update the last run time in the policy file. The default value is yes.

Examples
The following command runs a policy with an ID of 4fe15fc45a1:

```
isi avscan policy run --id 4fe15fc45a1
```

The system displays output similar to the following example:

```
Submitting policy 4fe15fc45a1
To view results, run:
isi avscan report scan --report-id=R:4feb2640:faa1
```
isi avscan manual

Manually scans a file for viruses.

Syntax

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>isi avscan manual</code></td>
</tr>
<tr>
<td><code>--name &lt;name&gt;</code></td>
</tr>
<tr>
<td><code>--policy &lt;id&gt;</code></td>
</tr>
<tr>
<td><code>--report &lt;id&gt;</code></td>
</tr>
<tr>
<td>`--force {yes</td>
</tr>
</tbody>
</table>

Options

- **<name>**
  - Scans the specified file. Specify as a file path.
- **(--policy | -p) <id>**
  - Assigns a policy ID for this scan. The default ID is MANUAL.
- **(--report | -r) <id>**
  - Assigns the specified report ID to the report that will include information about this scan. If this option is not specified, the report ID is generated dynamically.
- **--force {yes | no}**
  - Determines whether to force the scan. If the scan is forced, the scan will complete regardless of whether OneFS has marked the file as having been scanned, or if global settings specify that the file should not be scanned.

Examples

The following command scans the `/ifs/README.txt` manually:

```
isi avscan manual --name /ifs/README.txt
```

isi avscan quarantine

Quarantines a file manually. Quarantined files cannot be read or written to.

Syntax

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>isi avscan quarantine</code></td>
</tr>
<tr>
<td><code>&lt;name&gt;</code></td>
</tr>
</tbody>
</table>

Options

- **<name>**
  - Quarantines the specified file. Specify as a file path.

Examples

The following command quarantines `/ifs/README.txt`:

```
isi avscan quarantine /ifs/README.txt
```

isi avscan unquarantine

Removes a file from quarantine. Quarantined files cannot be read or written to.

Syntax

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>isi avscan unquarantine</code></td>
</tr>
<tr>
<td><code>&lt;name&gt;</code></td>
</tr>
</tbody>
</table>

Options

- **<name>**
  - Removes the specified file from quarantine. Specify as a file path.
Examples
The following command removes /ifs/README.txt from quarantine:

isi avscan unquarantine /ifs/README.txt

isi avscan report threat

Displays information about recently detected threats.

Syntax
isi avscan report threat
    [--detail]
    [--wide]
    [--export <path>]
    [--max-results <integer>]
    [--all]
    [--report-id <id>]
    [--file <path>]
    [--remediation <action>]

Options
{--detail | -d}
    Displays detailed information.

{--wide | -w}
    Displays output in a wide table without truncations.

{--export | -e} <path>
    If specified, exports the output to the specified file path.

{--max-results | -m} <integer>
    If specified, displays no more than the specified number of results.

{--all | -a}
    If specified, displays all threats, regardless of when the threats were detected.

{--report-id | -r} <id>
    Displays only threats included in the report of the specified ID.

{--file | -f} <path>
    Displays information about only the specified file.

{--remediation | -R} <action>
    Displays information about threats that caused the specified action.
    The following values are valid:
    • infected
    • truncated
    • repaired
    • quarantined

Examples
To view recently detected threats, run the following command:

isi avscan report threat

If any records exist, the system displays output similar to the following example:

Report ID: R:4db6cdbc:29bc
File: /ifs/eicar.com
Remediation: Quarantined
isi avscan report scan

Displays information about recent antivirus scans.

Syntax

isi avscan report scan
   [--detail]
   [--wide]
   [--export <path>]
   [--max-results <integer>]
   [{--all | --report-id <id> | --policy-id <id>}]
   [--running]

Options

If no options are specified, displays a summary of recently completed scans.

{-detail | -d}
   Displays detailed output.

{-wide | -w}
   Displays output in a wide table.

{-export | -e} <path>
   If specified, exports the output to the specified file path.

{-max-result | -m} <integer>
   If specified, displays no more than the specified number of results.

{-all | -a}
   If specified, displays all scans, regardless of when the scans were run.

{-report-id | -r} <id>
   Displays only the report of the specified ID.

{-policy-id | -p} <id>
   Displays only reports about the policy of the specified ID.

{-running | -R}
   Displays only scans that are still in progress.

Examples

To view only the most recent report, run the following command:

isi avscan report scan -max-results 1

The system displays output similar to the following example:

Report ID: R:4dadd90d:16e10
Policy ID: MANUAL
Status: Failed
Start time: 04-19-2011 11:48:45
End time: 04-19-2011 11:48:45
Duration: -
Files: 0
Size: 0
Sent Bytes: 0
Threats: 0
Bandwidth: -
1 records displayed.
isi avscan report purge

Deletes antivirus reports.

**Syntax**

```
isi avscan report purge
    [--expire <integer><time>]
```

**Options**

If no options are specified, deletes reports that are older than the value specified by the `isi avscan config` `--report-expiry` option.

`(--expire | -e) <integer><time>`

Sets the minimum age of reports to be deleted.

The following `<time>` values are valid:

- **S** — Specifies seconds
- **D** — Specifies days
- **M** — Specifies minutes
- **W** — Specifies weeks

**Examples**

The following example deletes antivirus reports that are more than 3 weeks old:

```
isi avscan report purge --expire 3w
```

isi avscan config

Sets and displays global configuration settings for anti-virus scanning.

**Syntax**

```
isi avscan config
    [--scan-on-open {true | false}]
    [--fail-open {true | false}]
    [--scan-on-close {true | false}]
    [--max-scan-size <float> {[B | KB | MB | GB]}]
    [--repair {true | false}]
    [...]--quarantine {true | false} | --truncate {true | false}]]
    [...]--report-expiry <integer><time>]
    [...]--glob-enable {true | false}]
    [...]--glob-include {true | false}]
    [...]--glob-filter <string>]
    [...]--path-prefix <path>]
    [...]--add-server <url>]
    [...]--del-server <id>]
    [...]--enable-server <id>]
    [...]--disable-server <id>]
```

**Options**

`--scan-on-open {true | false}`

Determines whether files are scanned before the files are sent to users.

`--fail-open {true | false}`

If `--scan-on-open` is set to true, determines whether users can access files that cannot be scanned. If this option is set to false, users cannot access a file until the file is scanned by an ICAP server.

If `--scan-on-open` is set to true, this option has no effect.

`--scan-on-close {true | false}`
Determines whether files are scanned after the files are closed.

`--max-scan-size <float> [B | KB | MB | GB]`
If specified, OneFS will not send files larger than the specified size to an ICAP server to be scanned.

**Note** Although the parameter accepts values larger than 2GB, OneFS does not scan files larger than 2GB.

`--repair {true | false}`
Determines whether OneFS attempts to repair files that threats are detected in.

`--quarantine {true | false}`
Determines whether OneFS quarantines files that threats are detected in. If --repair is set to true, OneFS will attempt to repair the file before quarantining it.

`--truncate {true | false}`
Determines whether OneFS truncates files that threats are detected in. If --repair is set to true, OneFS will attempt to repair the file before truncating it.

`--report-expiry <integer><time>`
Determines how long OneFS will retain antivirus scan reports before deleting them.

The following `<time>` values are valid:
- `s` — Specifies seconds
- `d` — Specifies days
- `m` — Specifies minutes
- `w` — Specifies weeks

`--glob-enable {true | false}`
Determines whether glob filters are enabled. If no glob-filters are specified, glob-filters will remain disabled even if this option is set to true.

`--glob-include {true | false}`
Determines how glob-filters are interpreted by OneFS. If set to true, OneFS will scan only files that match a glob-filter. If set to false, OneFS will scan only files that do not match any glob-filters.

`--glob-filter <string>`
Specifies a file name or extension. To specify multiple filters, you must include multiple --glob-filter options within the same command. Specifying this option will remove any existing glob filters.

You can include the following wildcards:

<table>
<thead>
<tr>
<th>Wildcard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>*</td>
<td>Matches any string in place of the asterisk. For example, specifying &quot;m*&quot; would match &quot;movies&quot; and &quot;m123&quot;</td>
</tr>
<tr>
<td>[]</td>
<td>Matches any characters contained in the brackets, or a range of characters separated by a dash. For example, specifying &quot;b[aei]t&quot; would match &quot;bat&quot;, &quot;bet&quot;, and &quot;bit&quot;</td>
</tr>
</tbody>
</table>
### Wildcard

<table>
<thead>
<tr>
<th>Wildcard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>For example, specifying &quot;1[4-7]2&quot; would match &quot;142&quot;, &quot;152&quot;, &quot;162&quot;, and &quot;172&quot;</td>
</tr>
<tr>
<td></td>
<td>You can exclude characters within brackets by following the first bracket with an exclamation mark. For example, specifying &quot;b[lie]&quot; would match &quot;bat&quot; but not &quot;bit&quot; or &quot;bet&quot;</td>
</tr>
<tr>
<td></td>
<td>You can match a bracket within a bracket if it is either the first or last character. For example, specifying &quot;[[c]at&quot; would match &quot;cat&quot;, and &quot;[at&quot;</td>
</tr>
<tr>
<td></td>
<td>You can match a dash within a bracket if it is either the first or last character. For example, specifying &quot;car[-s]&quot; would match &quot;cars&quot;, and &quot;car-&quot;</td>
</tr>
<tr>
<td>?</td>
<td>Matches any character in place of the question mark. For example, specifying &quot;t?p&quot; would match &quot;tap&quot;, &quot;tip&quot;, and &quot;top&quot;</td>
</tr>
</tbody>
</table>

### --path-prefix <path>

If specified, only files contained in the specified directory path will be scanned. This option affects only on-access scans. To specify multiple directories, you must include multiple --path-prefix options within the same command. Specifying this option will remove any existing path prefixes.

### --add-server <url>

Adds an ICAP server of the specified URL.

### --del-server <id>

Removes an ICAP server of the specified ID.

### --enable-server <id>

Enables an ICAP server of the specified ID.

### --disable-server <id>

Disables an ICAP server of the specified ID.

### Examples

To view the current global configuration settings for anti-virus scanning, run the following command:

```
isi avscan config
```

The system displays output similar to the following example:

```
Glob filters:  disabled, include patterns
Remediations: repair, quarantine
Max scan size: 2147483647
Scan on open:  disabled
    fail open:  enabled
Scan on close: disabled
Report expiry: 31536000
```
The following command causes only text and log files to be scanned:

```
isi avscan config --glob-enable true --glob-include true --glob-filter "*.txt" --glob-filter "*.log"
```

**isi avscan get**

Displays information about the scan status of files.

**Syntax**

```
isi avscan get <name>
```

**Options**

```
<name>
```

Displays information about the file of the specified name. Specify as a file path.

**Examples**

The following command displays the status of `/ifs/README.txt`:

```
isi avscan get --name /ifs/README.txt
```

The system displays output similar to the following example:

```
File:        /ifs/README.txt
Last scan:   never
Scan result: never scanned
Last ISTag:  <none>
Scan status: not current
Quarantined: false
```
You can monitor and manage SmartPools policies and settings through the OneFS command-line interface. SmartPools commands are specific to the SmartPools module and are available only if a SmartPools license is configured on the cluster.

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- `isi smartpools process` ................................................................. 228
- `isi smartpools apply` ................................................................. 228
isi smartpools health

Displays the health information of storage pools.

Syntax
isi smartpools health

Options
{-verbose | -v}
  Displays more detailed information.

isi smartpools process

Applies the configured SmartPools file pool policy to files and directories.

Syntax
isi smartpools process --path <path>
  [--quiet]
  [--nop]
  [--recurse]
  [--stats]
  [--dont-restripe]
  [--verbose]

Options
{-path | -p} <path>
  Specifies the path to the file to be processed. This parameter is required.

{-quiet | -q}
  Suppresses warning messages.

{-nop | -n}
  Calculates the specified settings without actually applying them. This option is best used with -v or -s.

{-recurse | -r}
  Specifies recursion through directories.

{-stats | -s}
  Displays statistics on the files processed.

{-dont-restripe | -d}
  Changes the per-file policies without restriping the file.

{-verbose | -v}
  Displays the configuration settings that are being applied.

isi smartpools apply

The isi smartpools apply command is an alias of the isi smartpools process command. For usage information, see isi smartpools process.
You can access and configure the NFS file sharing service through the NFS commands.

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isi nfs exports check

Checks for and lists configuration errors for NFS exports.

Syntax

```bash
isi nfs exports check
[[-limit | -l] <integer>]
[[-format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

Options

```bash
{-limit | -l} <integer>
```

Displays no more than the specified number of NFS exports.

```bash
--format {table | json | csv | list}
```

Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

```bash
{--no-header | -a}
```

Displays table and CSV output without headers.

```bash
{--no-footer | -z}
```

Displays table output without footers.

```bash
{--verbose | -v}
```

Displays more detailed information.

Examples

To check existing exports for configuration errors, run the following command:

```bash
isi protocol nfs exports check
```

isi nfs exports create

Creates an NFS export.

**Note** To view the default NFS export settings that will be applied when creating an export, run the `isi protocol nfs settings export view` command.
Options

--paths <PATHS> ...

  Required. Specifies the path to be exported, starting at /ifs. This option can be repeated to specify multiple paths.

--clients <string> ...

  Adds a client to be allowed access via this export. This option can be repeated to specify multiple clients.

--root-clients <string> ...

  Adds a client to be allowed read-only access via this export. This option takes precedence over --clients and can be combined with --read-only-clients or --read-write-clients. They can be repeated to specify multiple read-only clients.

--read-write-clients <string> ...

  Adds a client to be allowed read and write access via this export. When this is applied to a read-only export, it takes precedence over --clients and will provide read and write access. Otherwise it will behave as a normal client. Specify --read-write-clients for each additional client to be allowed root access.

--read-only-clients <string> ...

  Specifies the clients to be allowed read-only access via this export. When this is applied to a non-read-only export, it takes precedence over --clients and will provide read-only access. Otherwise it will behave as a normal client. Specify --read-only-clients for each additional client to be allowed read-only access.

--description <string>

  The description for this NFS export.

--all-dirs {yes | no}

  If set to yes, this export will cover all directories. The default setting is no.

--block-size <size>

  Applies to NFSv2 only. Specifies the block size (in bytes).

--can-set-time {yes | no}

  If set to yes, enables the export to set time. The default setting is no.

--commit-asynchronous {yes | no}

  If set to yes, enables commit data operations to be performed asynchronously. The default setting is no.

--directory-transfer-size <size>
Specifies the preferred directory transfer size. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

--encoding <string>

Specifies the character encoding of clients connecting via this NFS export. Valid values and their corresponding character encodings are provided in the following table. These values are taken from the node’s /etc/encodings.xml file, and are not case-sensitive.

<table>
<thead>
<tr>
<th>Value</th>
<th>Encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>cp932</td>
<td>Windows-SJIS</td>
</tr>
<tr>
<td>cp949</td>
<td>Windows-949</td>
</tr>
<tr>
<td>cp1252</td>
<td>Windows-1252</td>
</tr>
<tr>
<td>euc-kr</td>
<td>EUC-KR</td>
</tr>
<tr>
<td>euc-jp</td>
<td>EUC-JP</td>
</tr>
<tr>
<td>euc-jp-ms</td>
<td>EUC-JP-MS</td>
</tr>
<tr>
<td>utf-8-mac</td>
<td>UTF-8-MAC</td>
</tr>
<tr>
<td>utf-8</td>
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</tr>
<tr>
<td>iso-8859-1</td>
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<td>ISO-8859-15</td>
</tr>
<tr>
<td>iso-8859-16</td>
<td>ISO-8859-16</td>
</tr>
</tbody>
</table>

--map-lookup-uid {yes | no}

If set to yes, incoming UNIX user identifiers (UIDs) will be looked up locally. The default setting is no.

--map-retry {yes | no}
If set to yes, the system will retry failed user-mapping lookups. The default setting is no.

`--map-all <identity>`

Specifies the identity that operations by any user will execute as.

`--map-root <identity>`

Specifies the identity that operations by root will execute as.

`--map-full {yes | no}`

If set to yes, full identity mapping resolution will be used for mapped users. The default setting is no.

`--max-file-size <size>`

Specifies the maximum allowed file size on the server (in bytes). If a file is larger than the specified value, an error is returned.

`--read-only {yes | no}`

If set to yes, makes the NFS export read-only. The default setting is no.

`--readdirplus {yes | no}`

Applies to NFSv3 only. If set to yes, enables processing of readdir-plus requests. The default setting is no.

`--readdirplus-prefetch <int>`

Applies to NFSv3 and NFSv4 only. Specifies the number of file nodes to prefetch when a readdir-plus request is processed. If set to 0, prefetching is disabled. The maximum value is 100.

`--return-32bit-file-ids {yes | no}`

Applies to NFSv3 and later. If set to yes, limits the size of file identifiers returned from readdir to 32-bit values. NFSv2 is limited to 32-bit values regardless of this setting. The default value is no.

**Note** This setting is provided for backward compatibility with older NFS clients, and should not be enabled unless necessary.

`--read-transfer-max-size <size>`

Specifies the maximum read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

`--read-transfer-size <size>`

Specifies the preferred read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

`--read-transfer-multiple <integer>`

Specifies the suggested multiple read size to report to NFSv3 and NFSv4 clients. Valid values are 0-4294967295. The initial default value is 512.

`--security-flavors {unix | krb5 | krb5i | krb5p} ...`

Specifies a security flavor to support. To support multiple security flavors, repeat this option for each additional entry.

The following values are valid:

- **SYS** — Sys or UNIX authentication.
- **KRBS** — Kerberos V5 authentication.
- **KRBSi** — Kerberos V5 authentication with integrity.
- **KRBSp** — Kerberos V5 authentication with privacy.

---security-flavors {unix | krb5 | krb5i | krb5p} ...

Specifies a security flavor to support. To support multiple security flavors, repeat this option for each additional entry.

The following values are valid:
- **SYS** — Sys or UNIX authentication.
- **KRBS** — Kerberos V5 authentication.
- **KRBSi** — Kerberos V5 authentication with integrity.
- **KRBSp** — Kerberos V5 authentication with privacy.

---setattr-asynchronous {yes | no}

If set to yes, performs set-attributes operations asynchronously. The default setting is no.

---symlinks {yes | no}

If set to yes, advertises support for symlinks. The default setting is no.

---time-delta <float>

Specifies server time granularity (in seconds).

---write-datasync-action {datasync | filesync | unstable}

Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync write method. The following values are valid:
- datasync
- filesync
- unstable

The default value is datasync (performs the request as specified).

---write-datasync-reply {datasync | filesync}

Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync reply method. The following values are valid:
- datasync
- filesync

The default value is datasync (does not respond differently).

---write-filesync-action {datasync | filesync | unstable}

Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync write method. The following values are valid:
- datasync
- filesync
- unstable

The default value is filesync (performs the request as specified).

---write-filesync-reply {filesync}

Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync reply method. The following values are valid:
- filesync

The default value is filesync (does not respond differently).

---write-unstable-action {datasync | filesync | unstable}
Specifies an alternate unstable-write method. The following values are valid:

- datasync
- filesync
- unstable

The default value is unstable (performs the request as specified).

```
--write-unstable-reply {datasync | filesync | unstable}
```

Specifies an alternate unstable-reply method. The following values are valid:

- datasync
- filesync
- unstable

The default value is unstable (does not respond differently).

```
--write-transfer-max-size <size>
```

Specifies the preferred read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

```
--write-transfer-multiple <integer>
```

Specifies the suggested write transfer multiplier to report to NFSv3 and NFSv4 clients. Valid values are 0-4294967295. The initial default value is 512.

```
--write-transfer-size <size>
```

Specifies the preferred read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

```
{--force | -f}
```

If set to no (default), a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation.

```
{--verbose | -v}
```

Displays more detailed information.

### isi nfs exports delete

Deletes an NFS export.

**Syntax**

```
isi nfs exports delete <id>  
[--force]  
[--verbose]
```

**Options**

- `<id>`
  Required. Specifies the ID of the NFS export to delete.

- `{--force | -f}
  If set to no (default), a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation. The default setting is no.

- `{--verbose | -v}
  Displays more detailed information.
isi nfs exports list

Displays a list of NFS exports.

Syntax

```
isi nfs exports list
[|--limit <integer>]
[|--sort <field>]
[|--descending]
[|--format {table | json | csv | list}]
[|--no-header]
[|--no-footer]
[|--verbose]
```

Options

```
{-limit | -l} <integer>
Displays no more than the specified number of NFS exports.

--sort <field>
Specifies the field to sort by. Valid values are as follows:
• id
• paths
• description
• clients
• root_clients
• read_only_clients
• read_write_clients
• unresolved_clients
• all_dirs
• block_size
• can_set_time
• commit_asynchronous
• directory_transfer_size
• encoding
• map_lookup_uid
• map_retry
• map_all
• map_root
• map_full
• max_file_size
• read_only
• readdirplus
• readdirplus_prefetch
• return_32bit_file_ids
• read_transfer_max_size
• read_transfer_multiple
```
• read_transfer_size
• security_flavors
• setattr_asynchronous
• symlinks
• time_delta
• write_datasync_action
• write_datasync_reply
• write_filesync_action
• write_filesync_reply
• write_unstable_action
• write_unstable_reply
• write_transfer_max_size
• write_transfer_multiple
• write_transfer_size

{--descending | -d}
Specifies to sort the data in descending order.

{--format | -f} {table | json | csv | list}
Displays output in table (default), JavaScript Object Notation (JSON), comma-
separated value (CSV), or list format.

{--no-header | -a}
Displays table and CSV output without headers.

{--no-footer | -z}
Displays table output without footers.

{--verbose | -v}
Displays more detailed information.

isi nfs exports modify
Modifies an NFS export.

Syntax
isi nfs exports modify <id>
[ [--clients <string>] ]
[ [--root-clients <string>] ]
[ [--read-write-clients <string>] ]
[ [--read-only-clients <string>] ]
[ [--description <string>] ]
[ [--paths <path>] ]
[ [--clear-paths] ]
[ [--add-paths <string> | --remove-paths <string>] ]
[ [--clear-clients] ]
[ [--add-clients <string>] ]
[ [--remove-clients <string>] ]
[ [--clear-root-clients] ]
[ [--add-root-clients <string>] ]
[ [--remove-root-clients <string>] ]
[ [--clear-read-write-clients] ]
[ [--add-read-write-clients <string>] ]
[ [--remove-read-write-clients <string>] ]
[ [--clear-read-only-clients] ]
[ [--add-read-only-clients <string>] ]
[ [--remove-read-only-clients <string>] ]
Options

<id>

Required. Specifies the ID of the NFS export to modify.

--clients <string> ...

Adds a client to be allowed access via this export. This option can be repeated to specify multiple clients.

--root-clients <string> ...

Adds a client to be allowed read-only access via this export. This option takes precedence over --clients and can be combined with --read-only-clients or --read-write-clients can be repeated to specify multiple read-only clients.

--read-write-clients <string> ...

--directory-transfer-size <size> | --revert-directory-transfer-size

--encoding <string> | --revert-encoding

--map-lookup-uid {yes | no} | --revert-map-lookup-uid

--map-retry {yes | no} | --revert-map-retry

--map-all <identity> | --revert-map-all | --map-root <identity>

--revert-map-root

--map-full {yes | no} | --revert-map-full

--max-file-size <size> | --revert-max-file-size

--read-only {yes | no} | --revert-only

--readdirplus {yes | no} | --revert-readdirplus

--readdirplus-prefetch <integer> | --revert-readdirplus-prefetch

--return-32bit-file-ids {yes | no} | --revert-return-32bit-file-ids

--read-transfer-max-size <size> | --revert-read-transfer-max-size

--read-transfer-multiple <integer> | --revert-read-transfer-multiple

--security-flavors {unix | krb5 | krb5i | krb5p}

--clear-security-flavors

--add-security-flavors {unix | krb5 | krb5i | krb5p}

--remove-security-flavors <string>

--setattr-asyncynchronous {yes | no}]

--revert-setattr-asyncynchronous

--symlinks {yes | no}]

--revert-symlinks

--time-delta <float>

--revert-time-delta

--write-datasync-action {datasync | filesync | unstable}]

--write-datasync-reply {datasync | filesync}]

--write-filesync-action {datasync | filesync | unstable}]

--write-filesync-reply {filesync}]

--write-unsatisfied-action {datasync | filesync | unstable}]

--write-unsatisfied-reply {datasync | filesync | unstable}]

--write-transfer-max-size <size>

--write-transfer-object <object>

--write-transfer-multiple <integer>

--write-transfer-multiple <object>

--write-transfer-size <size>

--force]

[--verbose]
Add a client to be allowed read and write access via this export. When this is applied to a read-only export, it takes precedence over --clients and will provide read and write access. Otherwise it will behave as a normal client. Specify --read-write-clients for each additional client to be allowed root access.

--read-only-clients <string> ...
Specifies the clients to be allowed read-only access via this export. When this is applied to a non-read-only export, it takes precedence over --clients and will provide read-only access. Otherwise it will behave as a normal client. Specify --read-only-clients for each additional client to be allowed read-only access.

--description <string>
The description for this NFS export.

--paths <path>...
Specifies the path of the NFS export. This must be within /ifs. Specify --paths for each additional path.

--clear-paths
Clears the value for the path of the NFS export. This must be within /ifs.

--add-clients <string> ...
Adds a client to be allowed access via this export. This option can be repeated to specify multiple clients. Cannot be used with --clients.

--add-paths <string> ...
Adds a path to the NFS export, starting at /ifs. To add multiple paths, repeat this option for each additional entry. This option cannot be used with --paths.

--remove-paths <string> ...
Removes a currently-configured path to the NFS export. This option can be repeated to remove multiple paths. This option cannot be used with --paths.

--clear-clients
Clears the value for clients to be allowed access via this export.

--add-clients <string>
Adds clients to be allowed access via this export. Specify --add-clients for each additional client to add.

--remove-clients <string>
Removes clients that are allowed access via this export. Specify --remove-clients for each additional client to remove.

--add-root-clients <string> ...
Adds a client to be allowed root access via this export. To add multiple root clients, repeat this option for each additional entry. This option cannot be used with --root-clients.

--remove-root-clients <string> ...
Removes clients that are allowed root access via this export. This takes precedence over --clients, and can be combined with --read-only-clients or --read-write-clients. Specify --remove-root-clients for each additional client to remove.

--clear-read-write-clients
Clears the value for clients that are allowed read and write access via this export. When applied to a read-only export, this takes precedence over --clients and will provide read and write access. Otherwise they will behave as normal clients.

--add-read-write-clients <string>...
Specifies the clients to be allowed read and write access via this export. When applied to a read-only export, this takes precedence over --clients and will provide read and write access. Otherwise they will behave as normal clients. Specify --add-read-write-clients for each additional client to be allowed read and write access to add.

--remove-read-write-clients <string>...
Removes clients to be allowed read and write access via this export. When applied to a read-only export, this takes precedence over --clients and will provide read and write access. Otherwise they will behave as normal clients. Specify --remove-read-write-clients for each additional client to be allowed read and write access to remove.

--clear-read-only-clients
Clears the value for clients to be allowed read-only access via this export. When applied to a non-read-only export, this takes precedence over --clients and will provide read-only access. Otherwise they will behave as normal clients.

--add-read-only-clients <string>...
Specifies the clients to be allowed read-only access via this export. When applied to a non-read-only export, this takes precedence over --clients and will provide read-only access. Otherwise they will behave as normal clients. Specify --add-read-only-clients for each additional client to be allowed read only access to add.

--remove-read-only-clients <string>...
Removes clients to be allowed read-only access via this export. When applied to a non-read-only export, this takes precedence over --clients and will provide read-only access. Otherwise they will behave as normal clients. Specify --remove-read-only-clients for each additional client to be allowed read only access to remove.

--all-dirs {yes | no}
Specifies whether the export covers all subdirectories beneath a given path.

--revert-all-dirs
Sets the value to the system default for --all-dirs.

--block-size <size>
Applies to NFSv2 only. Specifies the block size (in bytes).

--revert-block-size
Sets the value to the system default for --block-size.

--can-set-time {yes | no}
Specifies whether to allow the export to modify file times.

--revert-can-set-time
Sets the value to the system default for --can-set-time.

--commit-asynchronous {yes | no}
Specifies whether to perform commit-data operations asynchronously by default.

--revert-commit-asynchronous
Sets the value to the system default for --commit-asynchronous.
--directory-transfer-size <size>

Specifies the preferred directory transfer size. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

--revert-directory-transfer-size

Sets the value to the system default for --directory-transfer-size.

--encoding <string>

Specifies the character encoding of clients connecting via the NFS export. Valid values and their corresponding character encodings are provided in the following table. These values are taken from the node's /etc/encodings.xml file, and are not case-sensitive.

<table>
<thead>
<tr>
<th>Value</th>
<th>Encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>cp932</td>
<td>Windows-SJIS</td>
</tr>
<tr>
<td>cp949</td>
<td>Windows-949</td>
</tr>
<tr>
<td>cp1252</td>
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<tr>
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</tr>
<tr>
<td>euc-jp</td>
<td>EUC-JP</td>
</tr>
<tr>
<td>euc-jp-ms</td>
<td>EUC-JP-MS</td>
</tr>
<tr>
<td>utf-8-mac</td>
<td>UTF-8-MAC</td>
</tr>
<tr>
<td>utf-8</td>
<td>UTF-8</td>
</tr>
<tr>
<td>iso-8859-1</td>
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<td>ISO-8859-2 (Latin-2)</td>
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<td>iso-8859-3</td>
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<td>iso-8859-4</td>
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</tr>
<tr>
<td>iso-8859-6</td>
<td>ISO-8859-6 (Arabic)</td>
</tr>
<tr>
<td>iso-8859-7</td>
<td>ISO-8859-7 (Greek)</td>
</tr>
<tr>
<td>iso-8859-8</td>
<td>ISO-8859-8 (Hebrew)</td>
</tr>
<tr>
<td>iso-8859-9</td>
<td>ISO-8859-9 (Latin-5)</td>
</tr>
<tr>
<td>iso-8859-10</td>
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<tr>
<td>iso-8859-13</td>
<td>ISO-8859-13 (Latin-7)</td>
</tr>
<tr>
<td>iso-8859-14</td>
<td>ISO-8859-14 (Latin-8)</td>
</tr>
<tr>
<td>iso-8859-15</td>
<td>ISO-8859-15 (Latin-9)</td>
</tr>
<tr>
<td>iso-8859-16</td>
<td>ISO-8859-16 (Latin-10)</td>
</tr>
</tbody>
</table>
--revert-encoding
Sets the value to the system default for --encoding.

--map-lookup-uid {yes | no}
Specifies whether to look up incoming UNIX user identifiers (UIDs) locally.

--revert-map-lookup-uid
Sets the value to the system default for --map-lookup-uid.

--map-retry {yes | no}
Specifies whether to retry failed user-mapping lookups.

--map-all <string>
Specifies the identity that operations by any user will execute as.

--revert-map-all
Sets the value to the system default for --map-all.

--map-root <string>
Specifies the identity that operations by root will execute as.

--revert-map-root
Sets the value to the system default for --map-root.

--map-full {yes | no}
Specifies whether to use full identity mapping resolution for mapped users by default.

--revert-map-full
Sets the value to the system default for --map-full.

--max-file-size <size>
Specifies the maximum allowed file size on the server (in bytes). If a file is larger than the specified value, an error is returned.

--revert-max-file-size
Sets the value to the system default for --max-file-size.

--read-only {yes | no}
Specifies whether to make the NFS export read-only.

--revert-read-only
Sets the value to the system default for --read-only.

--readdirplus {yes | no}
Applies to NFSv3 only. Specifies whether to process readdir-plus requests.

--revert-readdirplus
Sets the value to the system default for --readdirplus.

--readdirplus-prefetch <integer>
Applies to NFSv3 and NFSv4 only. Specifies the number of file nodes to prefetch when a readdir-plus request is processed. If set to 0, prefetching is disabled. The maximum value is 100.

--revert-readdirplus-prefetch
Sets the value to the system default for --readdirplus-prefetch.

--return-32bit-file-ids {yes | no}
Applies to NFSv3 and later. Specifies whether to limit the size of file identifiers returned from readdir to 32-bit values. NFSv2 is limited to 32-bit values regardless of this setting.

**Note** This setting is provided for backward compatibility with older NFS clients, and should not be enabled unless necessary.

--revert-return-32bit-file-ids
Sets the value to the system default for --return-32bit-file-ids.

--read-transfer-max-size <size>
Specifies the maximum read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

--revert-read-transfer-max-size
Sets the value to the system default for --read-transfer-max-size.

--read-transfer-multiple <integer>
Specifies the suggested multiple read size to report to NFSv3 and NFSv4 clients. Valid values are 0-4294967295. The initial default value is 512.

--revert-read-transfer-multiple
Sets the value to the system default for --read-transfer-multiple.

--read-transfer-size <size>
Specifies the preferred read transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

--revert-read-transfer-size
Sets the value to the system default for --read-transfer-size.

--security-flavors <string>...
Specifies a security flavor to support. To support multiple security flavors, repeat this option for each additional entry.
The following values are valid:
- SYS — Sys or UNIX authentication.
- KRBS5 — Kerberos V5 authentication.
- KRBS5I — Kerberos V5 authentication with integrity.
- KRBS5P — Kerberos V5 authentication with privacy.

--revert-security-flavors
Sets the value to the system default for --security-flavor.

--clear-security-flavors
Clears the value for supported security flavors.

--add-security-flavors {unix | krb5 | krb5i | krb5p}...
Adds supported security flavors. Specify --add-security-flavors for each additional supported security flavor to add.

--remove-security-flavors <string>
Removes supported security flavors. Specify `--remove-security-flavors` for each additional supported security flavor to remove.

`--setattr-asynchronous {yes | no}`
Specifies whether to perform set-attributes operations asynchronously.

`--revert-setattr-asynchronous`
Sets the value to the system default for `--setattr-asynchronous`.

`--symlinks {yes | no}`
Specifies whether to advertise support for symlinks.

`--revert-symlinks`
Sets the value to the system default for `--symlinks`.

`--time-delta <float>`
Specifies server time granularity (in seconds).

`--revert-time-delta`
Sets the value to the system default for `--time-delta`.

`--write-datasync-action <string>`
Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync write method. The following values are valid:
- `datasync`
- `filesync`
- `unstable`
The default value is `datasync` (performs the request as specified).

`--revert-write-datasync-action`
Sets the value to the system default for `--write-datasync-action`.

`--write-datasync-reply <string>`
Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync reply method. The following values are valid:
- `datasync`
- `filesync`
The default value is `datasync` (does not respond differently).

`--revert-write-datasync-reply`
Sets the value to the system default for `--write-datasync-reply`.

`--write-filesync-action <string>`
Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync write method. The following values are valid:
- `datasync`
- `filesync`
- `unstable`
The default value is `filesync` (performs the request as specified).

`--revert-write-filesync-action`
Sets the value to the system default for `--revert-write-filesync-action`.

`--write-filesync-reply <string>`
Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync reply method. The following values are valid:
- `filesync`
The default value is filesync (does not respond differently).

**--write-unstable-action <string>**

Specifies an alternate unstable-write method. The following values are valid:
- datasync
- filesync
- unstable

The default value is unstable (performs the request as specified).

**--revert-write-unstable-action**

Sets the value to the system default for **--write-unstable-action**.

**--write-unstable-reply <string>**

Specifies an alternate unstable-reply method. The following values are valid:
- datasync
- filesync
- unstable

The default value is unstable (does not respond differently).

**--revert-write-unstable-reply**

Sets the value to the system default for **--write-unstable-reply**.

**--write-transfer-max-size <size>**

Specifies the maximum write transfer size to report to NFSv3 and NFSv4 clients. Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

**--revert-write-transfer-max-size**

Sets the value to the system default for **--write-transfer-max-size**.

**--write-transfer-multiple <integer>**

Specifies the suggested write transfer multiplier to report to NFSv3 and NFSv4 clients. Valid values are 0-4294967295. The initial default value is 512.

**--revert-write-transfer-multiple**

Sets the value to the system default for **--write-transfer-multiple**.

**--write-transfer-size <size>**

Valid values are a number followed by a (case-sensitive) unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

**--revert-write-transfer-size**

Sets the value to the system default for **--write-transfer-size**.

**{-force | -f}**

If set to no (default), a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation.

**{-verbose | -v}**

Displays more detailed information.
isi nfs exports reload

Reloads the NFS exports configuration.

Syntax

isi nfs exports reload

Options

There are no options for this command.

isi nfs exports view

View an NFS export.

Syntax

isi nfs exports view <id>

Options

$id$

Specifies the ID of the NFS export to display.

isi nfs netgroup bgwrite

Gets and sets the time between writes to the backup drive.

Syntax

isi nfs netgroup bgwrite

   [--minutes <number>]

Options

{--minutes | -m} <number>

Specifies the time in minutes between writes to the backup drive.

isi nfs netgroup check

Updates all cached netgroups.

Syntax

isi nfs netgroup check

   [--node <string>]

Options

{--node | -n} <string>

Specifies the node to send the update command.

isi nfs netgroup expiration

Sets the time between each netgroup expiration.

Syntax

isi nfs netgroup expiration

   [--minutes <number>]

Options

{--minutes | -m} <number>
Specifies the time in minutes between each netgroup expiration.

**isi nfs netgroup flush**

Specifies the NFS netgroup to flush.

**Syntax**

`isi nfs netgroup flush`

**Options**

`{--node | -n} <string>`

Specifies the node to send the flush command to.

**isi nfs netgroup lifetime**

Gets and sets the time in minutes before stale cache entries are wiped.

**Syntax**

`isi nfs netgroup lifetime`

**Options**

`{--minutes | -m} <number>`

Specifies the time in minutes before stale cache entries are wiped.

**isi nfs netgroup retry**

Gets and sets the retry interval.

**Syntax**

`isi nfs netgroup retry`

**Options**

`{--seconds | -s} <integer>`

Specifies the time in seconds between attempts to retry an NFS netgroup.

**isi nfs nlm locks list**

Applies to NFSv2 and NFSv3 only. Displays a list of NFS Network Lock Manager (NLM) advisory locks.

**Syntax**

`isi nfs nlm locks list`

**Options**

`{--limit | -l} <integer>`

Displays no more than the specified number of NFS nlm locks.
NFS commands

--sort {client | path | lock_type | range | created}
    Specifies the field to sort by.

{--descending | -d}
    Specifies to sort the data in descending order.

--format {table | json | csv | list}
    Displays output in table (default), JavaScript Object Notation (JSON), comma-
    separated value (CSV), or list format.

{--no-header | -a}
    Displays table and CSV output without headers.

{--no-footer | -z}
    Displays table output without footers.

{--verbose | -v}
    Displays more detailed information.

Examples
To view a detailed list of all current NLM locks, run the following command:

    isi nfs nlm locks list --verbose

In the following sample output, there are currently three locks: one on /ifs/home/
    test1/file.txt and two on /ifs/home/test2/file.txt.

<table>
<thead>
<tr>
<th>Client</th>
<th>Path</th>
<th>Lock Type</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>machineName/10.72.134.119</td>
<td>/ifs/home/test1/file.txt</td>
<td>exclusive</td>
<td>[0, 2]</td>
</tr>
<tr>
<td>machineName/10.59.166.125</td>
<td>/ifs/home/test2/file.txt</td>
<td>shared</td>
<td>[10, 20]</td>
</tr>
<tr>
<td>machineName/10.63.119.205</td>
<td>/ifs/home/test2/file.txt</td>
<td>shared</td>
<td>[10, 20]</td>
</tr>
</tbody>
</table>

isi nfs nlm locks waiters

Applies to NFSv2 and NFSv3 only. Displays a list of clients that are waiting to place a
    Network Lock Manager (NLM) lock on a currently locked file.

Syntax

    isi nfs nlm locks waiters
    [ [--limit <integer>] ]
    [ [--sort {client | path | lock_type | range | created}] ]
    [ [--descending] ]
    [ [--format {table | json | csv | list}] ]
    [ [--no-header] ]
    [ [--no-footer] ]
    [ [--verbose] ]

Options

{--limit | -l} <integer>
    Displays no more than the specified number of NFS nlm locks.

--sort {client | path | lock_type | range | created}
    Specifies the field to sort by.

{--descending | -d}
    Specifies to sort the data in descending order.

--format {table | json | csv | list}
    Displays output in table (default), JavaScript Object Notation (JSON), comma-
    separated value (CSV), or list format.

{--no-header | -a}
Displays table and CSV output without headers.

\{--no-footer | -z\}
Displays table output without footers.

\{--verbose | -v\}
Displays more detailed information.

Examples
The following command displays a detailed list of clients waiting to lock a currently-locked file:

`isi protocol nfs nlm locks waiters --verbose`

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Client</th>
<th>Path</th>
<th>Lock Type</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>machineName/1.2.34.5</td>
<td>/ifs/home/test1/file.txt</td>
<td>exclusive</td>
<td>[0, 2]</td>
</tr>
</tbody>
</table>

isi nfs nlm sessions disconnect

Applies to NFSv2 and NFSv3 only. Removes an NFS client, cancels any pending Network Lock Manager (NLM) locks, and unlocks all of the client’s current locks.

Syntax

`isi nfs nlm sessions disconnect <client>`

\{--force {yes | no}\}

Options

\<client\>
Required. Specifies the client to disconnect, in the form `machine_name/server_ip`.

\{--force | -f\} {yes | no}
If set to no (default), a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation.

Examples
The following command disconnects a client named "client1" from the server with an IP address of 192.168.7.143:

`isi nfs nlm sessions disconnect client1/192.168.7.143`

isi nfs nlm sessions list

Applies to NFSv2 and NFSv3 only. Displays a list of clients holding NFS Network Lock Manager (NLM) locks.

Syntax

`isi nfs nlm sessions list`

\{--limit <integer>\}
\{--sort {client | path | lock_type | range | created}\}
\{--descending\}
\{--format {table | json | csv | list}\}
\{--no-header\}
\{--no-footer\}
\{--verbose\}

Options

\{--limit | -l\} <integer>
Displays no more than the specified number of NFS nlm sessions.

--sort {client | path | lock_type | range | created}
  Specifies the field to sort by.

--descending | -d
  Specifies to sort the data in descending order.

--format {table | json | csv | list}
  Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

--no-header | -a
  Displays table and CSV output without headers.

--no-footer | -z
  Displays table output without footers.

--verbose | -v
  Displays more detailed information.

Examples
To view a list of active NLM sessions, run the following command:

isi nfs nlm sessions list

**isi nfs settings export modify**

Modifies the default settings that are applied when creating NFS exports.

**Note** You can view the currently configured default NFS export settings by running the

isi nfs settings export view command.

**Syntax**

```bash
isi nfs settings export modify
  [[-all-dirs {yes | no} | --revert-all-dirs]]
  [[-block-size <size> | --revert-block-size]]
  [[-can-set-time {yes | no} | --revert-can-set-time]]
  [[-commit-asynchronous {yes | no} | --revert-commit-asynchronous]]
  [[-directory-transfer-size <size> | --revert-directory-transfer-size]]
  [[-encoding <string>]]
  [[-map-lookup-uid {yes | no} | --revert-map-lookup-uid]]
  [[-map-retry {yes | no} | --revert-map-retry]]
  [[-map-all <identity> | --revert-map-all | --map-root <identity>]]
  [[-revert-map-root]]
  [[-map-full {yes | no} | --revert-map-full]]
  [[-max-file-size <size> | --revert-max-file-size]]
  [[-read-only {yes | no} | --revert-read-only]]
  [[-readdirplus {yes | no} | --revert-readdirplus]]
  [[-readdirplus-prefetch <integer> | --revert-readdirplus-prefetch]]
  [[-return-32bit-file-ids {yes | no} | --revert-return-32bit-file-ids]]
  [[-read-transfer-max-size <size> | --revert-read-transfer-max-size]]
  [[-read-transfer-multiple <integer> | --revert-read-transfer-multiple]]
  [[-read-transfer-size <size> | --revert-read-transfer-size]]
  [[-security-flavors {unix | krb5 | krb5i | krb5p}]]
  [[-revert-security-flavors]]
  [[-clear-security-flavors]]
  [[-add-security-flavors {unix | krb5 | krb5i | krb5p}]]
  [[-remove-security-flavors <string>]]
  [[-setattr-asynchronous {yes | no} | --revert-setattr-asynchronous]]
  [[-symlinks {yes | no}]]
```
Options
--all-dirs {yes|no}
Specifies whether newly created exports will cover all subdirectories beneath a given
path by default.

--revert-all-dirs
Sets the value to the system default for --all-dirs.

--block-size <size>
Specifies the default block size in bytes. Applies to NFSv2 only.

--revert-block-size
Sets the value to the system default for --block-size.

--can-set-time {yes | no}
Specifies whether exports can modify file times by default.

--revert-can-set-time
Sets the value to the system default for --can-set-time.

--commit-asynchronous {yes | no}
Specifies whether to perform commit-data operations asynchronously by default.

--revert-commit-asynchronous
Sets the value to the system default for --commit-asynchronous.

--directory-transfer-size <size>
Specifies the preferred directory transfer size. A valid value is a number followed by a
case-sensitive unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit
is specified, bytes are used by default. The maximum value is 4294967295b. The
initial default value is 128K.

--revert-directory-transfer-size
Sets the value to the system default for --directory-transfer-size.

--encoding <string>
Specifies the character encoding of clients connecting through NFS exports.
The valid values and their corresponding character encodings are provided in the
following table. These values are taken from the node’s /etc/encodings.xml file
and are not case-sensitive.
### Value Encoding

<table>
<thead>
<tr>
<th>Value</th>
<th>Encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>cp932</td>
<td>Windows-SJIS</td>
</tr>
<tr>
<td>cp949</td>
<td>Windows-949</td>
</tr>
<tr>
<td>cp1252</td>
<td>Windows-1252</td>
</tr>
<tr>
<td>euc-kr</td>
<td>EUC-KR</td>
</tr>
<tr>
<td>euc-jp</td>
<td>EUC-JP</td>
</tr>
<tr>
<td>euc-jp-ms</td>
<td>EUC-JP-MS</td>
</tr>
<tr>
<td>utf-8-mac</td>
<td>UTF-8-MAC</td>
</tr>
<tr>
<td>utf-8</td>
<td>UTF-8</td>
</tr>
<tr>
<td>iso-8859-1</td>
<td>ISO-8859-1 (Latin-1)</td>
</tr>
<tr>
<td>iso-8859-2</td>
<td>ISO-8859-2 (Latin-2)</td>
</tr>
<tr>
<td>iso-8859-3</td>
<td>ISO-8859-3 (Latin-3)</td>
</tr>
<tr>
<td>iso-8859-4</td>
<td>ISO-8859-4 (Latin-4)</td>
</tr>
<tr>
<td>iso-8859-5</td>
<td>ISO-8859-5 (Cyrillic)</td>
</tr>
<tr>
<td>iso-8859-6</td>
<td>ISO-8859-6 (Arabic)</td>
</tr>
<tr>
<td>iso-8859-7</td>
<td>ISO-8859-7 (Greek)</td>
</tr>
<tr>
<td>iso-8859-8</td>
<td>ISO-8859-8 (Hebrew)</td>
</tr>
<tr>
<td>iso-8859-9</td>
<td>ISO-8859-9 (Latin-5)</td>
</tr>
<tr>
<td>iso-8859-10</td>
<td>ISO-8859-10 (Latin-6)</td>
</tr>
<tr>
<td>iso-8859-13</td>
<td>ISO-8859-13 (Latin-7)</td>
</tr>
<tr>
<td>iso-8859-14</td>
<td>ISO-8859-14 (Latin-8)</td>
</tr>
<tr>
<td>iso-8859-15</td>
<td>ISO-8859-15 (Latin-9)</td>
</tr>
<tr>
<td>iso-8859-16</td>
<td>ISO-8859-16 (Latin-10)</td>
</tr>
</tbody>
</table>

---

**--map-lookup-uid {yes | no}**

Specifies whether to look up incoming UNIX user identifiers (UIDs) locally by default.

**--revert-map-lookup-uid**

Sets the value to the system default for --map-lookup-uid.

**--map-retry {yes | no}**

Specifies whether to retry failed user-mapping lookups by default.

**--revert-map-retry**

Sets the value to the system default for --map-retry.

**--map-all <string>**

Specifies the default identity that operations by any user will execute as.

**--revert-map-all**
Sets the value to the system default for --map-all.

--map-root <identity>
Specifies the specific user and/or group ID to map root users to.

--revert-map-root
Sets the value to the system default for --map-root.

--map-full {yes | no}
Specifies whether to use full identity mapping resolution for mapped users by default.

--revert-map-full
Sets the value to the system default for --map-root.

--max-file-size <size>
Specifies the maximum file size allowed on the server in bytes. If a file is larger than the specified value, an error is returned. A valid value is a number followed by a case-sensitive unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

--revert-max-file-size
Sets the value to the system default for --max-file-size.

--read-only {yes | no}
Specifies whether to make newly created NFS exports read-only by default.

--readdirplus {yes | no}
Applies to NFSv3 only. Specifies whether to support readdir-plus by default. If set to yes, readdir-plus requests are processed; if set to no, readdir-plus requests are rejected and an error message is returned.

--revert-readdirplus
Sets the value to the system default for --readdirplus.

--readdirplus-prefetch <integer>
Applies to NFSv3 and NFSv4 only. If set to 0, disables readdir-plus prefetching by default; otherwise, specifies the number of file nodes to prefetch when a readdir-plus request is processed. The maximum value is 100. The initial default setting is 10.

--revert-readdirplus-prefetch
Sets the value to the system default for --readdirplus-prefetch.

--return-32bit-file-ids {yes | no}
Applies to NFSv3 and later. If set to yes, limits the size of file identifiers returned from readdir to 32-bit values. NFSv2 is limited to 32-bit values regardless of this setting. The default value is no.

--revert-return-32bit-file-ids
Sets the value to the system default for --return-32bit-file-ids.

--read-transfer-max-size <size>
Specifies the maximum read transfer size to report to NFSv3 and NFSv4 clients. A valid value is a number followed by a case-sensitive unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 512K.

Note This setting, which is provided for backward compatibility with older NFS clients, should not be enabled unless necessary.

--revert-read-transfer-max-size
Sets the value to the system default for --read-transfer-max-size.
--revert-read-transfer-max-size
Sets the value to the system default for --read-transfer-max-size.

--read-transfer-multiple <integer>
Specifies the suggested multiple read size to report to NFSv3 and NFSv4 clients. Valid values are 0-4294967295. The initial default value is 512.

--revert-read-transfer-multiple
Sets the value to the system default for --read-transfer-multiple.

--read-transfer-size <size>
Specifies the preferred read transfer size to report to NFSv3 and NFSv4 clients. A valid value is a number followed by a case-sensitive unit of measure: b for bytes; K for KB; M for MB; or G for GB. If no unit is specified, bytes are used by default. The maximum value is 4294967295b. The initial default value is 128K.

--revert-read-transfer-size
Sets the value to the system default for --read-transfer-size.

--security-flavors {unix | krb5 | krb5i | krb5p}...
Specifies a security flavor to support by default. To support multiple security flavors, repeat this option for each additional entry. The following values are valid:

- SYS — Sys or UNIX authentication.
- KRBS — Kerberos V5 authentication.
- KRBSI — Kerberos V5 authentication with integrity.
- KRBSP — Kerberos V5 authentication with privacy.

--revert-security-flavors
Sets the value to the system default for --security-flavor.

--clear-security-flavors
Clears the value for supported security flavors.

--add-security-flavors {unix | krb5 | krb5i | krb5p}...
Adds supported security flavors. Specify --add-security-flavors for each additional supported security flavor to add.

The following values are valid:

- SYS — Sys or UNIX authentication.
- KRBS — Kerberos V5 authentication.
- KRBSI — Kerberos V5 authentication with integrity.
- KRBSP — Kerberos V5 authentication with privacy.

--remove-security-flavors {unix | krb5 | krb5i | krb5p}...
Removes supported security flavors. Specify --remove-security-flavors for each additional supported security flavor to remove.

- SYS — Sys or UNIX authentication.
- KRBS — Kerberos V5 authentication.
- KRBSI — Kerberos V5 authentication with integrity.
- KRBSP — Kerberos V5 authentication with privacy.

--setattr-asynchronous {yes | no}
Specifies whether to perform set-attributes operations asynchronously by default.
--revert-setattr-asynchronous
Sets the value to the system default for --setattr-asynchronous.

--symlinks {yes | no}
Specifies whether to advertise support for symlinks by default.

--revert-symlinks
Sets the value to the system default for --symlinks.

--time-delta <float>
Specifies default server time granularity (in seconds).

--revert-time-delta
Sets the value to the system default for --time-delta.

--write-datasync-action {datasync | filesync | unstable}
Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync write method. The following values are valid:
- datasync
- filesync
- unstable

The default value is datasync, which performs the request as specified.

--revert-write-datasync-action
Sets the value to the system default for --write-datasync-action.

--write-datasync-reply {datasync | filesync}
Applies to NFSv3 and NFSv4 only. Specifies an alternate datasync reply method. The following values are valid:
- datasync
- filesync

The default value is datasync, which does not respond differently.

--revert-write-datasync-reply
Sets the value to the system default for --write-datasync-reply.

--write-filesync-action {datasync | filesync | unstable}
Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync write method. The following values are valid:
- datasync
- filesync
- unstable

The default value is filesync, which performs the request as specified.

--revert-write-filesync-action
Sets the value to the system default for --revert-write-filesync-action.

--write-filesync-reply {filesync}
Applies to NFSv3 and NFSv4 only. Specifies an alternate filesync reply method. The following values are valid:
- filesync

The default value is filesync, which does not respond differently.

--write-unstable-action {datasync | filesync | unstable}
Specifies an alternate unstable-write method. The following values are valid:
- datasync
**isi nfs settings export view**

Displays default NFS export settings.

**Syntax**

```
isi nfs settings export view
```

**Options**

There are no options for this command.

**Examples**

To view the currently-configured default export settings, run the following command:

```
isi nfs settings export view
```

The system displays output similar to the following example:

```
All Dirs : No
Block Size : 16.0K
```
isi nfs settings global modify

Modifies the default NFS global options.

Syntax

```bash
isi nfs settings global modify
[--lock-protection <integer>]
[--nfsv2-enabled {yes | no}]
[--nfsv3-enabled {yes | no}]
[--nfsv4-domain <string>]
[--nfsv4-enabled {yes | no}]
[--verbose]
```

Options

--lock-protection <integer>

Specifies the number of nodes failures that can happen before a lock might be lost.

--nfsv2-enabled {yes | no}

Specifies that NFSv2 is enabled.

--nfsv3-enabled {yes | no}

Specifies that NFSv3 is enabled.

--nfsv4-domain <string>

Specifies the NFSv4 domain name.

--nfsv4-enabled {yes | no}

Specifies that NFSv4 is enabled.

{--verbose | -v}

Displays more detailed information.
isi nfs settings global view

Displays the global options for NFS settings.

Syntax
isi nfs settings global view

Options
There are no options for this command.
You can access and configure the SMB file sharing service through the SMB commands.

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isi smb log-level

Displays the log level settings for an SMB share.

Syntax
isi smb log-level
  [--set <string>]

Options
--set | -s <string>
  Set the log level for this node. Valid options are always, error, warning, info, verbose, debug, trace, or default.

isi smb openfiles close

Closes an open file.

Note To view a list of open files, run the isi smb openfiles list command.

Syntax
isi smb openfiles close <id>
  [--force]

Options
-id <id>
  Required. Specifies the ID of the open file to close.

--force | -f
  If set to no, a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation. The default setting is no.

Examples
The following command closes a file with an ID of 32:
isi smb openfiles close 32

isi smb openfiles list

Displays a list of files that are open in SMB shares.

Syntax
isi smb openfiles list
  [--limit <integer>]
  [--format {table | json | csv | list}]
  [--no-header]
  [--no-footer]
  [--verbose]

Options
--limit | -l <integer>
  Displays no more than the specified number of smb openfiles.

--format {table | json | csv | list}
  Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}
Displays table and CSV output without headers.

```
--no-footer | -z
```
Displays table output without footers.

```
--verbose | -v
```
Displays more detailed information.

### isi smb sessions delete

Deletes SMB sessions, filtered first by computer then optionally by user.

**Note** Any open files are automatically closed before an SMB session is deleted.

**Syntax**

```
isi smb sessions delete <computer-name>
```

Options

#### `<computer-name>`
Required. Specifies the computer name. If the `--user-name` option is omitted, the system deletes all SMB sessions associated with this computer.

```
--user <string>
```
Deletes only those SMB sessions to the computer that are associated with the specified user.

```
--uid <id>
```
Specifies a numeric user identifier.

```
--sid <sid>
```
Specifies a security identifier.

```
--force | -f
```
If set to no, a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation. The default setting is no.

```
--verbose | -v
```
Displays more detailed information.

**Examples**

The following command deletes all SMB sessions associated with a computer called computer1:

```
isi smb sessions delete computer1
```

The following command deletes all SMB sessions associated with a computer called computer1 and a user called user1:

```
isi smb sessions delete computer1
--user-name=user1
```

### isi smb sessions delete-user

Deletes SMB sessions, filtered first by user then optionally by computer.

**Note** Any open files are automatically closed before an SMB session is deleted.
Syntax

isi smb sessions delete-user {<user> | --uid <id> | --sid <sid>} [--computer-name <string>] [--force] [--verbose]

Options

$user$
Required. Specifies the user name. If the --computer-name option is omitted, the system deletes all SMB sessions associated with this user.

{--computer-name | -C} <string>
Deletes only the user's SMB sessions that are associated with the specified computer.

{--force | -f}
If set to no (default), a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation.

{--verbose | -v}
Displays more detailed information.

Examples

The following command deletes all SMB sessions associated with a user called user1:

isi smb sessions delete-user user1

The following command deletes all SMB sessions associated with a user called user1 and a computer called computer1:

isi smb sessions delete-user user1 --computer-name=computer1

isi smb sessions list

Displays a list of open SMB sessions.

Syntax

isi smb sessions list [--limit <integer>] [--format {table | json | csv | list}] [--no-header] [--no-footer] [--verbose]

Options

{--limit | -l} <integer>
Specifies the maximum number of SMB sessions to list.

--format {table | json | csv | list}
Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.

{--no-header | -a}
Displays table and CSV output without headers.

{--no-footer | -z}
Displays table output without footers.

{--verbose | -v}
Displays more detailed information.

**isi smb settings global modify**

Modifies the global SMB settings.

**Syntax**

```
isi smb settings global modify
[--access-based-share-enum {yes | no}]
[--audit-fileshare {all | success | failure | none}]
[--audit-logon {all | success | failure | none}]
[--dot-snap-accessible-child {yes | no}]
[--dot-snap-accessible-root {yes | no}]
[--dot-snap-visible-child {yes | no}]
[--dot-snap-visible-root {yes | no}]
[--enable-security-signatures {yes | no}]
[--guest-user <string>]
[--ignore-eas {yes | no}]
[--onefs-cpu-multiplier <integer>]
[--onefs-num-workers <integer>]
[--require-security-signatures {yes | no}]
[--server-string <string>]
[--srv-cpu-multiplier <integer>]
[--srv-num-workers <integer>]
[--support-netbios {yes | no}]
[--support-smb2 {yes | no}]
[--verbose]
[--help]
```

**Options**

**--access-based-share-enum {yes | no}**

Enumerates only the files and folders that the requesting user has access to.

**--audit-fileshare {all | success | failure | none}**

Specifies the level of file share audits to log.

- **ALL** — Log all file share audit events.
- **SUCCESS** — Log successful file share audit events only.
- **FAILURE** — Log unsuccessful file share audit events only.
- **NONE** — Do not log file share audit events.

**--audit-logon {all | success | failure | none}**

Specifies the level of logon audit events to log.

- **ALL** — Log all file logon audit events.
- **SUCCESS** — Log successful logon audit events only.
- **FAILURE** — Log unsuccessful logon audit events only.
- **NONE** — Do not log logon audit events.

**--dot-snap-accessible-child {yes | no}**

Specifies whether to make the /ifs/.snapshot directory visible in subdirectories of the share root. The default setting is no.

**--dot-snap-accessible-root {yes | no}**

Specifies whether to make the /ifs/.snapshot directory accessible at the share root. The default setting is none.

**--dot-snap-visible-child {yes | no}**

Specifies whether to make the /ifs/.snapshot directory visible at the root of the share. The default setting is no.
--dot-snap-visible-child {yes | no}
  Specifies whether to make the /ifs/.snapshot directory visible in subdirectories of the share root. The default setting is no.

--enable-security-signatures {yes | no}
  Indicates whether the server supports signed SMB packets.

--guest-user <integer>
  Specifies the fully qualified user to use for guest access.

--ignore-eas {yes | no}
  Specifies whether to ignore EAs on files.

--onefs-cpu-multiplier <integer>
  Specifies the number of OneFS worker threads to configure based on the number of CPUs. Valid numbers are 1 - 4.

--onefs-num-workers <integer>
  Specifies the number of OneFS worker threads that are allowed to be configured. Valid numbers are 0-1024. If set to 0, the number of SRV workers will equal the value specified by --onefs-cpu-multiplier times the number of CPUs.

--require-security-signatures {yes | no}
  Specifies whether packet signing is required. If set to yes, signing is always required. If set to no, signing is not required but clients requesting signing will be allowed to connect if the --enable-security-signatures option is set to yes.

--server-string <string>
  Provides a description of the server.

--srv-cpu-multiplier <integer>
  Specifies the number of SRV worker threads to configure per CPU. Valid numbers are 1-8.

--srv-num-workers <integer>
  Specifies the number of OneFS worker threads that are allowed to be configured. Valid numbers are 0-1024. If set to 0, the number of SRV workers will equal the value specified by --srv-cpu-multiplier times the number of CPUs.

--support-netbios {yes | no}
  Specifies whether to support the NetBIOS protocol.

--support-smb2 {yes | no}
  Specifies whether to support the SMB2 protocol. The default setting is yes.

isi smb settings global view
Displays the default SMB configuration settings.

Syntax
isi smb settings global view

Options
There are no options for this command.
isi smb settings shares modify

Modifies default settings for SMB shares.

Syntax

isi smb settings shares modify

[--access-based-enumeration {yes | no}]
[--access-based-enumeration-root-only {yes | no}]
[--allow-delete-readonly {yes | no}]
[--allow-execute-always {yes | no}]
[--change-notify {all | norecurse | none}]
[--create-permissions {"default acl" | "inherit mode bits" | "use create mask and mode"}]
[--directory-create-mask <integer>]
[--directory-create-mode <integer>]
[--file-create-mask <integer>]
[--file-create-mode <integer>]
[--hide-dot-files {yes | no}]
[--host-acl <host-acl>]
[--clear-host-acl]
[--add-host-acl <string>]
[--remove-host-acl <string>]
[--impersonate-guest {always | "bad user" | never}]
[--impersonate-user <string>]
[--mangle-byte-start <integer>]
[--mangle-map <mangle-map>]
[--clear-mangle-map]
[--add-mangle-map <string>]
[--remove-mangle-map <string>]
[--ntfs-acl-support {yes | no}]
[--oplocks {yes | no}]
[--strict-flush {yes | no}]
[--strict-locking {yes | no}]

Options

--access-based-enumeration {yes | no}
  Specifies whether access-based enumeration is enabled.

--access-based-enumeration-root-only {yes | no}
  Specifies whether access-based enumeration is only enabled on the root directory of the share.

--allow-delete-readonly {yes | no}
  Specifies whether read-only files can be deleted.

--allow-execute-always {yes | no}
  Specifies whether a user with read access to a file can also execute the file.

--change-notify {norecurse | all | none}
  Defines the change notify setting. The acceptable values are norecurse, all, or none.

--create-permissions {"default acl" | "inherit mode bits" | "use create mask and mode"}
  Sets the default permissions to apply when a file or directory is created.

--directory-create-mask <integer>
  Defines which mask bits are applied when a directory is created.

--directory-create-mode <integer>
  Defines which mode bits are applied when a directory is created.

--file-create-mask <integer>
  Defines which mask bits are applied when a file is created.
--file-create-mode <integer>  
Defines which mode bits are applied when a file is created.

--hide-dot-files {yes | no}  
Specifies whether to hide files that begin with a period (for example, UNIX configuration files).

--host-acl <string>  
Specifies which hosts are allowed access. Specify --host-acl for each additional host ACL clause. This will replace any existing ACL.

--clear-host-acl <string>  
Clears the value for an ACL expressing which hosts are allowed access.

--add-host-acl <string>  
Adds an ACE to the already-existing host ACL. Specify --add-host-acl for each additional host ACL clause to be added.

--remove-host-acl <string>  
Removes an ACE from the already-existing host ACL. Specify --remove-host-acl for each additional host ACL clause to be removed.

--impersonate-guest {always | "bad user" | never}  
Allows guest access to the share. The acceptable values are always, "bad user", and never.

--impersonate-user <string>  
Allows all file access to be performed as a specific user. This must be a fully qualified user name.

--mangle-byte-start <string>  
Specifies the wchar_t starting point for automatic invalid byte mangling.

--mangle-map <string>  
Maps characters that are valid in OneFS but not SMB names.

--clear-mangle-map <string>  
Clears the values for character mangle map.

--add-mangle-map <string>  
Adds a character mangle map. Specify --add-mangle-map for each additional Add character mangle map.

--remove-mangle-map <string>  
Removes a character mangle map. Specify --remove-mangle-map for each additional Remove character mangle map.

--ntfs-acl-support {yes | no}  
Specifies whether ACLs can be stored and edited from SMB clients.

--oplocks {yes | no}  
Specifies whether to allow oplock requests.

--strict-flush {yes | no}  
Specifies whether to always honor flush requests.

--strict-locking {yes | no}  
Specifies whether the server will check for and enforce file locks.
isi smb settings shares view

Displays default settings for SMB shares.

Syntax
isi smb settings shares view

Options
There are no options for this command.

isi smb shares create

Creates an SMB share.

Syntax
isi smb shares create <name> <path>

Options
<name>
Required. Specifies the name for the new SMB share.

<path>
Required. Specifies the full path of the SMB share to create, beginning at /ifs.

--display-name <string>
Specifies a display name for the SMB share.

--description <string>
Specifies a description for the SMB share.

--set-inheritable-acl {yes | no}, -i {yes | no}
If set to yes, if the parent directory has an inheritable access control list (ACL), its ACL will be inherited on the share path. The default setting is no.

--csc-policy {none | documents | manual | programs}, -C {none | documents | manual | programs}
Sets the client-side caching policy for the share. Valid values are: none; documents; manual; and programs.
--browsable {yes | no}, -b {yes | no}
   If set to yes, makes the share visible in net view and the browse list. The default
   setting is no.

--allow-execute-always {yes | no}
   If set to yes, allows a user with read access to a file to also execute the file. The
   default setting is no.

--directory-create-mask <integer>
   Defines which mask bits are applied when a directory is created.

--strict-locking {yes | no}
   If set to yes, directs the server to check for and enforce file locks. The default setting
   is no.

--hide-dot-files {yes | no}
   If set to yes, hides files that begin with a decimal (for example, UNIX configuration
   files). The default setting is no.

--impersonate-guest {always | "bad user" | never}
   Allows guest access to the share. The acceptable values are always, "bad user", and
   never.

--strict-flush {yes | no}
   If set to yes, flush requests are always honored. The default setting is no.

--access-based-enumeration {yes | no}
   If set to yes, enables access-based enumeration. The default setting is no.

--mangle-byte-start <string>
   Specifies the wchar_t starting point for automatic invalid byte mangling.

--file-create-mask <integer>
   Defines which mask bits are applied when a file is created.

--create-permissions {"use create mask and mode" | "default acl" | "inherit mode
   bits"}
   Sets the default permissions to apply when a file or directory is created.

--mangle-map <string>
   Maps characters that are valid in OneFS but not SMB names.

--impersonate-user <string>
   Allows all file access to be performed as a specific user. This must be a fully qualified
   user name.

--change-notify {norecurse | all | none}
   Defines the change notify setting. The acceptable values are norecurse, all, or none.

--oplocks {yes | no}
   If set to yes, allows oplock requests. The default setting is no.

--allow-delete-readonly {yes | no}
   If set to yes, allows read-only files to be deleted. The default setting is no.

--directory-create-mode <integer>
   Defines which mode bits are applied when a directory is created.

--ntfs-acl-support {yes | no}
   If set to yes, allows ACLs to be stored and edited from SMB clients. The default
   setting is no.
--file-create-mode <integer>

Defines which mode bits are applied when a file is created.

**isi smb shares delete**

Deletes an SMB share.

**Syntax**

```bash
isi smb shares delete <share>
  [--force {yes | no}]
```

**Options**

- `<share>` Specifies the name of the SMB share to delete.
- `{--force | -f} {yes | no}`
  - If set to no, a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation. The default is no.

**Examples**

The following command deletes a share called "test-smb":

```bash
isi smb shares delete test-smb
```

**isi smb shares list**

Displays a list of SMB shares.

**Syntax**

```bash
isi smb shares list
  [--limit <integer>]
  [--sort {name | path | description}]
  [--descending]
  [--format {table | json | csv | list}]
  [--no-header]
  [--no-footer]
  [--verbose]
```

**Options**

- `{--limit | -l} <integer>`
  - Specifies the maximum number of items to list.
- `--sort {name | path | description}`
  - Specifies the field to sort items by.
- `{--descending | -d}`
  - Sorts the data in descending order.
- `--format {table | json | csv | list}`
  - Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
- `{--no-header | -a}`
  - Displays table and CSV output without headers.
- `{--no-footer | -z}`
  - Displays table output without footers.
- `--verbose | -v`
Displays more detailed information.

**isi smb shares modify**

Modifies an SMB share's settings.

**Syntax**

```
isi smb shares modify <share>
   [--name <string>]  
   [--path <path>]    
   [--host-acl <host-acl>]  
   [--clear-host-acl] 
   [--add-host-acl <string>]  
   [--remove-host-acl <string>]  
   [--description <string>]  
   [--csc-policy {manual | documents | programs | none}]  
   [--allow-variable-expansion {yes | no}]  
   [--auto-create-directory {yes | no}]  
   [--browsable {yes | no}]  
   [--allow-execute-always {yes | no} | --revert-allow-execute-always]  
   [--directory-create-mask <integer> | --revert-directory-create-mask]  
   [--strict-locking {yes | no}]  
   [--revert-strict-locking]  
   [--hide-dot-files {yes | no} | --revert-hide-dot-files]  
   [--impersonate-guest {always | "bad user" | never} | --revert-impersonate-guest]  
   [--strict-flush {yes | no}]  
   [--revert-strict-flush]  
   [--access-based-enumeration {yes | no} | --revert-access-based-enumeration]  
   [--access-based-enumeration-root-only {yes | no}]  
   [--mangle-byte-start <integer> | --revert-mangle-byte-start]  
   [--file-create-mask <integer> | --revert-file-create-mask]  
   [--create-permissions {"default acl" | "inherit mode bits" | "use create mask and mode"}]  
   [--mangle-map <mangle-map> | --revert-mangle-map]  
   [--clear-mangle-map]  
   [--add-mangle-map <string>]  
   [--remove-mangle-map <string>]  
   [--impersonate-user <string> | --revert-impersonate-user]  
   [--change-notify {all | norecurse | none} | --revert-change-notify]  
   [--oplocks {yes | no} | --revert-oplocks]  
   [--allow-delete-readonly {yes | no} | --revert-allow-delete-readonly]  
   [--directory-create-mode <integer> | --revert-directory-create-mode]  
   [--ntfs-acl-support {yes | no}]  
   [--file-create-mode <integer> | --revert-file-create-mode]  
   [--verbose]
```

**Options**

**<share>**

Required. Specifies the name of the SMB share to modify.

**--name <name>**

Specifies the name for the SMB share.

**--path <path>**

Specifies a new path for the SMB share, starting in /ifs.

**--host-acl <host-acl>**

An ACL expressing which hosts are allowed access. Specify --host-acl for each additional host ACL clause.

**--clear-host-acl**
Clears the value of an ACL that expresses which hosts are allowed access.

```
--add-host-acl <string>
```

Adds an ACL expressing which hosts are allowed access. Specify --add-host-acl for each additional host ACL clause to add.

```
--remove-host-acl <string>
```

Removes an ACL expressing which hosts are allowed access. Specify --remove-host-acl for each additional host ACL clause to remove.

```
--description <string>
```

The description for this SMB share.

```
--csc-policy, -C {manual | documents | programs | none}
```

Specifies the client-side caching policy for the shares.

```
{--allow-variable-expansion | -a} {yes | no}
```

Allows the automatic expansion of variables for home directories.

```
{--auto-create-directory | -d} {yes | no}
```

Automatically creates home directories.

```
{--Browsable | -b} {yes | no}
```

The share is visible in the net view and the browse list.

```
--allow-execute-always {yes | no}
```

Allows users to execute files they have read rights for.

```
--revert-allow-execute-always
```

Sets the value to the system default for --allow-execute-always.

```
--directory-create-mask <integer>
```

Specifies the directory create mask bits.

```
--revert-directory-create-mask
```

Sets the value to the system default for --directory-create-mask.

```
--strict-locking {yes | no}
```

Specifies whether byte range locks contend against the SMB I/O.

```
--revert-strict-locking
```

Sets the value to the system default for --strict-locking.

```
--hide-dot-files {yes | no}
```

Hides files and directories that begin with a period ".".

```
--revert-hide-dot-files
```

Sets the value to the system default for --hide-dot-files.

```
--impersonate-guest {always | "bad user" | never}
```

Specifies the condition in which user access is done as the guest account.

```
--revert-impersonate-guest
```

Sets the value to the system default for --impersonate-guest.

```
--strict-flush {yes | no}
```

Handles the SMB flush operations.

```
--revert-strict-flush
```

Sets the value to system default for --strict-flush.

```
--access-based-enumeration {yes | no}
```

SMB commands
Specifies to only enumerate files and folders that the requesting user has access to.

--revert-access-based-enumeration
Sets the value to the system default for --access-based-enumeration.

--access-based-enumeration-root-only {yes | no}
Specifies access-based enumeration on only the root directory of the share.

--mangle-byte-start <integer>
Specifies the wchar_t starting point for automatic byte mangling.

--revert-mangle-byte-start
Sets the value to the system default for --mangle-byte-start.

--file-create-mask <integer>
Specifies the file create mask bits.

--revert-file-create-mask
Sets the value to the system default for --file-create-mask.

--create-permissions {"default acl" | "inherit mode bits" | "use create mask and mode"}
Sets the create permissions for new files and directories in a share.

--revert-create-permissions
Sets the value to the system default for --create-permissions.

--mangle-map <mangle-map>
The character mangle map. Specify --mangle-map for each additional character mangle map.

--revert-mangle-map
Sets the value to the system default for --mangle-map.

--clear-mangle-map
Clears the value for character mangle map.

--add-mangle-map <string>
Adds a character mangle map. Specify --add-mangle-map for each additional Add character mangle map.

--remove-mangle-map <string>
Removes a character mangle map. Specify --remove-mangle-map for each additional Remove character mangle map.

--impersonate-user <string>
The user account to be used as a guest account.

--revert-impersonate-user
Sets the value to the system default for --impersonate-user.

--change-notify {all | norecurse | none}
Specifies the level of change notification alerts on a share.

--revert-change-notify
Sets the value to the system default for --change-notify.

--oplocks {yes | no}
Supports oplocks.

--revert-oplocks
Sets the value for the system default of --oplocks.
--allow-delete-readonly {yes | no}
 Allows the deletion of read-only files in the share.

--revert-allow-delete-readonly
 Sets the value for the system default of --allow-delete-readonly.

--directory-create-mode <integer>
 Specifies the directory create mode bits.

--revert-directory-create-mode
 Sets the value for the system default of --directory-create-mode.

--ntfs-acl-support {yes | no}
 Supports NTFS ACLs on files and directories.

--revert-ntfs-acl-support
 Sets the value for the system default of --revert-ntfs-acl-support.

--file-create-mode <integer>
 Specifies the file create mode bits.

--revert-file-create-mode
 Sets the value for the system default of --file-create-mode.

isi smb shares permission create
Creates permissions for an SMB share.

Syntax
isi smb shares permission create <share> {<user> | --uid <id> | --group <name> | --gid <id> | --sid <sid> | --wellknown <name>} {--permission-type {allow | deny} --permission {full | change | read} | --run-as-root} [--zone <string>] [--verbose]

Options
<share>
 Required. Specifies the name of the SMB share to modify.

--user <user>
 Specifies the user name associated with the permission.

--name <name>, [-n]
 Required. Specifies the account name associated with the permission.

--group <name>
 Specifies the group name associated with the permission.

--gid <id>
 Specifies a numeric group identifier.

--uid <id>
 Specifies a numeric user identifier.

--sid <sid>
 Specifies a security identifier.

--wellknown <name>
 Specifies a well-known user, group, machine, or account name.

{--permission-type | -d} {deny | allow}
Required. Specifies whether to allow or deny a permission.

\{-p \} \{read | full | change\}

Required. Specifies the level of control to allow or deny.

--run-as-root \{yes | no\}

If set to yes, allows the account to run as root. The default setting is no.

--zone <string>

Specifies an access zone.

\{-v \}

Displays more detailed information.

**isi smb shares permission delete**

Deletes permissions for an SMB share.

**Syntax**

```
isi smb shares permission delete <share> [\{<user> | --group <name> | --gid <integer> | --uid <integer> | --sid <string> | --wellknown <string> \} [\{-force \} \{yes | no\}] [\{-v \}]
```

**Options**

**<share>**

Required. Specifies the SMB share name.

**<user>**

Specifies a user name.

**--group <name>**

Specifies a group name.

**--gid <integer>**

Specifies a numeric group identifier.

**--uid <integer>**

Specifies a numeric user identifier.

**--sid <string>**

Specifies a security identifier.

**--wellknown <string>**

Specifies a well-known user, group, machine, or account name.

**--zone <string>**

Specifies an access zone.

\{-force \} \{yes | no\}

If set to no, a confirmation prompt displays when the command runs. If set to yes, the command executes without prompting for confirmation. The default is no.

\{-v \}

Displays more detailed information.
isi smb shares permission list

Displays a list of permissions for an SMB share.

Syntax

```shell
isi smb shares permission list <share>
[|--zone <string>]
[|--format {table | json | csv | list}]
[|--no-header | -a]
[|--no-footer | -z]
```

Options

- `<share>`
  Specifies the name of the SMB share to display.
- `--zone <string>`
  Specifies the access zone to display.
- `--format {table | json | csv | list}`
  Displays output in table (default), JavaScript Object Notation (JSON), comma-separated value (CSV), or list format.
- `|--no-header | -a`
  Displays table and CSV output without headers.
- `|--no-footer | -z`
  Displays table output without footers.

isi smb shares permission modify

Modifies permissions for an SMB share.

Syntax

```shell
isi smb shares permission modify <share>
  [<user> | --group <name> | --gid <id> | --uid <id> | --sid <sid>
   |--wellknown <name>]
  [|--permission-type {allow | deny} --permission {full | change | read}]
  [|--zone <zone>]
  [|--verbose]
```

Options

- `--share <share>`
  Required. Specifies the name of the SMB share to modify.
- `--user <share>`
  Specifies the user name associated with the permission.
- `--name [-n] <name>`
  Required. Specifies the account name associated with the permission.
- `--group <name>`
  Specifies the group name associated with the permission.
- `--gid <id>`
  Specifies a numeric group identifier.
- `--uid <id>`
  Specifies a numeric user identifier.
--sid <sid>
   Specifies a security identifier.

--wellknown <name>
   Specifies a well-known user, group, machine, or account name.

{-permission-type | -d} {deny | allow}
{--permission-type, -d} {deny|allow}
   Specifies whether to allow or deny a permission.

{-permission | -p} {read | full | change}
   Specifies the level of control to allow or deny.

--run-as-root {yes | no}
   If set to yes, allows the account to run as root. The default setting is no.

--zone <zone>
   Specifies an access zone.

--verbose | -v
   Displays more detailed information.

isi smb shares permission view

Displays a single permission for an SMB share.

Syntax
isi smb shares permission view <share> {<user> | 
   --group <name> | --gid <integer> 
   | --uid <integer> | --sid <string> 
   | --wellknown <string>}
   [--zone <string>]

Options

<share>
   Specifies the name of the SMB share.

<user>
   Specifies a user name.

--group <name>
   Specifies a group name.

--gid <integer>
   Specifies a numeric group identifier.

--uid <integer>
   Specifies a numeric user identifier.

--sid <string>
   Specifies a security identifier.

--wellknown <string>
   Specifies a well-known user, group, machine, or account name.

--zone <string>
   Specifies an access zone.
isi smb shares view

Displays information about an SMB share.

Syntax
isi smb shares view <share>

Options
<share>
    Specifies the name of the SMB share to view.
SMB commands
You can access and configure the HDFS service through the HDFS commands.

- isi hdfs racks........................................................................................................280
- isi hdfs racks view..............................................................................................280
- isi hdfs racks modify.........................................................................................280
- isi hdfs racks list...............................................................................................281
- isi hdfs racks delete...........................................................................................281
- isi hdfs racks create...........................................................................................281
isi hdfs racks

Manages rack-local configuration.

**Syntax**

```bash
isi hdfs racks
```

**Options**

This command has no options.

### isi hdfs racks view

Displays an HDFS rack object.

**Syntax**

```bash
isi hdfs racks view --name <string>
```

**Options**

--name <string>

Specifies the name of the rack to view, in the form of `/example/name`.

### isi hdfs racks modify

Modifies an HDFS rack object.

**Syntax**

```bash
isi hdfs racks modify
  [--name <string>]
  [--add-client-ip <string>]
  [--add-client-range <string>]
  [--remove-client-ip <string>]
  [--remove-client-range <string>]
  [--add-ip-pool <string>]
  [--remove-ip-pool <string>]
```

**Options**

--name <string>

Specifies the name of the rack, in the form of `/example/name`.

--add-client-ip <string>

Specifies an individual client IP to assign to the rack, in the form of `w.x.y.z`.

--add-client-range <string>

Specifies a range of client IPs to assign to this rack, in the form of `a.b.c.d-w.x.y.z`.

--remove-client-ip <string>

Specifies an individual client IP to remove from this rack, in the form of `w.x.y.z`.

--remove-client-range <string>

Specifies a range of client IPs to remove from this rack, in the form of `a.b.c.d-w.x.y.z`.

--add-ip-pool <string>

Specifies an IP pool to assign to this rack.

--remove-ip-pool <string>
Specifies an IP pool to remove from this rack.

**isi hdfs racks list**

Lists the existing HDFS racks.

**Syntax**

```bash
isi hdfs racks list
[--verbose]
```

**Options**

```bash
{-v}
```

Displays more detailed information.

**isi hdfs racks delete**

Deletes an HDFS rack.

**Syntax**

```bash
isi hdfs racks delete --name <string>
```

**Options**

```bash
--name <string>
```

Specifies the name of the rack, in the form of /example/name.

**isi hdfs racks create**

Creates the HDFS rack.

**Syntax**

```bash
isi hdfs racks create --name <string>
```

**Options**

```bash
--name <string>
```

Specifies the name of the rack, in the form of /example/name.
CHAPTER 14

FTP commands

You can access and configure the FTP service through the FTP commands.

- isi ftp accept-timeout
- isi ftp allow-dirlists
- isi ftp allow-anon-access
- isi ftp allow-anon-upload
- isi ftp allow-downloads
- isi ftp allow-writes
- isi ftp anon-chown-username
- isi ftp anon-password-list
- isi ftp anon-password-list add
- isi ftp anon-password-list remove
- isi ftp anon-root-path
- isi ftp anon-umask
- isi ftp ascii-mode
- isi ftp chroot-exception-list add
- isi ftp chroot-exception-list
- isi ftp chroot-exception-list remove
- isi ftp chroot-local-mode
- isi ftp connect-timeout
- isi ftp data-timeout
- isi ftp denied-user-list
- isi ftp denied-user-list add
- isi ftp denied-user-list delete
- isi ftp dirlst-localtime
- isi ftp dirlst-names
- isi ftp file-create-perm
- isi ftp list
- isi ftp local-root-path
- isi ftp local-umask
- isi ftp server-to-server
- isi ftp session-timeout
- isi ftp user-config-dir
**isi ftp accept-timeout**

Sets and displays data connection timeout

**Syntax**

```
isi ftp accept-timeout
[<value>]
```

**Options**

If no options are specified, the current timeout is displayed.

**<value>**

Specifies the time, in seconds, that a remote client has to establish a PASV style data connection before timeout. All integers between 30 and 600 are valid values. The default value is 60.

**Examples**

To set the data connection timeout to 5 minutes, run the following command:

```
isi ftp accept-timeout 300
```

**isi ftp allow-dirlists**

Sets and displays whether directory list commands are permitted.

**Syntax**

```
isi ftp allow-dirlists
[<value>]
```

**Options**

If no options are specified, displays whether directory list commands are permitted.

**<value>**

Controls whether directory list commands are enabled. Valid values are YES and NO. The default value is YES.

**Examples**

To disable directory list commands, run the following command:

```
isi ftp allow-dirlists NO
```

**isi ftp allow-anon-access**

Sets and displays whether anonymous access is permitted.

**Syntax**

```
isi ftp allow-anon-access
[<value>]
```

**Options**

If no options are specified, displays whether or not anonymous logins are permitted.

**<value>**

Controls whether anonymous logins are permitted or not. If enabled, both the usernames ftp and anonymous are recognized as anonymous logins. Valid values are YES and NO. The default value is NO.
Examples
To allow anonymous access, run the following command:

```
isi ftp allow-anon-access YES
```

**isi ftp allow-anon-upload**

Sets and displays whether anonymous users are permitted to upload files.

**Syntax**

```
isi ftp allow-anon-upload

[<value>]
```

**Options**

If no options are specified, displays whether anonymous users are permitted to upload files.

**<value>**

Controls whether anonymous users are able to upload files under certain conditions. Valid values are YES and NO. In order for anonymous users to be able to upload, the **isi ftp allow-writes** command must be set to YES, and the anonymous user must have write permission on the desired upload location. The default value is YES.

**Examples**

To disable anonymous users from uploading files, run the following command:

```
isi ftp allow-anon-upload NO
```

**isi ftp allow-downloads**

Sets and displays whether downloads are permitted.

**Syntax**

```
isi ftp allow-downloads

[<value>]
```

**Options**

If no options are specified, displays whether downloads are permitted.

**<value>**

Controls whether files can be downloaded. Valid values are YES and NO. The default value is YES.

**Examples**

To disable downloads from being permitted, run the following command:

```
isi ftp allow-downloads NO
```

**isi ftp allow-writes**

Sets and displays whether commands that change the filesystem are permitted.

**Syntax**

```
isi ftp allow-writes

[<value>]
```
**Options**  
If no options are specified, displays whether commands that change the file system are permitted.

<value>  
Controls whether any of the following commands are allowed:
- STOR
- DELE
- RNFR
- RNTO
- MKD
- RMD
- APPE
- SITE

Valid values are **YES** and **NO**. The default value is **YES**

**Examples**  
To disable commands that change the file system, run the following command:

```
isi ftp allow-writes NO
```

### isi ftp anon-chown-username

Displays and specifies the owner of anonymously uploaded files.

**Syntax**

```
isi ftp anon-chown-username [ <value> ]
```

**Options**  
If no options are specified, displays the owner of anonymously uploaded files.

<value>  
Gives ownership of anonymously uploaded files to the specified user. The value must be a local username. The default value is **root**.

**Examples**  
The following command sets the owner of anonymously uploaded files to be "user1":

```
isi ftp anon-chown-username user1
```

### isi ftp anon-password-list

Displays the list of anonymous user passwords.

**Syntax**

```
isi ftp anon-password-list
```

**Options**  
There are no options for this command.

**Examples**  
To display a list of anonymous user passwords, run the following command:

```
isi ftp anon-password-list
```
The system displays output similar to the following example:

```plaintext
anon-password-list: 1234
``` 

## isi ftp anon-password-list add

Adds passwords to the anonymous password list.

**Syntax**

```plaintext
isi ftp anon-password-list add [value]
```

**Options**

`<value>`

- Required. Specifies the password being added to the anonymous password list.

**Examples**

The following command adds "1234" to the anonymous password list:

```plaintext
isi ftp anon-password-list add 1234
```

The system displays output similar to the following example:

```plaintext
anon-password-list: added password '1234' to list
```

## isi ftp anon-password-list remove

Removes passwords from the anonymous password list.

**Syntax**

```plaintext
isi ftp anon-password-list remove [value]
```

**Options**

`<value>`

- Required. Specifies which password to remove from the anonymous password list.

**Examples**

The following command removes "1234" from the anonymous password list:

```plaintext
isi ftp anon-password-list remove 1234
```

The system displays output similar to the following example:

```plaintext
anon-password-list: removed password '1234' from list
```

## isi ftp anon-root-path

Displays and specifies the root path for anonymous users.

**Syntax**

```plaintext
isi ftp anon-root-path [--value <ifs-directory>] [--reset]
```

**Options**

- If no options are specified, displays the root path for anonymous users.

  ```plaintext
  |--value | -v <ifs-directory>
  ```
Represents a directory in /ifs which Very Secure FTP Daemon (VSFTPD) will try to change into after an anonymous login. Valid values are paths in /ifs. The default value is /ifs/home/ftp.

--reset
Resets the value to /ifs/home/ftp.

Examples
The following command sets the root path for anonymous users to /ifs/home/newUser/:
isi ftp anon-root-path --value /ifs/home/newUser/
The system displays output similar to the following example:
anon-root-path: /ifs/home/ftp -> /ifs/home/newUser/

isi ftp anon-umask
Displays and specifies the anonymous user file creation umask.

Syntax
isi ftp anon-umask
[<value>]

Options
If no options are specified, displays the current anonymous user file creation umask.

<value>
Specifies the umask for file creation by anonymous users. Valid values are octal umask numbers. The default value is 077.

Note  Value must contain the '0' prefix, otherwise the value will be treated as a base 10 integer.

Examples
The following command sets the umask for file creation by anonymous users to 066:
isi ftp anon-umask 066
The system displays output similar to the following example:
anon-umask: 077 -> 066

isi ftp ascii-mode
Sets and displays whether ASCII downloads and uploads are permitted.

Syntax
isi ftp ascii-mode
[<value>]

Options
If no options are specified, displays whether ASCII downloads and uploads are permitted.

<value>
Determines whether ASCII downloads and uploads are enabled. The following values are valid:
- both ASCII mode data transfers are honored on both downloads and uploads.
- download ASCII mode data transfers are honored on downloads.
ASCII mode data transfers will not be honored.

- upload: ASCII mode data transfers are honored on uploads.

The default value is off.

**Examples**

To allow both ASCII downloads and uploads, run the following command:

```bash
isi ftp ascii-mode both
```

The system displays output similar to the following example:

```
ascii-mode: off -> both
```

### isi ftp chroot-exception-list add

**Add**s users to the chroot exception list.

**Syntax**

```bash
isi ftp chroot-exception-list add [value]
```

**Options**

- `<value>`

  Required. Specifies the user being added to the chroot exception list.

**Examples**

The following command adds "newUser" to the chroot exception list:

```bash
isi ftp chroot-exception-list add newUser
```

The system displays output similar to the following example:

```
chroot-exception-list: added user 'newUser' to list
```

### isi ftp chroot-exception-list

Displays the list of local user chroot exceptions.

**Syntax**

```bash
isi ftp chroot-exception-list
```

**Options**

There are no options for this command.

**Examples**

To view a list of local user chroot exceptions, run the following command:

```bash
isi ftp chroot-exception-list
```

The system displays output similar to the following example:

```
chroot-exception-list:
user1
user2
user3
```
### isi ftp chroot-exception-list remove

Removes users from the chroot exception list.

**Syntax**

```
isi ftp chroot-exception-list remove
[<value>]
```

**Options**

*<value>*

Required. Specifies the user being removed from the chroot exception list.

**Examples**

The following command removes "newUser" from the chroot exception list:

```
isi ftp chroot-exception-list remove newUser
```

The system displays output similar to the following example:

```
chroot-exception-list: removed user 'newUser' from list
```

### isi ftp chroot-local-mode

Specifies which users are placed in a chroot jail in their home directory after they login.

**Syntax**

```
isi ftp chroot-local-mode
[<value>]
```

**Options**

If no options are specified, displays the current setting.

*<value>*

Specifies which users are placed in a chroot jail in their home directory after they login. The following values are valid:

- **all** All local users are placed in a chroot jail in their home directory after they login.
- **all-with-exceptions** All local users except those in the chroot exception list are placed in a chroot jail in their home directory after they login.
- **none** No local users are placed in a chroot jail in their home directory after they login.
- **none-with-exceptions** Only users in the chroot exception list are placed in a chroot jail in their home directory after they login.

The default value is none.

**Examples**

To place users who are not on the chroot exception list in a chroot jail in their home directory after they login, run the following command:

```
isi ftp chroot-local-mode --value=all-with-exceptions
```

The system displays output similar to the following example:

```
chroot-local-mode: all -> all-with-exceptions
chroot-exception-list is active.
```
To place only users in the chroot exception list in a chroot jail in their home directory after they login, run the following command:

```
isi ftp chroot-local-mode --value=none-with-exceptions
```

The system displays output similar to the following example:

```
chroot-local-mode: none -> none-with-exceptions
chroot-exception-list is active.
```

### isi ftp connect-timeout

Specifies and displays the data connection response timeout.

**Syntax**

```
isi ftp connect-timeout
```

**Options**

If no options are specified, displays the current data connection response timeout.

```
<value>
```

Specifies the timeout (in seconds) for a remote client to respond to our PORT style data connection. Valid values are integers between 30 and 600. The default value is 60.

**Examples**

To set the timeout to two minutes, run the following command:

```
isi ftp connect-timeout 120
```

The system displays output similar to the following example:

```
connect-timeout: 60 -> 120
```

### isi ftp data-timeout

Specifies the data connection stall timeout.

**Syntax**

```
isi ftp data-timeout
```

**Options**

```
<value>
```

Specifies the maximum time (in seconds) data transfers are allowed to stall with no progress before the remote client is removed. Valid values are integers between 30 and 600. The default is 300.

**Examples**

To set the timeout to one minute, run the following command:

```
isi ftp data-timeout 60
```

The system displays output similar to the following example:

```
connect-timeout: 60 -> 120
```
isi ftp denied-user-list

Displays the list of denied users.

Syntax
isi ftp denied-user-list

Options
There are no options for this command.

Examples
To view the list of denied users, run the following command:
isi ftp denied-user-list

The system displays output similar to the following example:
denied-user-list:
unwelcomeUser1
unwelcomeUser1
unwelcomeUser1
unwelcomeUser2
unwelcomeUser4

isi ftp denied-user-list add

Adds users to the list of denied users.

Syntax
isi ftp denied-user-list add
[<value>]

Options
<value>
Required. Specifies the name of the user being added to the denied user list.

Examples
The following command adds "unwelcomeUser" to the list of denied users:
isi ftp denied-user-list add unwelcomeUser

The system displays output similar to the following example:
denied-user-list: added user 'unwelcomeUser' to list

isi ftp denied-user-list delete

Removes users from the list of denied users.

Syntax
isi ftp denied-user-list delete
[<value>]

Options
<value>
Required. Specifies the name of the user being removed from the denied user list.

Examples
The following command removes "approvedUser" from the list of denied users:
isi ftp denied-user-list remove approvedUser
The system displays output similar to the following example:

denied-user-list: removed user 'unwelcomUser' from list

isi ftp dirlist-localtime

Specifies and displays whether the time displayed in directory listings is in your local time zone.

Syntax

isi ftp dirlist-localtime

[<value>]

Options

If no options are specified, the current setting is displayed.

<value>

Specifies whether the time displayed in directory listings is in your local time zone. Valid values are YES and NO. If NO, time displays on GMT. If YES the time displays in your local time zone. The default value is NO. The last-modified times returned by commands issued inside of the FTP shell are also affected by this parameter.

Examples

To set the time displayed in directory listings to your local time zone, run the following command:

isi ftp dirlist-localtime YES

The system displays output similar to the following example:

dirlist-localtime: NO -> YES

isi ftp dirlist-names

Displays and controls what information is displayed about users and groups in directory listings.

Syntax

isi ftp dirlist-names

[<value>]

Options

If no options are specified, displays the current setting.

<value>

Determines what information is displayed about users and groups in directory listings. The following values are valid:

- hide All user and group information in directory listings is displayed as ftp.
- numeric Numeric IDs are shown in the user and group fields of directory listings.
- textual Textual names are shown in the user and group fields of directory listings.

The default value is hide.
Examples
To show numeric IDs of users and groups in directory listings, run the following command:

```bash
isi ftp dirlist-names numeric
```

System displays output similar to the following example:

```
dirlist-names: hide -> numeric
```

### isi ftp file-create-perm

Specifies and displays file creation permissions

**Syntax**

```bash
isi ftp file-create-perm
```

**Options**

If no options are specified, this command displays the current file creation permission setting.

**<value>**

Specifies the permissions with which uploaded files are created. Valid values are octal permission numbers. The default value is 0666.

**Note**

To uploaded files to be executable, consider changing the permissions to 0777.

**Examples**

To set the octal permission number to 0777, run the following command:

```bash
isi ftp file-create-perm 0777
```

The system displays output similar to the following example:

```
file-create-perm: 0666 -> 0777
```

### isi ftp list

Displays a list of FTP configuration settings.

**Syntax**

```bash
isi ftp list
```

**Options**

There are no options for this command.

### isi ftp local-root-path

Displays and specified the root path for local users. VSFTPD attempts to change into the directory specified by the root path after a logical login.

**Syntax**

```bash
isi ftp local-root-path
```

**Options**

If no options are specified, the current root path for local users is displayed.
FTP commands

|--value | -v| <ifs-directory>

Specifies a directory in /ifs that VSFTPD attempts to change into after a local login. Valid values are paths in /ifs. The default value is the local user home directory.

--reset

Resets to use the local user home directory.

Examples

The following command sets the root path for local users to /ifs/home/newUser:

```bash
isi ftp local-root-path --value=/ifs/home/newUser
```

The system displays output similar to the following example:

```
local-root-path: local user home directory -> /ifs/home/newUser
```

To set the root path for local users back to the local user home directory, run the following command:

```bash
isi ftp local-root-path --reset
```

The system displays output similar to the following example:

```
local-root-path: /ifs/home/newUser1 -> local user home directory
```

isi ftp local-umask

Displays and specifies the local user file creation umask.

Syntax

```
isi ftp local-umask
[<value>]
```

Options

If no options are specified, displays the current local user file creation umask.

<value>

Species the umask for file creation by local users. Valid values are octal umask numbers. The default value is 077.

**Note** Value must contain the '0' prefix, otherwise the value will be treated as a base 10 integer.

Examples

The following command sets the local user file creation umask to "066":

```bash
isi ftp local-umask 066
```

The system displays output similar to the following example:

```
local-umask: 077 -> 066
```

isi ftp server-to-server

Sets and displays whether server-to-server (FXP) transfers are permitted.

Syntax

```
isi ftp server-to-server
[<value>]
```

Options

If no options are specified, displays current setting.
Specifies whether or not to allow FXP transfers. Valid values are YES and NO. The default value is NO.

Examples
To allow FXP transfers, run the following command:

isi ftp server-to-server YES

The system displays output similar to the following example:

server-to-server: NO -> YES

isi ftp session-timeout

Specifies and displays the idle system timeout.

Syntax

isi ftp session-timeout

Options
If no options are specified, displays the current idle system timeout.

<value>

Specifies the maximum time (in seconds) that a remote client may spend between FTP commands before the remote client is kicked off. Valid values are integers between 30 and 600. The default is 300.

Examples
To set the timeout to one minute, run the following command:

isi ftp session-timeout 60

The system displays output similar to the following example:

session-timeout: 300 -> 60

isi ftp user-config-dir

Displays and specifies the user configuration directory.

Syntax

isi ftp user-config-dir

Options
If no options are specified, displays the current user configuration directory path.

<value>

Specifies the directory where user-specific configurations that override global configurations can be found. The default value is the local user home directory.

--reset

Reset to use the local user home directory.
Examples
The following command sets the user configuration directory to /ifs/home/User/directory:

```
isi ftp user-config-dir --value=/ifs/home/User/directory
```

To set the user configuration directory back to the local user home directory, run the following command:

```
isi ftp user-config-dir --reset
```
FTP commands
CHAPTER 15

iSCSI commands

You can access and configure targets and logical units through iSCSI commands.

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**isi iscsi isns discover**

Displays a list of iSNS-provided initiators that can connect to targets on the system.

**Note** To use this command, the iSNS client service must be configured and enabled.

**Syntax**

```
isi iscsi isns discover <target>
```

**Options**

```
<target>
```

Displays initiators for the specified target.

**Examples**

To view the initiators that are available for all targets, run the following command:

```
isi iscsi isns discover
```

The following command lists the initiators that are available for a target called linux1:

```
isi iscsi isns discover --target linux1
```

**isi iscsi isns status**

Indicates whether the iSNS server is disabled or enabled, and displays the iSNS server IP address.

**Syntax**

```
isi iscsi isns status
```

**Options**

There are no options for this command.

**Examples**

To view the connection status and configured IP address for the iSNS server, run the following command:

```
isi iscsi isns status
```

**isi iscsi isns enable**

Configures or starts the iSNS client service.

You can confirm that the iSNS service is configured and enabled by running the `isi iscsi isns status` command.

**Syntax**

```
isi iscsi isns enable
[ --server <ip-address> ]
[ --port {<integer>|default} ]
```

**Options**

If no options are specified, this command enables the iSNS service.

```
{-server | -s} <ip-address>
```

Specifies the IPv4 address of the iSNS server.
Note: You must specify the --server parameter the first time that you run this command. The iSNS service cannot be enabled unless it is configured with the IP address or hostname of a valid iSNS server. You can only run this command without options after the iSNS service was configured.

```
|--port | -p| {<integer> | default}
```

Specifies the server port number. Specify `<integer>` as a port number. To use the default port (3205), specify default.

**Examples**
The following command configures an iSNS server with the IP address 11.22.3.45:

```
isi iscsi isns enable --server 11.22.3.45
```

The following command configures an iSNS server to use port 4400:

```
isi iscsi isns enable --port 4400
```

You can enable the configured iSNS service by running the following command:

```
isi iscsi isns enable
```

**isi iscsi isns disable**

Disables the iSNS client service.

You can confirm that the iSNS service is disabled by running the `isi iscsi isns status` command.

**Syntax**

```
isi iscsi isns disable
```

**Options**

There are no options for this command.

**Examples**

To disable iSNS, run the following command:

```
isi iscsi isns disable
```

**isi iscsi list**

Displays information about the current iSCSI sessions.

**Syntax**

```
isi iscsi list <target>
   [--verbose]
```

**Options**

If no options are specified, the system displays a list of all current iSCSI sessions.

**<target>**

Displays information only for the specified target.

**{--verbose | -v}**

Displays more detailed information.
Examples
To view the iSCSI sessions on the cluster, run the following command:
isi iscsi list

To view detailed information about each iSCSI session, run the following command:
isi iscsi list --verbose

isi iscsi pool add

Creates or adds to a list of SmartConnect pools that iSCSI targets connect through by default. Default SmartConnect pools are ignored by targets that already have SmartConnect pools configured.

Syntax
isi iscsi pool add <name>

Options
<name>
  Specifies the name of an existing SmartConnect IP pool.

Examples
The following command adds a SmartConnect pool called subnet2:pool2 to the default SmartConnect pools list:
isi iscsi pool add subnet2:pool2

isi iscsi pool delete

Removes a SmartConnect IP pool from the list of SmartConnect pools that are available for iSCSI target connections.

Syntax
isi iscsi pool delete <name>

Options
<name>
  Specifies the name of an existing SmartConnect IP pool to delete from the list of SmartConnect pools.

Examples
The following command removes a SmartConnect pool called subnet2:pool3 from the list of SmartConnect pools:
isi iscsi pool delete subnet2:pool3

isi iscsi pool list

Displays a list of all SmartConnect pools on the cluster that an iSCSI target can be connected through.

Syntax
isi iscsi pool list

Options
There are no options for this command.
Examples
To view a list of SmartConnect pools on the cluster, run the following command:

```shell
isi iscsi pool list
```

## isi lun clone

Creates a point-in-time copy of a logical unit.

The settings of the source logical unit are copied to the clone logical unit, which enables you to save time by modifying only the necessary settings.

### Syntax

```shell
isi lun clone <name>

[--clone <destination-target>:<lun>]
[--type <lun-type>]
[--comment <string>]
[--path <ifs-directory-name>]
[--access-pattern <pattern>]
[--online {1|0}]
[--write-cache {1|0}]
[--read-only {1|0}]
```

### Options

**<name>**

Specifies the name of the source logical unit in the following format: `<source-target>:<lun>`. A valid name consists of the name of the source target where the logical unit is located and its logical unit number (LUN), separated by a colon (for example, mytarget:0).

**--clone <destination-target>:<lun>**

Specifies a name for the clone logical unit. You must specify a new target, a new LUN, or both. The LUN must be an integer in the range 0–255, and must be unique for the destination target.

**--type <lun-type>**

Specifies the LUN type. The following values are valid:

- normal
- snapshot
- clone

The default LUN type is normal.

**--comment <string>**

Modifies the description for the logical unit. If the comment contains spaces, the comment must be enclosed in quotation marks.

**--path <ifs-directory-name>**

Specifies a default path, starting at the `/ifs` directory, where LUN directories will be created. This setting overrides any default LUN directory paths that are configured for individual targets.

**{--access-pattern | -l} <pattern>**

Specifies the I/O optimization settings for the logical unit. The following values are valid:

- random
- streaming
• concurrency
• custom1
• custom2
• custom3
• custom4
• custom5

Note  The custom setting is intended for Isilon Technical Support use only.

--online {1|0}
Sets the logical unit's state to online (1) or offline (0). The LUN is online by default.

write-cache {1|0}
Enables (1) or disables (0) SmartCache for the LUN. The default setting is inherited from the source.

Note  Although enabling SmartCache can improve performance, it can also lead to data loss if a node loses power or crashes while uncommitted data is in the write cache. This can cause inconsistencies in any file system that is laid out on the LUN and can render the file system unusable.

--read-only {1|0}
Specifies the write access setting for the LUN. Specifying 1 sets the access to read-only. Specifying 0 sets the access to read/write.

Examples
The following command creates a clone LUN called mytarget:11 from a source LUN called mytarget:10.

isi lun clone mytarget:10 --clone mytarget:11 --type clone

The following command creates a normal clone LUN called newtarget:0 from a source LUN called oldtarget:10, and specifies a new LUN directory path of /ifs/clones/.

isi lun clone oldtarget:10 --clone newtarget:0 --type normal --path /ifs/clones/

isi lun create

Creates a logical unit and configures its initial settings.

Syntax
isi lun create <name>
    [-size <integer> {B|MB|GB|TB}]
    [-comment <string>]
    [-path <ifs-directory-name>]
    [-protection <policy>]
    [-access-pattern <pattern>]
    [-online {1|0}]
    [-write-cache {1|0}]
    [-read-only {1|0}]
    [-thin {1|0}]
    [-diskpool <disk-pool>]

Options
<name>
Specifies a name for the logical unit. A valid name consists of the name of an existing target that will contain the logical unit and a unique logical unit number (0–255) within the target, separated by a colon (for example, mytarget:0).

```bash
--size <integer> {B|MB|GB|TB}
```

Specifies the size (capacity) of the LUN. A valid size is in the range of 1MB–32TB. The default unit of measure is B. Do not include a space between the integer and the unit of measure (for example, 50MB). After you create a LUN, you can increase its size but you cannot decrease it.

```bash
--comment <string>
```

Specifies an optional comment for the logical unit. If the comment contains spaces, you must enclose it in quotation marks.

```bash
--path <ifs-directory-name>
```

Specifies the absolute path, beginning at `/ifs`, to the default LUN directory. For example, `--path /ifs/target1luns`. This setting overrides the default LUN directory path that is configured during target creation.

```bash
--protection <policy>
```

Specifies the protection policy for the logical unit. You can specify mirroring (2x through 8x) or Isilon FlexProtect (+1 through +4, +2:1, +3:1) protection. The protection policy is set by default to 2x.

```bash
{-access-pattern | -l} <pattern>
```

Specifies the I/O optimization settings for the logical unit. The following values are valid:

- random
- streaming
- concurrency
- custom1
- custom2
- custom3
- custom4
- custom5

**Note** The custom setting is intended for Isilon Technical Support use only.

```bash
--online {1|0}
```

Sets the logical unit state to online (1) or offline (0). The default value is 1.

```bash
--write-cache {1|0}
```

Enables (1) or disables (0) SmartCache. SmartCache is disabled by default.

**Note** Enabling SmartCache can improve performance, but can also lead to data loss if a node loses powder or crashes while uncommitted data is in the write cache. Such data loss can cause inconsistencies in any file system that is laid out on the LUN, rendering the file system unusable.

```bash
--read-only {1|0}
```

Sets the write access for the logical unit. Specifying 1 sets the access to read-only. Specifying 0 sets the access to read/write. Read/write access is the default setting.

```bash
--thin {1|0}
```
Enables (1) or disables (0) thin provisioning. Thin provisioning keeps blocks unallocated until they are written. Thin provisioning is disabled by default.

--diskpool <disk-pool>

Adds the logical unit to the specified disk pool. If unspecified, logical units are allocated randomly to any available disk pool.

Examples
The following command creates a logical unit in a target called test1 with a LUN value of 0 and a capacity of 50 GB, and pre-allocates the required space:

```
isi lun create test1:0 --size 50GB
```

The following command creates a logical unit in the target test1 with a LUN value of 1 and capacity of 50 GB, and enables thin provisioning:

```
isi lun create test1:1 --size 50GB --thin 1
```

The following command creates a logical unit in a target called test1 with a LUN value of 2 and capacity of 50 GB, and specifies /ifs/test1luns as the default LUN directory:

```
isi lun create test1:3 --size 50GB --path /ifs/test1luns
```

**isi lun delete**

Deletes an iSCSI logical unit.

Syntax

```
isi lun delete <name>
```

Options

```
--force
```

Specifies the name of the logical unit to delete. A valid name consists of the name of the target where the logical unit is located and its logical unit number (LUN), separated by a colon (:), for example mytarget:4.

```
{--force | -f}
```

Suppresses the confirmation prompt.

Examples
The following command deletes a logical unit called mytarget:50

```
isi lun delete mytarget:50
```

The following command deletes a logical unit called mytarget:2 without producing a confirmation prompt:

```
isi lun delete mytarget:2 --force
```

**isi lun import**

Recreates logical units that were replicated to a remote cluster or were backed up and then restored to a remote cluster.

The iSCSI module does not support replicating or restoring snapshots or clone copies of logical units.

Syntax

```
isi lun import <name>
```

Options

```
--path <ifs-directory-name>
```

Specifies the path to the directory where the logical unit should be recreated.
Options

<name>
  Specifies a name for the imported logical unit. A valid name consists of the name of
  an existing target that will contain the logical unit and a unique logical unit number
  (0–255) within the target, separated by a colon (for example, mytarget:10).

{-path | -p} <ifs-directory-name>
  Specifies the source path, starting at /ifs, where the LUN files are located.

--online {1|0}
  Sets the logical unit state to online (1) or offline (0). The default value is 1.

--comment <string>
  Specifies an optional comment for the logical unit. If the comment contains spaces,
  you must enclose it in quotation marks.

read-only {1|0}
  Sets the write access for the logical unit. Specifying 1 sets the access to read-only.
  Specifying 0 sets the access to read/write. Read/write access is the default setting.

Examples

The following command restores a logical unit from the /ifs/test/recover directory
called mytarget:40.

isi lun import mytarget:40 --path /ifs/test/recover

isi lun list

Displays information about iSCSI logical units.

Syntax

isi lun list <name>

Options

<name>
  Specifies the name of the logical unit whose settings you want to view. A valid name
  consists of the name of the target where the logical unit is located and its logical unit
  number (LUN), separated by a colon (for example, mytarget:4).

Examples

The following command displays information about a logical unit called test:56.

isi lun list test:56

isi lun modify

Modifies the configuration settings for logical units.

Syntax

isi lun modify <name>
  [--comment <string>]
  [--size <integer> {B|MB|GB|TB}]
  [--protection <policy>]
  [--access-pattern <pattern>]
  [--read-only {1|0}]
Options

Options allow you to modify the configuration of an existing logical unit.

- **--name**
  Specifies the name of an existing logical unit. A valid name consists of the name of the target where the logical unit is located and the logical unit number (LUN), separated by a colon (for example, mytarget:4).

- **--comment**
  Modifies the description for the logical unit. If the comment contains spaces, it must be enclosed in quotation marks.

- **--size**
  Specifies a larger size (capacity) for the logical unit. A valid size is in the range of 1MB-32TB. The default unit of measure is B. Do not include a space between the integer and the unit of measure (for example, 50MB).

- **--protection**
  Modifies the protection policy for the logical unit. You can specify mirroring or Isilon FlexProtect protection. A valid value for mirroring is 2x through 8x. A valid value for FlexProtect policy is +1 through +4, +2:1, and +3:1.

- **--access-pattern**
  Specifies the I/O optimization settings for the logical unit. The following values are valid:
  - random
  - streaming
  - concurrency
  - custom1
  - custom2
  - custom3
  - custom4
  - custom5

- **--read-only**
  Modifies the write access setting for the logical unit. Specifying 1 sets the access to read-only. Specifying 0 sets the access to read/write.

- **--online**
  Changes the logical unit state to online (1) or offline (0).

- **--write-cache**
  Enables (1) or disables (0) SmartCache for the logical unit.

- **--diskpool**
  Adds the logical unit to the specified disk pool.

---

**Note** The custom setting is intended for Isilon Technical Support use only.

---

**Note** Although enabling SmartCache can improve performance, it can also lead to data loss if a node loses power or crashes while uncommitted data is in the write cache. This can cause inconsistencies in any file system that is laid out on the LUN, rendering the file system unusable.
The SSD usage strategy to apply to this LUN.

Examples
The following command increases the capacity of a logical unit called test1:0 to 60 GB.
isi lun modify test1:0 --size 60GB

The following command sets the write access to read-only and enables write caching for a logical unit called test1:3.
isi lun modify test1:3 --read-only 1 --write-cache 1

isi lun move

Modifies the target, number, or path of an existing logical unit.

Syntax
lesi lun move <name>
   [--dest <destination-target>:<lun>]
   [--path <ifs-directory-name>]

Options
<name>
   Specifies the name of an existing logical unit. A valid name consists of the name of the target where the logical unit is located and the logical unit number (LUN), separated by a colon (for example, mytarget:4).

|--dest | -d <destination-target>:<lun>
   Specifies a new destination for the logical unit. You can specify a different target, a different LUN, or both. The value for <lun> must be an integer in the range 0–255, and must be unique for the destination target.

|--path | -p <ifs-directory-name>
   Specifies a new path, beginning at /ifs, to the default LUN directory.

Examples
The following command moves a logical unit with a LUN of 0 from a target called oldtarget to a target called newtarget:
isi lun move oldtarget:0 --dest newtarget:0

The following command changes the LUN from 0 to 3 of a logical unit that is contained in a target called target1:
isi lun move target1:0 --dest target1:3

isi lun offline

Switches logical units offline so that they are hidden from iSCSI initiators. iSCSI initiators cannot discover or connect to logical units that are offline.

Syntax
lesi lun offline <name>

Options
<name>
Specifies the name of the logical unit to take offline. A valid name consists of the name of the target that contains the logical unit and the logical unit number (LUN), separated by a colon (for example, mytarget:4).

**Examples**
The following command hides a logical unit called mytarget:1 from iSCSI initiators:

```
isi lun offline mytarget:1
```

**isi lun online**

Switches logical units online so that iSCSI initiators are able to discover and connect to them.

**Syntax**

```
isi lun online <name>
```

**Options**

- `<name>`
  - Specifies the name of the logical unit to switch online. A valid name consists of the name of the target where the logical unit is located and the logical unit number (LUN), separated by a colon (for example, mytarget:4).

**Examples**
The following command makes a logical unit called mytarget:1 discoverable to iSCSI initiators:

```
isi lun online mytarget:1
```

**isi target create**

Creates and optionally configures an iSCSI target.

**Note** You can configure or modify a target's setting at a later time by running the `isi target modify` command.

You can verify that a target was created successfully by running the `isi target list` command.

**Syntax**

```
isi target create <name>
  [--path <ifs-directory-name>]
  [--comment <string>]
  [--require-auth {1|0}]
  [--require-allow {1|0}]
  [--pool <pool-name>]
  [--initiator <initiator>]
  [--chap <user>[:<secret>]]
```

**Options**

- `<name>`
  - Specifies a name for the target. A valid name begins with a letter and contains only lowercase letters, numbers, and hyphens (-).

- `--path <ifs-directory-name>`
  - Specifies a default path under `/ifs` for LUN directories.

- `--comment <string>`
Specifies a description for the target, enclosed in quotation marks.

--require-auth {1|0}
Enables (1) or disables (0) CHAP authentication. CHAP authentication is disabled by default.

--require-allow {1|0}
Enables (1) or disables (0) initiator access control. Access control is disabled by default.

--pool <pool-name>
Specifies a SmartConnect pool name.

--initiator <initiator>
Adds an initiator to the initiator access list. The specified value must be a valid iSCSI Qualified Name (IQN).

--chap <user>:<secret>
Adds a CHAP user:secret pair to the CHAP secrets list. Both the user and secret are case-sensitive. Secrets must be 12-16 characters long. You can specify a valid iQN as the user. If you do not specify an iQN, valid users can contain alphanumeric characters, periods (.), hyphens (-), and underscores (_).
Example: --chapuser1:PassWord1234

Examples
The following command creates a target called test1 using default configuration settings:

isi target create test1

The following command creates a target called test2 with initiator access control enabled, and adds a Microsoft iSCSI initiator called iqn.1991-05.com.microsoft:example to the target’s initiator access list:

isi target create test2 --require-allow 1
--initiator iqn.1991-05.com.microsoft:example

The following command creates a target called test3 and assigns a SmartConnect pool called subnet0:pool0:

isi target create test3 --pool subnet0:pool0

isi target delete

Deletes an iSCSI target and its associated LUNs.

**Note** If you delete a target, all logical unit numbers (LUNs) that are contained in the target are also deleted, and all LUN data is destroyed. This operation cannot be undone. In addition, any iSCSI sessions that are connected to the target are terminated. You can verify that a target was deleted by running the *isi target list* command.

**Syntax**

```shell
isi target delete <name>  
[--force]
```

**Options**

- `<name>`
  Specifies the name of the target to delete.
- `--force`
  Deletes the target without first displaying a confirmation prompt.
Examples
The following command deletes a target called test1:

`isi target delete --name test1`

The following command deletes a target called test2, without displaying a confirmation prompt:

`isi target delete --name test2 --force`

**isi target list**

Displays configuration settings for iSCSI targets.

Syntax

```bash
isi target list <name>
   [--luns]
   [--verbose]
```

Options

If you run this command without options, the system displays a list of all targets.

- `<name>`
  Displays information for the specified target only.

- `[--luns | -l]`
  Displays information about each LUN in the specified target.

- `[--verbose | -v]`
  Displays more detailed information.

Examples

To view information about all targets, as well as each LUN contained in a given target, run the following command:

`isi target list --luns`

The following command displays detailed information about a target called test1:

`isi target list --name test1 --verbose`

**isi target modify**

Modifies the iSCSI target settings.

You can verify that a target was modified successfully by running the `isi target list` command.

Syntax

```bash
isi target modify <name>
   [--path <ifs-directory-name>]
   [--comment <string>]
   [--require-auth {1|0}]
   [--add-chap <user>:<secret>]
   [--delete-chap <user>:<secret>]
   [--require-allow {1|0}]
   [--add-initiator <initiator>]
   [--delete-initiator <initiator>]
   [--add-pool <pool-name>]
   [--delete-pool <pool-name>]
```

Options

- `<name>`
Specifies the name of the target to modify.

```
--path <ifs-directory-name>
```
Specifies a default path within /ifs for logical unit number (LUN) directories.

```
--comment <string>
```
Specifies a description for the target, enclosed in quotation marks.

```
--require-auth {1|0}
```
Enables (1) or disables (0) CHAP authentication. CHAP authentication is disabled by default.

```
--add-chap <user>:<secret>
```
Adds a CHAP user:secret pair to the CHAP secrets list. Both the user and secret are case-sensitive. Secrets must be 12-16 characters long. You can specify a valid IQN as the user. If you do not specify an IQN, valid users can contain alphanumeric characters, periods (.), hyphens (-), and underscores (_).

```
--delete-chap <user>:<secret>
```
Removes a CHAP user:secret pair from the CHAP secrets list.

```
--require-allow {1|0}
```
Enables (1) or disables (0) initiator access control. Initiator access control is disabled by default.

```
--add-initiator <initiator>
```
Adds an initiator to the initiator access list. The specified value must be a valid iSCSI Qualified Name (IQN).

```
--delete-initiator <initiator>
```
Removes an initiator from the initiator access list.

```
--add-pool <pool-name>
```
Adds a SmartConnect pool.

```
--delete-pool <pool-name>
```
Removes a SmartConnect pool.

**Examples**
The following command changes the default LUN directory path to /ifs/example for a target named test1:

```
isi target modify --name test1 --path /ifs/example
```

The following command enables CHAP authentication for a target called test2, and adds a CHAP user:secret pair of test:12characters to the CHAP secrets list:

```
isi target modify --name test2 --require-auth 1 --add-chap user1:PassWord1234
```
iSCSI commands
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**isi config**

Opens a new prompt where node and cluster settings can be altered.

The command-line prompt changes to indicate that you are in the **isi config** subsystem. While you are in the **isi config** subsystem, other OneFS commands are unavailable and only **isi config** commands are valid.

**Syntax**

```
isi config
```

When you are in the **isi config** subsystem, the syntax for each option is `<command>` unless otherwise noted. Commands are not recognized unless you are currently at the **isi config** command prompt.

**Note** Changes are updated when you run the `commit` command. Some commands require you to restart the cluster.

**Commands**

- `changes`
  Displays a list of changes to the configuration that have not been committed.

- `commit`
  Commits configuration settings and then exits **isi config**.

- `date <time-and-date>`
  Displays or sets the current date and time on the cluster.

  - `<time-and-date>` — Sets cluster time to the time specified.
  
  Specify `<time-and-date>` in the following format:
  
  `<YYYY>-<MM>-<DD>[T<hh>:<mm>[:<ss>]]>`

  Specify `<time>` as one of the following values.

  - Y — Specifies years
  - M — Specifies months
  - W — Specifies weeks
  - D — Specifies days
  - H — Specifies hours
  - S — Specifies seconds

- `deliprange [<interface-name> [<ip-range>]]`
  Displays a list of internal network IP addresses that can be assigned to nodes or removes specified addresses from the list.

  - `<interface-name>` — Specifies the name of the interface as one of the following values. int-a int-b failover
  
  - `<ip-range>` — Specifies the range of IP addresses that can no longer be assigned to nodes. Specify in the form `<lowest-ip>-<highest-ip>`.

- `encoding [list] [<encoding>]`
  Sets the default encoding character set for the cluster.
Cluster administration commands

Character encoding is typically established during installation of the cluster. Incorrectly modifying character encoding settings may render files unreadable. Modify settings only if necessary and after consultation with Isilon Technical Support.

- **LIST** — Displays the list of supported character sets.

**exit**

Exits the isi config subsystem.

**help**

Displays a list of all isi config commands. For information on specific commands, the syntax is `help [command]`.

**interface {enable | disable}**

The interface command displays the IP ranges, netmask, and enables or disables internal interfaces.

- **{ENABLE | DISABLE}** — Enables or disables the specified interface.
- **<interface-name>** — Specifies the name of the interface as int-a and int-b.

**iprange [interface-name] [ip-range]**

The iprange command displays a list of internal IP addresses that can be assigned to nodes, or adds addresses to the list.

- **<interface-name>** — Specifies the name of the interface as int-a, int-b, and failover.
- **<lowest-ip><highest-ip>** — Specifies the range of IP addresses that can be assigned to nodes.

**joinmode [mode]**

Displays the setting for how nodes are added to the current cluster. Options <mode> specifies the cluster add node setting as one of the following values.

- **manual** — Configures the cluster so that joins can be initiated by either the node or the cluster.
- **secure** — Configures the cluster so that joins can be initiated by only the cluster.

**lnnset [old-lnn] <new-lnn>**

Displays a table of logical node number (LNN), device ID, and internal IP address for each node in the cluster when run without arguments. Changes the LNN when specified.

- **<old lnn>** — Specifies the old LNN that is to be changed.
- **<new lnn>** — Specifies the new LNN that is replacing the old LNN value for that node.

**Note** The new LNN must not be currently assigned to another node. Users logged in to the shell or web administration interface of a node whose LNN is change must log in again to view the new LNN.

**migrate [interface-name] [[<old-ip-range>]<new-ip-range> [-n<netmask]>]]**

Displays a list of IP address ranges that can be assigned to nodes or both adds and removes IP ranges from that list.
<interface-name> — Specifies the name of the interface as int-a, int-b, and failover.

<old-ip-range> — Specifies the range of IP addresses that can no longer be assigned to nodes. If unspecified, all existing IP ranges are removed before the new IP range is added. Specify in the form of <lowest-ip>-<highest-ip>.

$new-ip-range$ — Specifies the range of IP addresses that can be assigned to nodes. Specify in the form of <lowest-ip>-<highest-ip>.

-N<netmask> — Specifies a new netmask for the interface.

**Note** If more than one node is given a new IP address, the cluster reboots when the change is committed. If only one node is given a new IP address, only that node is rebooted.

**mtu** [<value>]
Displays the size of the maximum transmission unit (MTU) that the cluster uses for internal network communications when executed with no arguments. Sets a new size of the MTU value, when specified. This command is for the internal network only.

**Note** This command is not valid for clusters with an InfiniBand back end.

- <value> — Specifies the new size of the MTU value. Any value is valid, but not all values may be compatible with your network. The most common settings are 1500 for standard frames and 9000 for jumbo frames.

**name** [<new name>]
Displays the names currently assigned to clusters when executed with no arguments. Assigns new names to clusters, as specified.

- <new name> — Specifies a new name for the cluster.

**netmask** [<interface-name> [ip-mask]]
Displays the subnet IP mask that the cluster is currently using or sets new subnet IP masks, as specified. Specifies the interface name as int-a and int-b.

- <interface-name> — Specifies the name of the interface. Valid names are int-a and int-b.

- <ip-mask> — Specifies the new IP mask for the interface.

**reboot** [([node lnn>* | all)]
Reboots nodes.

**Note** If run on an unconfigured node, the reboot command does not accept any arguments.

- <node lnn> — Specifies which nodes to reboot as <any_node_lnn> and all.

- {* | ALL} — Specifies that all nodes be rebooted.

**shutdown** [nodes]
Shuts down the node from which the command is run when executed with no arguments nodes. Shuts down specified nodes or shuts down the cluster when the all option is used.

- <nodes> — Specifies which nodes to shut down as <any_node_lnn> and all.

**status** [advanced]
Displays current information on the status of the cluster.

- **ADVANCED** — Lists additional information about the status of the cluster, including device health.

**timezone [timezone_identifier]**
Displays the current time zone or specifies new time zones. Options include `timezone_identifier`. Specifies the new timezone for the cluster as one of the following values.

- `<timezone_identifier>` — Specifies the new time zone for the cluster as one of the following values. Greenwich Mean Time Eastern Time Zone Central Time Zone Mountain Time Zone Pacific Time Zone Arizona Alaska Hawaii Japan Advanced. Opens a prompt with more time zone options.

**version**
Displays information about the current OneFS version.

**wizard**
Activates a wizard on unconfigured nodes and reactivates the wizard if you exit it during the initial node configuration process. The wizard prompts you through the node-configuration steps.

**isi email**
Configures email settings for the cluster.

**Syntax**

```
isi email
[--mail-relay <string>]
[--smtp-port <integer>]
[--mail-sender <string>]
[--mail-subject <string>]
[--use-smtp-auth {yes | no}]
[--auth-use <string>]
[--use-encryption {yes | no}]
```

**Options**

- **--mail-relay <string>**
  Specifies the SMTP relay address.

- **--smtp-port <integer>**
  Specifies the SMTP relay port. The default value is 25.

- **--mail-sender <string>**
  Specifies the originator email address.

- **--mail-subject <string>**
  Specifies the prefix string for the email subject.

- **--use-smtp-auth {yes | no}**
  Specifies whether using SMTP authentication. Yes enables SMTP authentication.

- **--auth-user | -u <string>**
  Specifies the username for SMTP authentication.

- **--auth-pass | -p <string>**
  Specifies the password for SMTP authentication.

- **--use-encryption {yes | no}**
Specifies whether using encryption (TLS) for SMTP authentication. Yes enables encryption.

**isi email list**

Displays email settings for the cluster

**Syntax**

`isi email list`

**isi exttools**

Provides subcommands for interacting with supported third-party tools.

Nagios is the only third-party tool that is supported in this release. Multiple OneFS clusters can be monitored with the configuration file that is generated when this command is used.

**Syntax**

`isi exttools nagios_config`

**isi license activate**

Activates a OneFS module license key.

**Syntax**

`isi license activate --key <key>`

**Options**

`--key | -k <key>`

Specifies the key being activated. Multiple keys can be specified by separating them with either spaces or commas.

**isi license status**

Displays the license status of all OneFS modules.

**Syntax**

`isi license status`

**isi license unconfigure**

Unconfigures a licensed OneFS module.

Unconfiguring a module disables any recurring jobs or scheduled operations that you have activated for that module, but it does not deactivate the license.

**Syntax**

`isi license unconfigure --module <module>`

**Options**

`--module <module>`

Specifies the name of the module that you want to unconfigure.
isi perfstat

Displays a realtime snapshot of network and file I/O performance.

Syntax
isi perfstat

isi pkg create

Creates OneFS patches. The isi pkg create command is intended solely for use by EMC Isilon Engineering personnel to create new patches for the OneFS operating system. As such, it does not function as intended in a customer environment. This description is information-only.

Syntax
isi pkg create <patch-spec-file>

Options
<patch-spec-file>
  Provide the description and parameters for the patch that you are creating.

isi pkg delete

Uninstalls a patch.

Syntax
isi pkg delete <patch-name>

Options
<patch-name>
  Required. Uninstalls a patch from the cluster. The patch name must be the name of an installed patch.

Examples
To uninstall a package named patch-example.tar from the cluster, run the following command.

isi pkg delete patch-example.tar

Use the isi pkg info command to verify that the patch was successfully uninstalled.

isi pkg info

Displays information about patches that are installed on the cluster.

Syntax
isi pkg info <patch-name>

Options
<patch-name>
  Displays information about only the specified patch. <patch-name> can be the path to a tar archive or the URL of a patch on an HTTP or FTP site. If you omit this option, the system displays all installed patches.
Examples
When you examine a specific patch, more information is returned than when you run `isi pkg info` without arguments to get information on all patches.

To get information for a patch named `patch-example.tar`, run the following command.

```
isi pkg info <path> patch-example.tar
```

The system displays the package name and date of installation, similar to the following output.

```
Information for patch-example:
Description:
Package Name : patch-example - 2009-10-11
```

If the patch is not installed, the system displays the following output.

```
patch-example.tar It is not installed.
```

**isi pkg install**

Installs a patch from a tar archive or an HTTP or FTP site.

**Syntax**
```
isi pkg install <patch-name>
```

**Options**

`<patch-name>`
Required. Installs the specified patch on the cluster. `<patch-name>` can be either a path to a tar archive or a URL for a patch on an HTTP or FTP site.

Examples
To install a patch named `patch-example.tar` on the cluster, run the following command.

```
isi pkg install patch-example.tar
```

The system displays output similar to the following example.

```
Preparing to install the package... Installing the package... Committing the installation...
Package successfully installed
```

If necessary, use the `isi pkg info` command to verify that the patch was successfully installed.

**isi services**

Displays a list of available services. The `-l` and `-a` options can be used separately or together.

**Syntax**
```
isi services [-l | -a] [<service> [{enable | disable}]]
```

**Options**

`-l`

Lists all available services and the current status of each. This is the default for this command.

`-a`

Lists all services, including hidden services, and the current status of each.
<service> {enable | disable}
Enables or disables the specified service.

Examples
The following example shows the command to enable a specified hidden service.

`isi services -a <hidden-service> enable`

### isi set

Works similar to `chmod`, providing a mechanism to adjust OneFS-specific file attributes, such as the protection policy, or to explicitly restripe files. Files can be specified by path or LIN.

**Syntax**

```
isi set
[-f -F -L -n -v -r -R]  
[-p <policy>]  
[-w <width>]  
[-c {on | off}]  
[-g <restripe_goal>]  
[-e <encoding>]  
[-d <@r drives>]  
[-a {<default> | <streaming> | <random> | <custom{1..5}>}]  
[-l {<concurrency> | <streaming> | <random>}]  
[--diskpool {<id> | <name>}]  
[-A {on | off}]  
[-P {on | off}]  
[|--strategy | -s] {<avoid> | <metadata> | <metadata-write> | <data>}  
[<file> {<path> | <lin>}]  
```

**Options**

- **-f**
  
  Suppresses warnings on failures to change a file.

- **-F**
  
  Includes the `/ifs/.ifsvar` directory content and any of its subdirectories. Without -F, the `/ifs/.ifsvar` directory content and any of its subdirectories are skipped. This setting allows the specification of potentially dangerous, unsupported protection policies.

- **-L**
  
  Specifies file arguments by LIN instead of path.

- **-n**
  
  Displays the list of files that would be changed without taking any action.

- **-v**
  
  Displays each file as it is reached.

- **-r**
  
  Executes a restripe.

- **-R**
  
  Sets protection recursively on files.

- **-p <policy>**
  
  Specifies protection policies in the following forms:
+M — Where M is the number of node failures that can be tolerated without loss of data. +M must be a number from, where numbers 1 through 4 are valid.

+D:M — Where D indicates the number of drive failures and M indicates number of node failures that can be tolerated without loss of data. D must be a number from 1 through 4 and M must be any value that divides into D evenly. For example, +2:2 and +4:2 are valid, but +1:2 and +3:2 are not.

Nx — Where N is the number of independent mirrored copies of the data that will be stored. N must be a number, with 1 through 8 being valid choices.

-w <width>
Specifies the number of nodes across which a file is striped. Typically, w = N + M, but width can also mean the total of the number of nodes that are used. You can set a maximum width policy of 32, but the actual protection is still subject to the limitations on N and M.

c {on | off}
Specifies whether write-coalescing is turned on.

g <restripe goal>
Specifies the restripe goal. The following values are valid:
repair
reprotect
rebalance
retune

e <encoding>
Specifies the encoding of the filename. The following values are valid:
EUC-JP
EUC-JP-MS
EUC-KR
ISO-8859-1
ISO-8859-10
ISO-8859-13
ISO-8859-14
ISO-8859-15
ISO-8859-160
ISO-8859-2
ISO-8859-3
ISO-8859-4
ISO-8859-5
ISO-8859-6
ISO-8859-7
ISO-8859-8
ISO-8859-9
UTF-8
UTF-8-MAC
Windows-1252
Windows-949
Windows-SJIS
-d <@r drives>
   Specifies the minimum number of drives that the file is spread across.
-a <value>
   Specifies the file access pattern optimization setting. The following values are valid:
   default
   streaming
   random
   custom1
   custom2
   custom3
   custom4
   custom5
-l <value>
   Specifies the file layout optimization setting. This is equivalent to setting both the -a
   and -d flags.
   concurrency
   streaming
   random
--diskpool <id | name>
   Sets the preferred diskpool for a file.
-A {on | off}
   Specifies whether file access and protections settings should be managed manually.
-P {on | off}
   Specifies whether the file inherits values from the applicable file pool policy.
{--strategy | -s} <value>
   Sets the SSD strategy for a file. The following values are valid:
   If the value is metadata-write, all copies of the file's metadata are laid out on SSD
   storage if possible, and user data still avoids SSDs. If the value is data, Both the file's
   meta- data and user data (one copy if using mirrored protection, all blocks if FEC) are
   laid out on SSD storage if possible.
   ◆ AVOID — Writes all associated file data and metadata to HDDs only. The data and
   metadata of the file are stored so that SSD storage is avoided, unless doing so would
   result in an out-of-space condition.
   ◆ METADATA — Writes both file data and metadata to HDDs. One mirror of the metadata for
   the file is on SSD storage if possible, but the strategy for data is to avoid SSD storage.
   ◆ METADATA-WRITE — Writes file data to HDDs and metadata to SSDs, when available. All
   copies of metadata for the file are on SSD storage if possible, and the strategy for data is
   to avoid SSD storage.
   ◆ DATA — Uses SSD node pools for both data and metadata. Both the metadata for the file
   and user data, one copy if using mirrored protection and all blocks if FEC, are on SSD
   storage if possible.
• `<file>{<path>|<lin>}` — Specifies a file by path or LIN.

**isi snmp**

Manages SNMP settings.

When SNMP v3 is used, OneFS requires AuthNoPriv as the default. AuthPriv is not supported.

**Syntax**

```
isi snmp
```

```
[--syslocation <string>]
[--syscontact <string>]
[--protocols <value>]
[--rocommunity <string>]
[--v3-rouser <string>]
[--v3-password <string>]
```

**Options**

**--syslocation <string>**

Specifies the SNMP network. read-only field that the SNMP implementation on the cluster can report back to a user when queried. It's purely informational for the user. This just sets the value of the standard system location OID.

**--syscontact <string>**

Sets the SNMP network contact address.

**--protocols <value>**

Specifies SNMP protocols. The following values are valid:

v1/v2c

v3

all

**Note** v1 and v2 are controlled together and must be specified together, as shown.

```
{--rocommunity | -c} <string>
```

Specifies the read-only community name.

```
{--v3-rouser | -u} <string>
```

Specifies the SNMP v3 read-only user security name.

```
{--v3-password | -p} <string>
```

Specifies the SNMP v3 auth password.

**isi snmp list**

Displays SNMP settings.

**Syntax**

```
isi snmp list
```
isi statistics client

Displays the most active, by throughput, clients accessing the cluster for each supported protocol. You can specify options to track access by user, for example, more than one user on the same client host access the cluster.

Syntax

```
isi statistics client
[--csv]
[--csvstring <string>]
[--noconversion]
[--noheader]
[--top]
[--interval <integer>]
[--repeat <integer>]
[--degraded]
[--timeout <integer>]
[--nodes <value>]
[--protocols <value>]
[--classes <string>]
[--orderby <column>]
[--total]
[--totalby <column>]
[--nooutput <column>]
[--output <column>]
[--long]
[--zero]
[--local_addrs <integer>]
[--local_names <string>]
[--remote_addrs <integer>]
[--remote_names <string>]
[--user_ids <integer>]
[--user_names <string>]
[--numeric]
[--wide]
```

Options

```
(--csv | -c)
Displays data as comma-separated values.

Note Disable top-style display and dynamic unit conversion.

(--csvstring | -C) <string>
Displays data as a csv-style separated list, with the specified string as separator.

Note If specified, --csvstring overrides --csv and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader
Displays data without column headings.

(--top | -t)
Displays results in top-style display, where data is continuously overwritten in a single table.

Note If --top is specified without --repeat, the report runs indefinitely.

(--interval | -i) <integer>
```
Reports data at the interval specified in seconds.

```
--repeat | -r <integer>
```

Specifies how many times to run the report before quitting.

**Note** To run the report to run indefinitely, specify -1.

```
--degraded | -d
```

Causes the report to continue if some nodes do not respond.

```
--timeout | -o <integer>
```

Specifies the number of seconds before remote commands time out.

```
--nodes
```

Specifies which nodes to report statistics on. Multiple values can be specified in a comma-separated list, for example, `--nodes=1-2,5-9`. The default value is all. The following values are valid:

- all
- <int>
- <int>-<int>

```
--protocols <value>
```

Specifies which protocols to report statistics on. Multiple values can be specified in a comma-separated list, for example `--protocols=http,papi`. The following values are valid:

- all
- external
- ftp
- hdfs
- http
- internal
- irp
- iscsi
- jobd
- lsass_in
- lsass_out
- nlm
- nfs3
- nfs4
- papi
- siq
- smb1
- smb2

```
--classes <string>
```

Specify which operation classes to report statistics on. The default setting is all classes. The following values are valid:

- **ALL** — All classes
• **READ** — File and stream reading
• **WRITE** — File and stream writing
• **CREATE** — File link node stream and directory creation
• **DELETE** — File link node stream and directory deletion
• **NAMESPACE_READ** — Attribute stat and ACL reads; lookup directory reading
• **NAMESPACE_WRITE** — Renames; attribute setting; permission time and ACL writes
• **FILE_STATE** — Open close; locking; acquire release break check; notification
• **SESSION_STATE** — Negotiation inquiry or manipulation of protocol connection or session state
• **OTHER** — File-system information for other uncategorized operations

<table>
<thead>
<tr>
<th>--orderby &lt;column&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies how rows are ordered. The following values are valid:</td>
</tr>
<tr>
<td>• Class</td>
</tr>
<tr>
<td>• In</td>
</tr>
<tr>
<td>• InAvg</td>
</tr>
<tr>
<td>• InMax</td>
</tr>
<tr>
<td>• InMin</td>
</tr>
<tr>
<td>• LocalAddr</td>
</tr>
<tr>
<td>• LocalName</td>
</tr>
<tr>
<td>• Node</td>
</tr>
<tr>
<td>• NumOps</td>
</tr>
<tr>
<td>• Ops</td>
</tr>
<tr>
<td>• Out</td>
</tr>
<tr>
<td>• OutAvg</td>
</tr>
<tr>
<td>• OutMax</td>
</tr>
<tr>
<td>• OutMin</td>
</tr>
<tr>
<td>• Proto</td>
</tr>
<tr>
<td>• RemoteAddr</td>
</tr>
<tr>
<td>• RemoteName</td>
</tr>
<tr>
<td>• TimeAvg</td>
</tr>
<tr>
<td>• TimeMax</td>
</tr>
<tr>
<td>• TimeMin</td>
</tr>
<tr>
<td>• TimeStamp</td>
</tr>
<tr>
<td>• UserID</td>
</tr>
<tr>
<td>• UserName</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>--total</th>
</tr>
</thead>
</table>
|Groups and aggregates results as implied by filtering options.

<table>
<thead>
<tr>
<th>--totalby &lt;column&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregates results according to specified fields. The following values are valid:</td>
</tr>
<tr>
<td>• Class</td>
</tr>
<tr>
<td>• Group</td>
</tr>
</tbody>
</table>
- LocalAddr
- LocalName
- Node
- Proto
- RemoteAddr
- RemoteName
- UserId
- UserName

**Note**: --totalby overrides --total option, when specified.

`--nooutput <column>`

Specifies which columns are not displayed. Columns are excluded from the list of currently active columns specified by the --output option or --long options or from the default column list if it is not overridden by other output options.

`--output <column>`

Specifies which columns to display. The following values are valid:

- **TimeStamp** — Displays the time at which the isi statistics tool last gathered data. Displayed in POSIX time (number of seconds elapsed since January 1, 1970).
- **NumOps** — Displays the number of times an operation has been performed.
- **Ops** — Displays the rate at which an operation has been performed. Displayed in operations per second.
- **InMax** — Displays the maximum input (received) bytes for an operation.
- **InMin** — Displays the minimum input (received) bytes for an operation.
- **In** — Displays the rate of input for an operation since the last time isi statistics collected the data. Displayed in bytes per second.
- **InAvg** — Displays the average input (received) bytes for an operation.
- **OutMax** — Displays the maximum output (sent) bytes for an operation.
- **OutMin** — Displays the minimum output (sent) bytes for an operation.
- **Out** — Displays the rate of output for an operation since the last time isi statistics collected the data. Displayed in bytes per second.
- **OutAvg** — Displays the average output (sent) bytes for an operation.
- **TimeMax** — Displays the maximum elapsed time taken to complete an operation. Displayed in microseconds.
- **TimeMin** — Displays the minimum elapsed time taken to complete an operation. Displayed in microseconds.
- **TimeAvg** — Displays the average elapsed time taken to complete an operation. Displayed in microseconds.
- **Node** — Displays the node on which the operation was performed.
- **Proto** — Displays the protocol of the operation.
- **Class** — Displays the class of the operation.
- **UserID** — Displays the numeric UID of the user issuing the operation request or the unique logical unit number (LUN) identifier in the case of the iSCSI protocol.
UserName — Displays the resolved text name of the UserID, or the target and LUN in the case of the iSCSI protocol. In either case, if resolution cannot be performed, UNKNOWN is displayed.

LocalAddr — Displays the IP address of the host receiving the operation request. Displayed in dotted-quad form.

LocalName — Displays the resolved text name of the LocalAddr, if resolution can be performed.

RemoteAddr — Displays the IP address of the host sending the operation request. Displayed in dotted-quad form.

RemoteName — Displays the resolved text name of the RemoteAddr, if resolution can be performed.

--long
Displays all possible columns.

--zero
Shows table entries with no values.

--local_addrs <integer>
Specifies local IP addresses for which statistics will be reported.

--local_names <string>
Specifies local host names for which statistics will be reported.

--remote_addrs <integer>
Specifies remote IP addresses for which statistics will be reported.

--remote_names <string>
Specifies remote client names for which statistics will be reported.

--user_ids <integer>
Specifies user ids for which statistics will be reported. The default setting is all users.

--user_names <string>
Specifies user names for which statistics will be reported. The default setting is all users.

--numeric
If text identifiers of local hosts, remote clients, or users are in the list of columns to display (the default setting is for them to be displayed), display the unresolved numeric equivalent of these columns.

--wide
Displays resolved names with a wide column width.

isi statistics client

Displays the most active, by throughput, clients accessing the cluster for each supported protocol. You can specify options to track access by user, for example, more than one user on the same client host access the cluster.

Syntax

\`
isi statistics client
[\--csv]
[\--csvstring <string>]
[\--noconversion]
[\--noheader]
[\--top]
\`
Options

|--csv | -c|
Displays data as comma-separated values.

Note
Disables top-style display and dynamic unit conversion.

|--csvstring | -C <string>
Displays data as a csv-style separated list, with the specified string as separator.

Note
If specified, --csvstring overrides --csv and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader
Displays data without column headings.

|--top | -t|
Displays results in top-style display, where data is continuously overwritten in a single table.

Note
If --top is specified without --repeat, the report runs indefinitely.

|--interval | -i <integer>
Reports data at the interval specified in seconds.

|--repeat | -r <integer>
Specifies how many times to run the report before quitting.

Note
To run the report to run indefinitely, specify -1.

|--degraded | -d|
Causes the report to continue if some nodes do not respond.

|--timeout | -o <integer>
Specifies the number of seconds before remote commands time out.
--nodes
Specifies which nodes to report statistics on. Multiple values can be specified in a comma-separated list, for example, --nodes=1-2,5-9. The default value is all. The following values are valid:
- all
- <int>
- <int>-<int>

--protocols <value>
Specifies which protocols to report statistics on. Multiple values can be specified in a comma-separated list, for example --protocols=http,papi. The following values are valid:
- all
- external
- ftp
- hdfs
- http
- internal
- irp
- iscsi
- jobd
- lsass_in
- lsass_out
- nlm
- nfs3
- nfs4
- papi
- siq
- smb1
- smb2

--classes <string>
Specify which operation classes to report statistics on. The default setting is all classes. The following values are valid:
- ALL — All classes
- READ — File and stream reading
- WRITE — File and stream writing
- CREATE — File link node stream and directory creation
- DELETE — File link node stream and directory deletion
- NAMESPACE_READ — Attribute stat and ACL reads; lookup directory reading
- NAMESPACE_WRITE — Renames; attribute setting; permission time and ACL writes
- FILE_STATE — Open close; locking: acquire release break check; notification
- SESSION_STATE — Negotiation inquiry or manipulation of protocol connection or session state
- OTHER — File-system information for other uncategorized operations

--orderby <column>

Specifies how rows are ordered. The following values are valid:
- Class
- In
- InAvg
- InMax
- InMin
- LocalAddr
- LocalName
- Node
- NumOps
- Ops
- Out
- OutAvg
- OutMax
- OutMin
- Proto
- RemoteAddr
- RemoteName
- TimeAvg
- TimeMax
- TimeMin
- TimeStamp
- UserID
- UserName

--total

Groups and aggregates results as implied by filtering options.

--totalby <column>

Aggregates results according to specified fields. The following values are valid:
- Class
- Group
- LocalAddr
- LocalName
- Node
- Proto
- RemoteAddr
- RemoteName
- UserID
- UserName
Note --totalby overrides --total option, when specified.

--nooutput <column>

Specifies which columns are not displayed. Columns are excluded from the list of currently active columns specified by the --output option or --long options or from the default column list if it is not overridden by other output options.

--output <column>

Specifies which columns to display. The following values are valid:

- **TimeStamp** — Displays the time at which the isi statistics tool last gathered data. Displayed in POSIX time (number of seconds elapsed since January 1, 1970).
- **NumOps** — Displays the number of times an operation has been performed.
- **Ops** — Displays the rate at which an operation has been performed. Displayed in operations per second.
- **InMax** — Displays the maximum input (received) bytes for an operation.
- **InMin** — Displays the minimum input (received) bytes for an operation.
- **In** — Displays the rate of input for an operation since the last time isi statistics collected the data. Displayed in bytes per second.
- **InAvg** — Displays the average input (received) bytes for an operation.
- **OutMax** — Displays the maximum output (sent) bytes for an operation.
- **OutMin** — Displays the minimum output (sent) bytes for an operation.
- **Out** — Displays the rate of output for an operation since the last time isi statistics collected the data. Displayed in bytes per second.
- **OutAvg** — Displays the average output (sent) bytes for an operation.
- **TimeMax** — Displays the maximum elapsed time taken to complete an operation. Displayed in microseconds.
- **TimeMin** — Displays the minimum elapsed time taken to complete an operation. Displayed in microseconds.
- **TimeAvg** — Displays the average elapsed time taken to complete an operation. Displayed in microseconds.
- **Node** — Displays the node on which the operation was performed.
- **Proto** — Displays the protocol of the operation.
- **Class** — Displays the class of the operation.
- **UserID** — Displays the numeric UID of the user issuing the operation request or the unique logical unit number (LUN) identifier in the case of the iSCSI protocol.
- **UserName** — Displays the resolved text name of the UserID, or the target and LUN in the case of the iSCSI protocol. In either case, if resolution cannot be performed, UNKNOWN is displayed.
- **LocalAddr** — Displays the IP address of the host receiving the operation request. Displayed in dotted-quad form.
- **LocalName** — Displays the resolved text name of the LocalAddr, if resolution can be performed.
- **RemoteAddr** — Displays the IP address of the host sending the operation request. Displayed in dotted-quad form.
• RemoteName — Displays the resolved text name of the RemoteAddr, if resolution can be performed.

--long
Displays all possible columns.

--zero
Shows table entries with no values.

--local_addrs <integer>
Specifies local IP addresses for which statistics will be reported.

--local-names <string>
Specifies local host names for which statistics will be reported.

--remote_addrs <integer>
Specifies remote IP addresses for which statistics will be reported.

--remote_names <string>
Specifies remote client names for which statistics will be reported.

--user_ids <integer>
Specifies user ids for which statistics will be reported. The default setting is all users.

--user_names <string>
Specifies user names for which statistics will be reported. The default setting is all users.

--numeric
If text identifiers of local hosts, remote clients, or users are in the list of columns to display (the default setting is for them to be displayed), display the unresolved numeric equivalent of these columns.

--wide
Displays resolved names with a wide column width.

isi statistics describe
Displays documentation on given statistics.

Syntax
isi statistics describe --stats <statistics-key-string>

Options
{-s <statistics-key-string>}
Displays documentation on specified statistics. For a complete list of statistics, run
isi statistics list stats.

isi statistics drive
Displays performance information by drive.

Syntax
isi statistics drive
[--csv]
[--csvstring <string>]
[--noconversion]
[--noheader]
[--top]
Options

{--csv | -c}
Displays data as a comma-separated list.

   Note  Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>
Display data as a csv-style separated list with the specified string as separator.

   Note Overrides --csv, if specified, and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this parameter also disables the display of units within the data table.

--noheader
Displays data without column headings.

{--top | -t}
Displays the results in a top-style display, where data is continuously overwritten in a single table.

   Note  If --top is specified without--repeat, the report runs indefinitely.

{--interval | -I} <integer>
Reports data at the interval specified in seconds.

{--repeat | -r} <integer>
Specifies how many times to run the report before quitting.

   Note  To set the report to run indefinitely, specify -1.

{--degraded | -d}
Sets the report to continue running if some nodes do not respond.

{--timeout | -o} <integer>
Specifies the number of seconds before remote commands timeout.

--long
Displays all possible columns.

--nodes
Specifies which nodes to report statistics on. The default is all. The following values are valid:
* all
* <int>
* <int>-<int>
--orderby <column>
    Specifies how the rows are ordered. The following values are valid:
    Busy
    BytesIn
    BytesOut
    Drive
    Inodes
    OpsIn
    OpsOut
    Queued
    SizeIn
    SizeOut
    Slow
    TimeAvg
    TimeInQ
    Type
    Used

--timestamp
    Displays the time at which the isi statistics tool last gathered data. Time is
    displayed in Epoch seconds.

--type
    Specifies the drive types for which statistics will be reported. The default setting is all
    drives. The following values are valid:
    sata
    sas
    ssd

isi statistics heat
    Displays the most active /ifs paths for various metrics.

Syntax
isi statistics heat
    [--csv]
    [--csvstring <string>]
    [--noconversion]
    [--noheader]
    [-t]
    [--interval <integer>]
    [--repeat <integer>]
    [--degraded]
    [--timeout <integer>]
    [--nodes <value>]
    [--events <string>]
    [--classes <string>]
    [--orderby <column>]
    [--totalby <column>]
    [--maxpath <integer>]
    [--pathdepth <integer>]
    [--limit <integer>]

Options

|--csv | -c
Displays data as a comma-separated list.

**Note** Disables the top-style display and dynamic unit conversion.

|--csvstring | -C <string>
Displays data as a csv-style separated list with specified string as separator.

**Note** Overrides --csv, if specified, and disables top-style display and dynamic unit conversion.

|--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

|--noheader
Displays data without column headings.

|--top | -t
Displays the results in top-style display, where data is continuously overwritten in a single table.

**Note** If --top is specified without --repeat, the report runs indefinitely.

|--interval | -I <integer>
Reports data at the interval specified in seconds.

|--repeat | -r <integer>
Specifies how many times to run the report before quitting.

**Note** To run the report to run indefinitely, specify -1.

|--degraded | -d
Sets the report to continue running if some nodes do not respond.

|--timeout | -o <integer>
Specifies the number of seconds before remote commands timeout.

|--nodes
Specifies which nodes to report statistics on. Multiple values can be specified in a comma-separated list, for example, --nodes=1-2,5-9. The default value is all. The following values are valid:

- all
- <int>
- <int>-<int>

|--events <string>
Specifies which event types for the specified information are reported. The following values are valid:
• **BLOCKED** — Access to the LIN was blocked waiting for a resource to be released by another operation. Class is other.

• **CONTENDED** — A LIN is experiencing cross-node contention; it is being accessed simultaneously through multiple nodes. Class is other.

• **DEADLOCKED** — The attempt to lock the LIN resulted in deadlock. Class is other.

• **LINK** — The LIN has been linked into the file system; the LIN associated with this event is the parent directory and not the linked LIN. Class is namespace_write.

• **LOCK** — The LIN is locked. Class is other.

• **LOOKUP** — A name is looked up in a directory; the LIN for the directory searched is the one associated with the event. Class is namespace_read.

• **READ** — A read was performed. Class is read.

• **RENAME** — A file or directory was renamed. The LIN associated with this event is the directory where the rename took place for either the source directory or the destination directory, if they differ. Class is namespace_write.

• **GETATTR** — A file or directory attribute has been read. Class is namespace_read.

• **SETATTR** — A file or directory attribute has been added, modified, or deleted. Class is namespace_write.

• **UNLINK** — A file or directory has been unlinked from the file system, the LIN associated with this event is the parent directory of the removed item. Class is namespace_write.

• **WRITE** — A write was performed. Class is write.

---

--classes <string>

Specifies which classes for the specified information will be reported. The default setting is all classes. The following values are valid:

• **READ** — File and stream reading

• **WRITE** — File and stream writing

• **CREATE** — File, link, node, stream, and directory creation

• **DELETE** — File, link, node, stream, and directory deletion

• **NAMESPACE_READ** — Attribute, stat, and ACL reads; lookup, directory reading

• **NAMESPACE_WRITE** — Renames; attribute setting; permission, time, and ACL writes

• **FILE_STATE** — Open, close; locking: acquire, release, break, check; notification

• **SESSION_STATE** — Negotiation, inquiry, or manipulation of protocol connection or session state

• **OTHER** — File-system information

---

--orderby <column>

Specifies how rows are ordered. The following values are valid:

Class
Event
LIN
Node
Ops
Path
TimeStamp
--totalby <column>
  Aggregates results according to specified fields. The following values are valid:
  Class
  Event
  LIN
  Node
  Ops
  Path
  TimeStamp
--maxpath <integer>
  Specifies the maximum path length to look up in the file system.
-pathdepth <integer>
  Reduces paths to the specified depth.
--limit <integer>
  Displays only the specified number of entries after totaling and ordering.
--output <column>
  Specifies the columns to display. The following values are valid:
  • TIMESTAMP — Displays the time at which the isi statistics tool last gathered data.
    Displayed in POSIX time (number of seconds elapsed since January 1, 1970).
  • OPS — Displays the rate at which an operation has been performed. Displayed in
    operations per second.
  • NODE — Displays the node on which the operation was performed.
  • EVENT — Displays the name of the event.
  • CLASS — Displays the class of the operation.
  • LIN — Displays the LIN for the file or directory associated with the event.
  • PATH — Displays the path associated with the event LIN.
--long
  Displays all possible columns.

isi statistics history

Displays historical statistics.

Syntax

isi statistics history
  [-csv]
  [-csvstring <string>]
  [-noconversion]
  [-noheader]
  [-top]
  [-interval <number>]
  [-repeat <number>]
  [-degraded]
  [-timeout <number>]
  [-nodes <value>]
  [-stats <string>]
  [-onecolumn]
  [-formattime]
  [-begin <number>]
  [-end <number>]
Options

{--csv | -c}  
Displays data as a comma-separated list.

**Note**  
Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>  
Display data as a csv-style separated list with specified string as separator.

**Note**  
Overrides --csv, if specified, and disables top-style display and dynamic unit conversion.

--noconversion  
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader  
Displays data without column headings.

{--top | -t}  
Displays results in a top-style display, where data is continuously overwritten in a single table.

**Note**  
If --top is specified without --repeat, the report runs indefinitely.

{--interval | -I} <integer>  
Reports data at the interval specified in seconds.

{--repeat | -r} <number>  
 Specifies how many times to run the report before quitting.

**Note**  
To set the report to run indefinitely, specify -1.

{--degraded | -d}  
Sets the report to continue running if some nodes do not respond.

{--timeout | -o} <number>  
Specifies number of seconds before remote commands time out.

--nodes  
Specifies which nodes to report statistics on. Multiple values can be specified in a comma-separated list, for example, --nodes=1-2,5-9. The default value is all. The following values are valid:

- all
- <int>
- <int>-<int>

--stats <string>  
Specifies which statistics should be reported for requested nodes, where the value for <string> is a statistics key. Use the isi statistics list stats command for a complete listing of statistics keys.

{--onecolumn | -1}  
Displays output one series at a time in one column rather than in a grid format.
{--format-time | -F}
Formats series times rather than using UNIX Epoch timestamp format.

--begin <number>
Specifies begin time in UNIX Epoch timestamp format.

--end <number>
Specifies end time in UNIX Epoch timestamp format.

--resolution <number>
Specifies the minimum interval between series data points in seconds.

--zero
Displays grid rows with no valid series points.

isi statistics list all
Displays a list of valid list-mode arguments.

Syntax
isi statistics list all
    [--client]
    [--protocol]
    [--heat]
    [--drive]

Options
--client
    Displays valid option values for client mode.

--protocol
    Displays valid option values for protocol mode.

--heat
    Displays valid option values for heat mode.

--drive
    Displays valid option values for drive mode.

isi statistics list classes
Displays a list of valid arguments for the --classes option.

Syntax
isi statistics list classes
    [--client]
    [--protocol]
    [--heat]
    [--drive]

Options
--client
    Displays valid option values for client mode.

--protocol
    Displays valid option values for protocol mode.

--heat
    Displays valid option values for heat mode.
--drive
Displays valid option values for drive mode.

**isi statistics list events**

Displays a list of valid arguments for the --events option.

**Syntax**

```
isi statistics list events
    [--client]
    [--protocol]
    [--heat]
    [--drive]
```

**Options**

--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

**isi statistics list nodes**

Displays a list of valid arguments for the --nodes option.

**Syntax**

```
isi statistics list nodes
    [--client]
    [--protocol]
    [--heat]
    [--drive]
```

**Options**

--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

**isi statistics list nooutput**

Displays a list of valid arguments for the --nooutput option.

**Syntax**

```
isi statistics list nooutput
    [--client]
    [--protocol]
```
Options
--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

isi statistics list operations
Displays a list of valid arguments for the --operations option.

Syntax
isi statistics list operations
[--client]
[--protocol]
[--heat]
[--drive]

Options
--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

isi statistics list orderby
Displays a list of valid arguments for the --orderby option.

Syntax
isi statistics list orderby
[--client]
[--protocol]
[--heat]
[--drive]
--drive
Displays valid option values for drive mode.

**isi statistics list output**

Displays a list of valid arguments for the --output option.

**Syntax**

```
isi statistics list output
[---client]
[---protocol]
[---heat]
[---drive]
```

**Options**

--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

**isi statistics list protocols**

Displays a list of valid arguments for the --protocols option.

**Syntax**

```
isi statistics list protocols
[---client]
[---protocol]
[---heat]
[---drive]
```

**Options**

--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

**isi statistics list stats**

Displays a list of valid arguments for the --stats option.

**Syntax**

```
isi statistics list stats
[---client]
[---protocol]
```
Options
--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

isi statistics list totalby
Displays a list of valid arguments for the --totalby option.

Syntax
isi statistics list totalby
    [--client]
    [--protocol]
    [--heat]
    [--drive]

Options
--client
Displays valid option values for client mode.

--protocol
Displays valid option values for protocol mode.

--heat
Displays valid option values for heat mode.

--drive
Displays valid option values for drive mode.

isi statistics protocol
Displays statistics by protocol, such as NFS3 and HTTP.

Syntax
isi statistics protocol
    [--csv]
    [--csvstring <string>]
    [--noconversion]
    [--noheader]
    [--top]
    [--interval <integer>]
    [--repeat <integer>]
    [--degraded]
    [--timeout <integer>]
    [--long]
    [--nodes {all | <int> | <int>-<int>}]
    [--protocols <protocol>...]
    [--classes <class>...]
    [--orderby <column>...]
    [--total]
    [--totalby <column>...]
Options

{--csv | -c}
Displays data as comma-separated values.

Note  Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>
Displays data as a csv-style separated list, with the specified string as a separator.

Note  If specified, --csvstring overrides --csv and disables top-style display and
dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option
also disables the display of units in the data table.

--noheader
Displays data without column headings.

{--top | -t}
Displays results in top-style display, where data is continuously overwritten in a
single table.

Note  If --top is specified without --repeat, the report runs indefinitely.

{--interval | -I} <integer>
Reports data at the interval specified in seconds.

{--repeat | -r} <integer>
Specifies how many times to run the report before quitting.

Note  To set the report to run indefinitely, specify -1.

{--degraded | -d}
Causes the report to continue running if some nodes do not respond.

{--timeout | -o} <integer>
Specifies the number of seconds before remote commands timeout.

--nodes
Specifies which nodes to report statistics on. Multiple values can be specified in a
comma-separated list, for example, --nodes=1-2,5-9. The default value is all. The
following values are valid:
• all
• <int>
• <int>-<int>

--protocols <value>
Specifies which protocols to report statistics on. Multiple values can be specified in a
comma-separated list, for example --protocols=http,papi. The following values are valid:
• all
--classes <class>

Specifies which operation classes to report statistics on. The default setting is all. The following values are valid:

- **ALL** — All classes
- **READ** — File and stream reading
- **WRITE** — File and stream writing
- **CREATE** — File link node stream and directory creation
- **DELETE** — File link node stream and directory deletion
- **NAMESPACE_READ** — Attribute stat and ACL reading; lookup directory reading
- **NAMESPACE_WRITE** — Renames; attribute setting; permission time and ACL writes
- **FILE_STATE** — Open, close; locking: acquire, release, break, check; notification
- **SESSION_STATE** — Negotiation inquiry or manipulation of protocol connection or session state
- **OTHER** — File-system information. Multiple values can be specified in a comma-separated list.

--orderby <column>

Specifies how rows are ordered. The following values are valid:

- Class
- In
- InAvg
- InMax
- InMin
- InStdDev
- Node
Cluster administration commands

- NumOps
- Ops
- Out
- OutAvg
- OutMax
- OutMin
- OutStdDev
- Proto
- TimeAvg
- TimeMax
- TimeMin
- TimeStamp
- TimeStdDev

--total
Groups and aggregates the results according to the filtering options.

--totalby <column>
Aggregates results according to specified fields. The following values are valid:
- Class
- Node
- Proto
- Op

Note  --totalby overrides --total, when specified.

--nooutput <column>
Specifies which columns are not displayed. The columns are excluded from the list of the active columns that are specified by --output or --long or from the default column list if it is not overridden by other output options. Multiple values can be specified in a comma-separated list. The following values are valid:
- Class
- In
- InAvg
- InMax
- InMin
- InStdDev
- Node
- NumOps
- Ops
- Out
- OutAvg
- OutMax
- OutMin
- OutStdDev
• Proto
• TimeAvg
• TimeMax
• TimeMin
• TimeStamp
• TimeStdDev

--output <column>

Specifies which columns to display. The following values are valid:

• **TIMESTAMP** — Displays the time at which the *isi statistics* tool last gathered data. Displayed in POSIX time (number of seconds elapsed since January 1, 1970). Specify `<time-and-date>` in the following format:

  `<YYYY>-<MM>-<DD>[T<hh>]:<mm>[<ss>]`

  Specify `<time>` as one of the following values.

  • **Y** — Specifies years
  • **M** — Specifies months
  • **W** — Specifies weeks
  • **D** — Specifies days
  • **H** — Specifies hours
  • **S** — Specifies seconds

• **NumOps** — Displays the number of times an operation has been performed. Multiple values can be specified in a comma-separated list.

• **Ops** — Displays the rate at which an operation has been performed. Displayed in operations per second.

• **InMax** — Displays the maximum input (received) bytes for an operation.

• **InMin** — Displays the minimum input (received) bytes for an operation.

• **In** — Displays the rate of input for an operation since the last time isi statistics collected the data. Displayed in bytes per second.

• **InAvg** — Displays the average input (received) bytes for an operation.

• **OutMax** — Displays the maximum output (sent) bytes for an operation.

• **OutMin** — Displays the minimum output (sent) bytes for an operation.

• **Out** — Displays the rate of output for an operation since the last time isi statistics collected the data. Displayed in bytes per second.

• **OutAvg** — Displays the average output (sent) bytes for an operation.

• **TimeMax** — Displays the maximum elapsed time taken to complete an operation. Displayed in microseconds.

• **TimeMin** — Displays the minimum elapsed time taken to complete an operation. Displayed in microseconds.

• **TimeAvg** — Displays the average elapsed time taken to complete an operation. Displayed in microseconds.

• **Node** — Displays the node on which the operation was performed.

• **Proto** — Displays the protocol of the operation.
**Class** — Displays the class of the operation.

**InStdDev** — Displays the standard deviation of the input (received) bytes for an operation. Displayed in bytes.

**OutStdDev** — Displays the standard deviation of the output (sent) bytes for an operation. Displayed in bytes.

**Op** — Displays the name of the operation

--long
Displays all possible columns.

--zero
Shows table entries with no values.

--operations <operation>
Specifies the operations on which statistics are reported. To view a list of valid values, run the following command: `isi statistics list operations`. Multiple values can be specified in a comma-separated list.

**isi statistics pstat**
Displays a selection of cluster-wide and protocol data.

**Syntax**

```
isi statistics pstat
[--csv]  
[--csvstring <string>]  
[--noconversion]  
[--noheader]  
[--top]  
[--interval <integer>]  
[--repeat <integer>]  
[--degraded]  
[--timeout <integer>]  
[--protocol <protocol>]  
```

**Options**

{--csv | -c}
Displays data as comma-separated values.

**Note**  
Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>
Displays data as a csv-style separated list, with the specified string as separator.

**Note**  
If specified, --csvstring overrides --csv and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader
Displays data without column headings.

{--top | -t}
Displays results in top-style display, where data is continuously overwritten in a single table.
Note If --top is specified without --repeat, the report runs indefinitely.

\{--interval | -i\} <integer>
Reports data at the interval specified in seconds.

\{--repeat | -r\} <integer>
Specifies how many times to run the report before quitting.

Note To run the report to run indefinitely, specify -1.

\{--degraded | -d\}
Sets the report to continue running if some nodes do not respond.

\{--timeout | -o\} <integer>
Specifies number of seconds before remote commands time out.

--protocol <protocol>
Specifies which protocols to report statistics on. Multiple values can be specified in a comma-separated list, for example --protocols=http,papi. The following values are valid:
ftp
hdfs
http
irp
iscsi
jobd
lsass_in
lsass_out
.nlm
.nfs3
.nfs4
.pi
.siq
.smb1
.smb2

isi statistics query
Displays highly customizable information on any statistic in the cluster statistics library.

Syntax

\begin{verbatim}
isi statistics query
   [--csv]
   [--csvstring <string>]
   [--noconversion]
   [--noheader]
   [--top]
   [--interval <integer>]
   [--repeat <integer>]
   [--degraded]
   [--timeout <integer>]
   [--nofooter]
\end{verbatim}
Options

{--csv | -c}
Displays data as comma-separated values.

**Note**  Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>
Displays data as a csv-style separated list, with the specified string as a separator.

**Note**  If specified, --csvstring overrides --csv and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader
Displays data without column headings.

{--top | -t}
Displays results in top-style display, where data is continuously overwritten in a single table.

**Note**  If --top is specified without --repeat, the report runs indefinitely.

{--interval | -I} <integer>
Reports data at the interval specified in seconds.

{--repeat | -r} <integer>
Specifies how many times to run the report before quitting.

**Note**  To run the report to run indefinitely, specify -1.

{--degraded | -d}
Causes the report to continue if some nodes do not respond.

{--timeout | -o} <integer>
Specifies the number of seconds before remote commands time out.

--nofooter
Suppresses display of the footer row that contains aggregation data.

--nodes
Specifies which nodes to report statistics on. Multiple values can be specified in a comma-separated list, for example, --nodes=1-2,5-9. The default value is all. The following values are valid:
- all
- <int>
- <int>-<int>

{--stats | statistics key} <key>
Specifies which statistics should be reported for requested nodes. Use isi statistics list stats command for a complete listing of statistics keys.
isi statistics system

Displays general cluster statistics, including op rates for all supported protocols and network and disk traffic.

Syntax

```
isi statistics system
[--csv]
[--csvstring <string>]
[--noconversion]
[--noheader]
[--top]
[--interval <integer>]
[--repeat <integer>]
[--degraded]
[--timeout <integer>]
[--running <integer>]
[--nodes]
[--timestamp]
[--oprates]
```

Options

```
{--csv | -c}
Displays data as a comma-separated list.

   Note   Disables top-style display and dynamic unit conversion.

{--csvstring | -C} <string>
Display data as a csv-style separated list with specified string as separator.

   Note   Overrides --csv, if specified, and disables top-style display and dynamic unit conversion.

--noconversion
Displays all data in base quantities, without dynamic conversion. If set, this option also disables the display of units within the data table.

--noheader
Displays data without column headings.

{--top | -t}
Displays results in a top-style display, where data is continuously overwritten in a single table.

   Note   If --top is specified without --repeat, the report runs indefinitely.

{--interval | -I} <integer>
Reports data at the interval specified in seconds.

{--repeat | -r} <integer>
Specifies how many times to run the report before quitting.

   Note   To set the report to run indefinitely, specify -1.

{--degraded | -d}
Sets the report to continue running if some nodes do not respond.

{--timeout | -o} <integer>
Specifies number of seconds before remote commands time out.
--running <integer>
Displays statistics with aggregation of cluster statistics over a given interval in the
class of iterations of the tool repetition interval. If running averages are requested,
they appear on the row labeled Avg.

--nodes
Displays information on individual nodes.

--timestamp
Displays the time at which the isi statistics tool last gathered data. The
timestamp is displayed in Epoch seconds.

--oprates
Displays the protocol operation rate statistics instead of the default throughput
statistics.

isi status
Displays information about the current status of the cluster, events, and jobs.

Syntax
isi status
[-q]
[-r]
[-w]
[-D]
[-d <storage-pool-name>]
[-n <node-id>]

Options
-q
Omits event and protection operations and displays only information on the status of
the cluster.

-r
Displays the raw size.

-w
Displays results without truncations.

-D
Displays more detailed information on running protection operations, including a list
of worker processes. Also displays more information on failed protection operations,
including a list of errors.

-d <storage-pool-name>
Displays a node pool or tier view of the file system instead of a cluster view. If a
storage pool name such as a tier or a node pool is specified, only information for that
pool is reported.

-n <node-id>
Displays the same information on individual nodes (or whichever node is specified)
in addition to statistics for each disk in the node.

isi update
Updates a cluster to a newer version of OneFS.
You are prompted to specify the location of the image to use to update the cluster. After
the image is loaded, you are prompted to reboot the cluster.
Syntax

**isi update**

  [--rolling]
  [--manual]
  [--drain-time <duration>]
  [--check-only]

**Options**

--- **--rolling**

Performs a rolling update, allowing the cluster to remain available during the update. When a rolling update is interrupted, the same update command can be issued to restart the rolling update. The update then attempts to continue where the previous update was interrupted. Rolling updates are not supported for all versions. Contact your Isilon representative for information about which versions support this option.

--- **--manual**

Causes rolling update process to pause and wait for user input before rebooting each node.

--- **--drain-time <duration>**

Sets the update process to suspend a node from its Smartconnect pool. The process then waits for clients to disconnect or for the specified <duration> to elapse before rebooting the node. The default <duration> units are in seconds. You can specify different time units by adding a letter to the end of the time, however. The following values are valid:

- **M** — Minutes
- **H** — Hours
- **D** — Days
- **W** — Weeks

--- **--check-only**

Provides information about potential failures across the cluster but does not initiate the upgrade process.

### isi version

Displays detailed information about the OneFS cluster software properties.

**Syntax**

**isi version**

  [<os-info>]

**Options**

--- **<os-info>**

Optional variable that limits the output to specified pieces of information. If you do not include an <os-info> value, the system displays all information. Only the following values for <os-info> are acceptable.

- **OSVERSION** — Displays the name, build, release date, and current operating system version.
- **OSBUILD** — Displays build information.
- **OSRELEASE** — Displays the version string for the software.
- **OSTYPE** — Displays the name of the operating system.
- **OSREVISION** — Displays the revision number as a base-10 number.
- **COPYRIGHT** — Displays the current copyright information for the software.

### Examples

The following command displays the name of the operating system only.

```bash
isi version ostype
```

## isi get

Displays information about a set of files, including the protection policy, current protection level, and whether write-coalescing is enabled.

Protection policies appear in one of three colors: green, yellow, or red. Green indicates full protection. Yellow indicates degraded protection under a mirroring policy. Red indicates a loss of one or more data blocks under a parity policy.

### Syntax

```bash
| {{-g} [-s] [-D | -DD | -DDC]} [-R] -L <lin>}}
```

### Options

- **-a**
  
  Displays the hidden "." and ".\.." entries of each directory.

- **-d**
  
  Displays the attributes of a directory instead of the contents.

- **-g**
  
  Displays detailed information, including snapshot governance lists.

- **-s**
  
  Displays the protection status using words instead of colors.

- **-D**
  
  Displays more detailed information.

- **-DD**
  
  Includes information about protection groups and security descriptor owners and groups.

- **-DDC**
  
  Includes cyclic redundancy check (CRC) information.

- **-R**
  
  Displays information about the subdirectories and files of the specified directories.

- **<path>**
  
  Displays information about the specified file or directory. Specify as a file or directory path.

- **-L <lin>**
  
  Displays information about the specified file or directory. Specify as a file or directory LIN.
Examples
The following command displays information on /ifs/home/ and all of its subdirectories:

isi get -R /ifs/home

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>POLICY</th>
<th>LEVEL</th>
<th>PERFORMANCE</th>
<th>COAL</th>
<th>FILE</th>
</tr>
</thead>
<tbody>
<tr>
<td>default</td>
<td>4x/2</td>
<td>concurrency on</td>
<td>./</td>
<td></td>
</tr>
<tr>
<td>default</td>
<td>8x/3</td>
<td>concurrency on</td>
<td>../</td>
<td></td>
</tr>
<tr>
<td>default</td>
<td>4x/2</td>
<td>concurrency on</td>
<td>admin/</td>
<td></td>
</tr>
<tr>
<td>default</td>
<td>4x/2</td>
<td>concurrency on</td>
<td>ftp/</td>
<td></td>
</tr>
<tr>
<td>default</td>
<td>4x/2</td>
<td>concurrency on</td>
<td>newUser1/</td>
<td></td>
</tr>
<tr>
<td>default</td>
<td>4x/2</td>
<td>concurrency on</td>
<td>newUser2/</td>
<td></td>
</tr>
</tbody>
</table>

/ifs/home/admin:
default 4+2/2 concurrency on .zshrc

/ifs/home/ftp:
default 4x/2 concurrency on incoming/
default 4x/2 concurrency on pub/

/ifs/home/ftp/incoming:

/ifs/home/ftp/pub:

/ifs/home/newUser1:
default 4+2/2 concurrency on .cshrc
default 4+2/2 concurrency on .login
default 4+2/2 concurrency on .login_conf
default 4+2/2 concurrency on .mail_alias

default 4+2/2 concurrency on .mailrc
default 4+2/2 concurrency on .profile
default 4+2/2 concurrency on .rhosts
default 4+2/2 concurrency on .shrc
default 4+2/2 concurrency on .zshrc

/ifs/home/newUser2:
default 4+2/2 concurrency on .cshrc
default 4+2/2 concurrency on .login
default 4+2/2 concurrency on .login_conf
default 4+2/2 concurrency on .mail_alias

default 4+2/2 concurrency on .mailrc
default 4+2/2 concurrency on .profile
default 4+2/2 concurrency on .rhosts
default 4+2/2 concurrency on .shrc
default 4+2/2 concurrency on .zshrc

isi_for_array

Executes commands on multiple nodes in an array, either in parallel or in serial.

When options conflict, the one specified last takes precedence.

Note -k, -u, -p, and -q are valid only for SSH transport.

Syntax

isi_for_array

[ |--array-name | -a] <array>
[ |--array-file | -A] <filename>
[ |--directory | -d] <directory>
[ |--diskless | -D] 
[ |--known-hosts-file | -k] <filename>
[ |--user | -u | -1] <user>
[ |--nodes | -n] <nodes>
[ |--password | -p | --pw] <password>
[ |--pre-command | -P] <command>
[ |--query-password | -q]
Cluster administration commands

Options

{--array-name | -a} <array>

Uses <array>.

{--array-file | -A} <filename>

Reads array information from <filename>. The default looks first for 
$HOME/.array.xml, then for /etc/ifs/array.xml.

{--directory | -d} <directory>

Executes commands from <directory> on remote machines. Defaults to the current 
working directory. An empty <directory> results in commands being executed in 
the user’s home directory on the remote machine.

{--diskless | -D}

Runs commands from diskless nodes.

{--known-hosts-file | -k} <filename>

Uses <filename> for SSH known hosts file instead of the default /dev/null.

{--user | -u | -l} <user>

Logs in as <user> instead of default root.

{--nodes | -n} <nodes>

Runs commands on the specified nodes, which can be specified multiple times. Must 
be a list of either node names or ranges of node IDs; for example, 
1,3-5,neal8,10. If no nodes are explicitly listed, the whole array is used.

{--password | -p | --pw} <password>

Uses <password> instead of the default.

{--pre-command | -P} <command>

Executes <command> before any other commands. This is useful for setting up the 
environment and it can be specified multiple times. The - command resets the list of 
commands.

{--query-password | -q}

Prompts the user for a password.

{--quiet | -Q}

Suppresses printing of the host prefix for each output line.

{--serial | -s}

Runs commands in serial instead of parallel.

{--storage | -S}

Run commands from storage nodes.

{--transport | -t} <transport-type>

Specifies the network transport type. The default is rpc. Valid transports values are 
rpc or ssh.

{--throttle | -T} <setting>
Adjusts throttling. The default is 24; 0 disables throttling.

```bash
{--exclude-nodes | -x} <nodes>
```
Excludes specified nodes from the command. This argument is specified in the same manner as the `-n` option.

```bash
{--exclude-down-nodes | -X}
```
Excludes offline nodes from the command. This command is limited to cluster local use only.

### Example 1  Examples

In SmartLock compliance mode, to run `isi_for_array` for a command that requires root privileges, you must specify `sudo` twice. For example, the following command runs `isi_stat` on each node in a compliance cluster.

```bash
sudo isi_for_array -u compadmin sudo isi stat
```

### isi_gather_info

Collects and uploads to SupportIQ the most recent cluster log information.

Multiple instances of `-i`, `-f`, `-s`, `-S`, `-l` are allowed.

`gather_expr`, `analysis_expr` can be quoted.

The default temporary directory is `/ifs/data/Isilon_Support/` (change with `-L` or `-T`)

### Syntax

```bash
isi_gather_info
```

```bash
[-h]
[-v]
[-u <user>]
[-p <password>]
[-i]
[-n incremental]
[-l]
[-f <filename>]
[-n <nodes>]
[--local-only]
[--skip-node-check]
[-s gather-script]
[-S gather-expr]
[-l gather-expr]
[-a analysis-script]
[-A analysis-expr]
[-t <tarfile>]
[-x exclude_tool]
[-I]
[-L]
[-T <temp-dir>]
[--tardir <dir>]
[--symlinkdir <dir>]
[--varlog_recent]
[--varlog_all]
[--nologs]
[--group <name>]
[--noconfig]
[--save-only]
[--save]
[--upload]
[--noupload]
[--re-upload <filename>]
[--verify-upload]
[--http]
[--nohttp]
[--http-host <host>]
[--http-path <dir>]
[--http-proxy <host>]
```
Options

-h
Prints this message and exits.

-v
Prints version info and exits.

-u <user>
Specifies login as <user> instead of default root.

-p <password>
Uses <password>.

-i
Includes only the listed utility. See also the -l option for a list of utilities to include. The special value all may be used to include every known utility.

--incremental
Gathers only those logs that changed since last log upload.

-l
Lists utilities and groups that can be included. See -i and --group.

-f <filename>
Gathers <filename> from each node.

-n <nodes>
Gathers information from only the specified nodes. Nodes must be a list or range of LNNs, for example, 1, 4–10, 12, 14. If no nodes are specified, the whole array is used. Note that nodes are automatically excluded if they are down.

--local-only
Does not gather any information from other nodes.

--skip-node-check
Specifies skipping the check for node availability.

-s gather-script
Runs <gather-script> on every node.

-S gather-expr
Runs <gather-expr> on every node.

-1 gather-expr
Runs <gather-expr> on the local node.
-a analysis-script
  Runs <analysis-script> on results.

-A analysis-expr
  Runs <analysis-expr> on every node.

-t <tarfile>
  Saves all results to the specified <tarfile> rather than to the default tar file.

-x exclude_tool
  Excludes the specified tool or tools from being gathered from each node. Multiple
tools can be listed as comma-separated values.

-I
  Saves results to /ifs. This is the default setting.

-L
  Save all results to local storage /var/crash/support/.

-T <temp-dir>
  Saves all results to <temp-dir> instead of the default directory. -T overrides -L and -I.

--tardir <dir>
  Places the final package directly into the specified directory.

--symlinkdir <dir>
  Creates a symlink to the final package in the specified directory.

--varlog_recent
  Gathers all logs in /var/log, with the exception of the compressed and rotated old
logs. The default setting is all logs.

--varlog_all
  Gathers all logs in /var/log, including compressed and rotated old logs. This is the
default setting.

--nologs
  Does not gather the required minimum number of logs.

--group <name>
  Adds a specific group of utilities to the tar file.

--noconfig
  Uses built-in defaults and bypasses the configuration file.

--save-only
  Saves the CLI-specified configuration to file and exits.

--save
  Saves the CLI-specified configuration to file and runs it.

--upload
  Uploads logs to Isilon Technical Support automatically. This is the default setting.

--noupload
  Specifies no automatic upload to Isilon Technical Support.

--re-upload <filename>
  Re-uploads the specified <filename>.

--verify-upload
Creates a tar file and uploads to test connectivity.

--http
Attempts HTTP upload. This is the default setting.

--nohttp
Specifies no HTTP upload attempt.

--http-host <host>
Specifies an alternate HTTP site for upload.

--http-path <dir>
Specifies an alternate HTTP upload directory.

--http-proxy <host>
Specifies the proxy server to use.

--http-proxy-port <port>
Specifies the proxy port to use.

--ftp
Attempts FTP upload. This setting is the default.

--noftp
Specifies no FTP upload attempt.

--ftp-user <user>
Specifies an alternate user for FTP (default: anonymous).

--ftp-pass <password>
Specifies an alternate password for FTP.

--ftp-host <host>
Specifies an alternate FTP site for upload.

--ftp-path DIR
Specifies an alternate FTP upload directory.

--ftp-port <alt-port>
Specifies an alternate FTP port for upload.

--ftp-proxy <host>
Specifies the proxy server to use.

--ftp-proxy-port <port>
Specifies the proxy port to use.

--ftp-mode <mode>
Specifies the mode of FTP file transfer (default: attempt both). The following values are valid: both, active, passive.

--email
Attempts SMTP upload. If set, SMTP is tried first.

--noemail
Specifies no SMTP upload attempt (default).

--email-addresses
Specifies email addresses as comma-separated strings.

--email-subject
Specifies an alternative email subject.

--email-body
   Specifies alternative email text shown on head of body.

--skip-size-check
   Does not check the size of the gathered file.
CHAPTER 17

Job management commands

You can control the OneFS job engine on an Isilon cluster through the job management commands.

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isi job history

Displays recent job events.

Syntax

isi job history

[--job {<job-name> | <instance-ID>}]

[--limit <integer>]

[--no-headers]

[--verbose]

Options

{-job | -j} {<job-name> | <instance-id>}

   Displays the job history of the specified job only.

{-limit | -l} <integer>

   Displays no more than the specified number of items.

{-no-headers | -H}

   Hides the Time, Job, and Event headers in the output.

{-verbose | -v}

   Displays more detailed information.

Examples

The following command displays the 20 most recent job events.

isi job history --limit 20

The following command displays the 5 most recent MultiScan job events.

isi job history --limit 5 --job multiscan

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Time</th>
<th>Job</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/25 12:06:05</td>
<td>MultiScan[3]</td>
<td>Phase 3: begin sin scan and mark</td>
</tr>
<tr>
<td>09/25 12:06:05</td>
<td>MultiScan[3]</td>
<td>Phase 3: end sin scan and mark</td>
</tr>
<tr>
<td>09/25 12:06:05</td>
<td>MultiScan[3]</td>
<td>Phase 4: begin sweep</td>
</tr>
</tbody>
</table>

isi job cancel

Stops all operations of an active job.

Syntax

isi job cancel <job>

Options

<job>

   Specifies the job to cancel. You can specify the job by job name or job instance ID.
Examples
The following command cancels an active MultiScan job.
isi job cancel multiscan

The system displays output similar to the following example. In the example, [10] is the instance ID of the cancelled MultiScan job.
Cancelling job [10]

The following command cancels an active job with an instance ID of 14.
isi job cancel 14

The system displays output similar to the following example:
Cancelling job [14]

isi job list
Displays the name, enabled status, default impact policy, and description of all OneFS jobs.

Syntax
isi job list

Options
{-quiet | -q}
Displays only the name and description of each job.

Examples
The following command displays a list of OneFS jobs without enabled status and default impact policy values.
isi job list --quiet

isi job update
Changes priority level and impact policy of a paused or active job.

Syntax
isi job update <job>

Options
<job>
Specifies the job to update. You can specify the job by job name or job instance ID.

{--priority | -p} <priority-level>
Sets the priority level for the specified job. The value for <priority-level> must be a number between 2 and 10. Priority 1 is reserved for the FlexProtect and IntegrityScan jobs.

{--policy | -o} {high | medium | low}
Sets the impact policy for the specified job.
Examples
The following command changes the impact policy to high for a paused or active MultiScan job.

    isi job update multiscan --policy high

The system displays output similar to the following example. In the example, [21] is the instance ID of the updated MultiScan job.

    Updated job [21]

The following command changes the impact policy to medium, and priority to 8, for a job with an instance ID of 14.

    isi job update 14 --policy medium --priority 8

isi job pause

Pauses an active job.

To resume a paused job, use the isi job resume command.

Syntax

    isi job pause <job>

Options

    <job>

        Specifies the job to pause. You can specify the job by job name or job instance ID.

Examples

The following command pauses an active AutoBalance job.

    isi job pause autobalance

The system displays output similar to the following example. In the example, [22] is the instance ID of the paused AutoBalance job.

    Pausing job [22]

The following command pauses an active job with an instance ID of 18.

    isi job pause 18

The system displays output similar to the following example:

    Pausing job [18]

isi job resume

Resumes a paused job.

To confirm that a job has resumed, use the isi job history command.

Syntax

    isi job resume <job>

Options

    <job>

        Specifies the job to resume. You can specify the job by job name or job instance ID.

Examples

The following command resumes a paused AutoBalance job.

    isi job resume autobalance
The system displays output similar to the following example. In the example, [20] is the instance ID of the AutoBalance job.

```
Resumed job [20]
```

The following command resumes a paused job with an instance ID of 16.
```
isi job resume 16
```

The system displays output similar to the following example:

```
Resumed job [16]
```

## isi job start

Starts a new job.

The `isi job start` command does not control existing jobs. To resume a paused job, use the `isi job resume` command.

### Syntax

```
isi job start <job>  
  [--priority <priority-level>]  
  [--policy {high | medium | low}]  
  [--nodup]  
  [ --path <ifs-directory> ]  
  [ --mode {clone | inherit | convert} ]  
  [ --type {system | sid | unix | native} ]  
  [ --zone <zone-name> ]  
  [ --template <ifs-path> ]  
  [ --domroot <ifs-directory> ]  
  [ --domtype {snaprevert | synciq} ]  
  [ --domdelete ]  
  [ --snapid <integer> ]
```

### Options

**<job>**

Specifies the job to add to the job queue. Specify the job by job name.

**{--priority | -p} <priority-level>**

Sets a one-time priority level for the current execution of the job. The default priority value for the job will not change. The value for `<priority-level>` must be a number between 2 and 10. Priority 1 is reserved for the FlexProtect and IntegrityScan jobs.

**{--policy | -o} {high | medium | low}**

Sets a one-time impact policy for the current execution of the job. The default impact policy for the job will not change.

**{--nodup | -n}**

Disallows duplicate jobs. If an instance of the specified job is already in the queue, the new job will not start.

**--path <ifs-directory>**

Valid for the TreeDelete and PermissionRepair jobs only. Specifies the path to the target directory.

**--mode {clone | inherit | convert}**

Valid for the PermissionRepair job only. Specifies the mode for PermissionRepair.

**--type {system | sid | unix | native}**

Valid for the PermissionRepair job only. Specifies the type for PermissionRepair.

**--zone <zone-name>**
Valid for the PermissionRepair job only. Specifies the type for PermissionRepair.

`--template <ifs-path>`
Valid for the PermissionRepair job only. Specifies the directory of the template file used in PermissionRepair.

`--domroot <ifs-directory>`
Valid for the DomainMark job only. Specifies the root path location for the DomainMark job.

`--domtype {snaprevert | synciq}`
Valid for the DomainMark job only. Specifies the domain type for the DomainMark job.

`--domdelete`
Valid for the DomainMark job only. Specifies the delete operation for the DomainMark job.

`--snapid <integer>`
Valid for the SnapRevert job only. Specifies a snapshot ID for the SnapRevert job.

Examples
To add an AutoBalance job to the job queue, run the following command.

`isi job start autobalance`

The system displays output similar to the following example. In the example, [24] is the instance ID of the new AutoBalance job.

`Added job [24]`

The following command adds a MultiScan job to the job queue with a priority of 8 and a high impact policy.

`isi job start multiscan --priority 8 --policy high`

The following command adds a TreeDelete job to the job queue that deletes the `/ifs/data/old` directory, with the lowest priority and impact policy settings.

`isi job start treedelete --path /ifs/data/old --priority 10 --policy low`

The following command adds a PermissionRepair job to the job queue that clones the permissions from the `/ifs/data/alpha` directory and repairs the permissions on the `/ifs/data/beta` directory.

`isi job start permissionrepair --template /ifs/data/alpha --path /ifs/data/beta --mode clone`

**isi job policy create**

Creates a job impact policy.

By default, the new impact policy will have an impact level of low. Use the `isi job policy modify` command to adjust the new policy's impact level and schedule.

Syntax

`isi job policy create <name>`

Options

`<name>`
Specifies a name for the new job policy. The following names are reserved and cannot be used for a new policy: LOW, MEDIUM, HIGH, and OFF_HOURS.
Examples
The following command creates a new impact policy named newpolicy.

```
isi job policy create newpolicy
```

The system displays output similar to the following example:

```
Created policy 'newpolicy'
```

**isi job policy delete**

Deletes a job impact policy.

The following policies are reserved and cannot be deleted: LOW, MEDIUM, HIGH, and OFF_HOURS.

**Syntax**

```
isi job policy delete <policy>
```

**Options**

- `<policy>`
  - Specifies the impact policy to delete by policy name.

**Examples**

The following command deletes an impact policy named oldpolicy.

```
isi job policy delete oldpolicy
```

**isi job policy list**

Displays the name, schedule, and impact level of all available impact policies.

**Syntax**

```
isi job policy list
```

**Options**

- There are no options for this command.

**Examples**

The following command displays a list of available impact policies.

```
isi job policy list
```

The system displays output similar to the following example:

<table>
<thead>
<tr>
<th>Job Policies:</th>
<th>Start</th>
<th>End</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIGH</td>
<td>Sun 00:00</td>
<td>Sat 23:59</td>
<td>High</td>
</tr>
<tr>
<td>LOW</td>
<td>Sun 00:00</td>
<td>Sat 23:59</td>
<td>Low</td>
</tr>
<tr>
<td>MEDIUM</td>
<td>Sun 00:00</td>
<td>Sat 23:59</td>
<td>Medium</td>
</tr>
<tr>
<td>OFF_HOURS</td>
<td>Sun 00:00</td>
<td>Mon 09:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Mon 09:00</td>
<td>Mon 17:00</td>
<td>Paused</td>
</tr>
<tr>
<td></td>
<td>Mon 17:00</td>
<td>Tue 09:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Tue 09:00</td>
<td>Tue 17:00</td>
<td>Paused</td>
</tr>
<tr>
<td></td>
<td>Tue 17:00</td>
<td>Wed 09:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Wed 09:00</td>
<td>Wed 17:00</td>
<td>Paused</td>
</tr>
<tr>
<td></td>
<td>Wed 17:00</td>
<td>Thu 09:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Thu 09:00</td>
<td>Thu 17:00</td>
<td>Paused</td>
</tr>
<tr>
<td></td>
<td>Thu 17:00</td>
<td>Fri 09:00</td>
<td>Low</td>
</tr>
</tbody>
</table>
isi job policy modify

Adds an impact interval to an impact policy.

To confirm that the new interval was added, use the isi job policy list command.

Syntax

```
isi job policy modify <policy> <start> <end> <impact>
```

Options

- **<policy>**
  Specifies the impact policy to modify by policy name.

- **<start>**
  Specifies the start time of the new impact interval. The value for the start time is entered in the following format.
  `<day>,<HH>:<MM>`

  - The value of `<day>` must be a day of the week. The full name of the day, or the three letter abbreviation for the day, can be used.
  - The value of `<HH>` must be an integer between 0 and 24 that represents the hour of day.
  - The value of `<MM>` must be an integer between 0 and 59 that represents the minute within the hour.

- **<end>**
  Specifies the end time of the new impact interval. The value for the end time is entered in the format `<day>,HH:MM`, the same format as the start time.

- **<impact>**
  Specifies the impact level applied to the job for the duration of the new impact interval. The accepted options for impact level are high, medium, low, or paused.

Examples

The following command adds a medium impact interval, from 8:00 PM on Friday to 11:30 PM on Saturday, to a policy called policymedium.

```
isi job policy modify policymedium Fri,20:00 Sat,23:30 medium
```

Run the isi job policy list command to confirm that the system displays the modified policy in the policy list, similar to the following example:

<table>
<thead>
<tr>
<th>Policy</th>
<th>Start</th>
<th>End</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>policymedium</td>
<td>Sun 00:00</td>
<td>Fri 20:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Fri 20:00</td>
<td>Sat 23:30</td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Sat 23:30</td>
<td>Sat 23:59</td>
<td>Low</td>
</tr>
</tbody>
</table>

The following command adds an impact interval that pauses a job, from 7:00 AM on Monday to 5:00 PM on Friday, to a policy called workweekpause.

```
isi job policy modify workweekpause Mon,07:00 Fri,17:00 paused
```

Run the isi job policy list command to confirm that the system displays the modified policy in the policy list, similar to the following example:

<table>
<thead>
<tr>
<th>Policy</th>
<th>Start</th>
<th>End</th>
<th>Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>workweekpause</td>
<td>Sun 00:00</td>
<td>Mon 07:00</td>
<td>Low</td>
</tr>
<tr>
<td></td>
<td>Mon 07:00</td>
<td>Fri 17:00</td>
<td>Paused</td>
</tr>
<tr>
<td></td>
<td>Fri 17:00</td>
<td>Sat 23:59</td>
<td>Low</td>
</tr>
</tbody>
</table>
isi job policy set

Assigns a default impact policy to a job.
To confirm that a new impact policy was set, use the isi job list command.

Syntax

\texttt{isi job policy set <job> <policy>}

Options

\texttt{<job>}
Specifies the job to which you want to assign a new default impact policy by job name.

\texttt{<policy>}
Specifies the new default impact policy for the job by policy name.

Examples

The following example sets the default impact policy for the AutoBalance job to High.

\texttt{isi job policy set autobalance high}

Run the isi job list command to confirm that the system displays the modified job in the job list, similar to the following example:

<table>
<thead>
<tr>
<th>Name</th>
<th>Enabled</th>
<th>Policy</th>
<th>Description</th>
</tr>
</thead>
</table>
| AutoBalance| True    | HIGH   | Balance free space in the cluster.

isi job schedule list

Lists all scheduled jobs with their configured schedules and next scheduled run time.

Syntax

\texttt{isi job schedule list}

Options

There are no options for this command.

Examples

To display a list of available impact policies, run the following command:

\texttt{isi job schedule list}

The system displays output similar to the following example.

<table>
<thead>
<tr>
<th>Job schedules:</th>
<th>Schedule</th>
<th>Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>FSAnalyze</td>
<td>every day at 22:00</td>
<td>10/03</td>
</tr>
<tr>
<td>22:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MediaScan</td>
<td>the 1st saturday of every month at 12am</td>
<td>10/06</td>
</tr>
<tr>
<td>00:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ShadowStoreD...</td>
<td>every sunday at 12:00am</td>
<td>10/07</td>
</tr>
<tr>
<td>00:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SmartPools</td>
<td>every day at 22:00</td>
<td>10/03</td>
</tr>
<tr>
<td>22:00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
isi job schedule set

Sets a recurring schedule for a job.

This command is valid for only the FSAnalyze, MediaScan, SmartPools, ShadowStoreDelete, DomainMark, and Snaprevert jobs.

To confirm that a new schedule was set, run the isi job schedule list command.

Syntax

```
isib job schedule set <job> <when>
```

Options

```
<job>
```

Specifies the job to which you want to assign a new schedule. The only valid values are jobs that do not require additional parameters: FSAnalyze, MediaScan, SmartPools, ShadowStoreDelete, DomainMark, and Snaprevert.

```
<when>
```

Specify in the following format:

```
"<interval> ["<frequency>"]"
```

Specify `<interval>` in one of the following formats:

- Every [(other | <integer>)] (weekday | day)
- Every [(other | <integer>)] week [on <day>]
- Every [(other | <integer>)] month [on the <integer>]
- Every [<day>, ...] [of every [(other | <integer>)] week]
- The last (day | weekday | <day>) of every [(other | <integer>)] month
- The <integer> (weekday | <day>) of every [(other | <integer>)] month
- Yearly on <month> <integer>
- Yearly on the {last | <integer>} [weekday | <day>] of <month>

Specify `<frequency>` in one of the following formats:

- at <hh>[:<mm>] [{AM | PM}]
- every [(integer)] {hours | minutes} [between <hh>[:<mm>] [{AM | PM}] and <hh>[:<mm>] [{AM | PM}]]
- every [(integer)] {hours | minutes} [from <hh>[:<mm>] [{AM | PM}] to <hh>[:<mm>] [{AM | PM}]]

You can optionally append "st", "th", or "rd" to `<integer>`. For example, you can specify "Every 1st month"

Specify `<day>` as any day of the week or a three-letter abbreviation for the day. For example, both "saturday" and "sat" are valid.

Examples

The following command runs the MediaScan job every Monday at 10:00 PM.

```
isii job schedule set mediascan "every Mon at 10pm"
```

Run the isi job schedule list command to confirm that the system displays the modified job schedule in the schedule list, similar to the following example:

```
Job schedules:
Job                Schedule              Next
```

376 OneFS 7.0.1 Command Reference
### Job management commands

#### isi job schedule delete

Removes a job schedule.

This command is only available for the FSAnalyze, MediaScan, SmartPools, ShadowStoreDelete, DomainMark, and Snaprevert jobs.

**Syntax**

```
isi job schedule delete <job>
```

**Options**

- `<job>`: Specifies the job for which you want to remove a schedule. The only valid values are jobs that do not require additional parameters: FSAnalyze, MediaScan, SmartPools, ShadowStoreDelete, DomainMark, and Snaprevert.

**Examples**

The following example removes the schedule from the MediaScan job.

```
isi job schedule delete mediascan
```

Verify that the schedule was removed from the schedule list by running the `isi job schedule list` command. The system displays the job schedule list with MediaScan removed, similar to the following example:

<table>
<thead>
<tr>
<th>Job schedules:</th>
<th>Job</th>
<th>Schedule</th>
<th>Next</th>
</tr>
</thead>
<tbody>
<tr>
<td>Run</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------------</td>
<td>---------------------------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>FsAnalyze</td>
<td></td>
<td>the 3 Sun every 2 month at 16:00</td>
<td>10/21</td>
</tr>
<tr>
<td></td>
<td></td>
<td>16:00</td>
<td></td>
</tr>
<tr>
<td>SmartPools</td>
<td></td>
<td>every day at 22:00</td>
<td>10/04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22:00</td>
<td></td>
</tr>
<tr>
<td>ShadowstoreD...</td>
<td></td>
<td>every sunday at 12:00am</td>
<td>10/07</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12:00am</td>
<td></td>
</tr>
</tbody>
</table>
isi job status

Displays a summary of running, paused, and waiting jobs. Also displays a summary of recently failed or completed jobs.

Syntax

```
isi job status
 [--verbose]
```

Options

```
{--verbose | -v}
```

Displays more detailed information.

Examples

The following command views the status of all active and inactive jobs, including more detailed information.

```
isi job status --verbose
```

The system displays information similar to the following example:

<table>
<thead>
<tr>
<th>Running jobs:</th>
<th>Job</th>
<th>Impact</th>
<th>Pri</th>
<th>Policy</th>
<th>Phase</th>
<th>Run Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>AutoBalance[23]</td>
<td>Low</td>
<td>4</td>
<td>LOW</td>
<td>2/5</td>
<td>0:00:02</td>
<td></td>
</tr>
<tr>
<td>Progress: Started</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Paused and waiting jobs:</th>
<th>Job</th>
<th>Impact</th>
<th>Pri</th>
<th>Policy</th>
<th>Phase</th>
<th>Run Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>MultiScan[21]</td>
<td>Low</td>
<td>4</td>
<td>LOW</td>
<td>1/4</td>
<td>0:00:08</td>
<td></td>
</tr>
<tr>
<td>User Paused</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| (Actions: Collect, AutoBalance)
| Progress: Collect: 292 LINs, 0 errors AutoBalance: 292 LINs, |
| 0 errors |
| LIN Estimate based on LIN count of 669 done on Oct 3 |
| 22:00:55 2012 LIN |
| Based Estimate: 10s Remaining (43% Complete) Block Based Estimate: 33m |
| 6s Remaining (0% Complete) 0 errors total |

No failed jobs.

Recent job results:

<table>
<thead>
<tr>
<th>Time</th>
<th>Job</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>10/02 22:00:28</td>
<td>SmartPools[14]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/02 22:01:00</td>
<td>FSAnalyze[15]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/03 12:44:18</td>
<td>MultiScan[16]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/03 13:40:41</td>
<td>MediaScan[17]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/03 22:00:39</td>
<td>SmartPools[18]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/03 22:01:10</td>
<td>FSAnalyze[19]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/03 22:43:38</td>
<td>MediaScan[20]</td>
<td>Succeeded (LOW)</td>
</tr>
<tr>
<td>10/04 00:39:09</td>
<td>AutoBalance[22]</td>
<td>Succeeded (LOW)</td>
</tr>
</tbody>
</table>
You can access and configure OneFS events and notification rules settings using the event commands. Running `isi events` without subcommands is equivalent to running `isi events list`.

- `isi events cancel` ................................................................................................. 380
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isi events cancel

Cancels events.

Syntax

isi events cancel --instanceids <id>

Options

|--instanceids | -i | <id> | <id,id,id...>

Specifies the instance ID of the event that you want to cancel.
Specifies multiple event instances in a comma-separated list.
You can specify all event instances with all.

isi events list

Displays a list of system events.

Syntax

isi events list

|--oldest | -o | --newest | -n | --history | --coalesced | --severity <value> | --limit <integer> | --localdb | --nodes <node> | --types <integer> | --columns <column> | --sort-by <column> | --csv | --wide

Options

|--oldest | -o | --newest | -n |<rel-time> | <spec-time>

Displays only events that have a start time after a specified date and time.
Specify -<rel-time> in the following format, where d, h, and m specify days, hours and minutes:
<integer>{d | h | m}

Specify <spec-time> in the following format, where <mm>/<dd>/<YYYY <HH>:<MM> are the numerical month, day, year and minute:
<mm>/<dd>/<YYYY <HH>:<MM>

|--history | -s

Retrieves only historical events, which are those that have an end date or are quieted events.
Event commands

{--coalesced | -C}
Includes coalesced events in results.

{--severity} | -v <value>
Retrieves events for a specified level or levels. Multiple levels can be specified in a comma-separated list. The following values are valid:
  info
  warn
  critical
  emergency

{--limit | -L} <integer>
Limits results to the specified number of events.

{--localdb | -l}
Uses the local DB rather than the master.

--nodes <node>
Specifies which nodes to report statistics on. Default is all. The following values are valid:
  • all
  • <int>
  • <int>-<int>

{--types | -i} <integer>
Retrieves all instances of the listed event types. Multiple types can be specified in a comma-separated list.

{--columns| -c} <column>
Specifies event list columns in a comma-separated list. The following values are valid:
  type
  id
  coalesce_id
  start_time
  end_time
  lnn
  severity
  value
  quiet
  message

{--sort-by | -b} <column>
Specifies which column to sort the rows by. The default sort column is start_time.

--csv
Displays rows in CSV format and suppresses headers.

{--wide | -w}
Displays table in wide mode without truncations.
isi events notifications create

Creates a new event notification rule. Notifications rule parameters must be created in order. For example, an --exclude parameter that is specified after an --include parameter is not the same as specifying --include before --exclude.

Syntax

```
isi events notifications create --name <name>
[--email <email-address>]
[--snmp <SNMP-community>@<<SNMP host>]
[--include-all <id>[,<id>]]
[--include-info <id>[,<id>]]
[--include-warn <id>[,<id>]]
[--include-critical <id>[,<id>]]
[--exclude-all <id>[,<id>]]
[--exclude-info <id>[,<id>]]
[--exclude-warn <id>[,<id>]]
[--exclude-critical <id>[,<id>]]
[--exclude-emergency <id>[,<id>]]
```

Options

--name <name>
  Specifies the name of the notification rule being created.

--email <email-address>
  Specifies the email address to send an SNMP event. Multiple email address can be delimited with commas.

--snmp <SNMP-community>@<SNMP host>
  Specifies the SNMP community and hostname to send snmp event. Community and hostname are connected by an @ symbol. Multiple entries can be specified in a comma-separated list.

--include-all <id>[,<id>]
  Configures specified events for all severities (info, warn, critical, emergency). --include=all configures all events for all severities.

--include-info <id>[,<id>]
  Configures specified events for info severity. --include-info=all configures all events for info.

--include-warn <id>[,<id>]
  Configures specified events for warn severity. --include-warn=all configures all events for warn.

--include-critical <id>[,<id>]
  Configures specified events for critical severity. --include-critical=all configures all events for critical.

--include-emergency <id>[,<id>]
  Configures specified events for emergency severity. --include-emergency=all configures all events for emergency.

--exclude-all <id>[,<id>]
  Excludes specified events for all severities (info, warn, critical, emergency). --exclude-all=all results in no configured events.

--exclude-info <id>[,<id>]
  Excludes specified events for info severity. --exclude-info=all excludes all info events.
--exclude-warn <id>[,<id>]
  Excludes specified events for warn severity. --exclude-warn=all excludes all warn events.

--exclude-critical <id>[,<id>]
  Excludes specified events for critical severity. --exclude-critical=all excludes all critical events.

--exclude-emergency <id>[,<id>]
  Excludes specified events for emergency severity. --exclude-emergency=all excludes all emergency events.

isi events notifications delete
Deletes a notification rule.

Syntax
isi events notifications delete --name <name>

Options
{--name -n} <name>
  Specifies the name of the notification rule to delete.

isi events notifications list
Displays a list of settings for a notification rule.

Syntax
isi events notifications list
  [--name <name>]

Options
{--name -n} <name>
  Specifies the name of the event notification rule.

isi events quiet
Marks an event as quieted. A quieted event is acknowledged when it is marked. The event is not removed or canceled.

Syntax
isi events quiet --instanceids <id>

Options
{--instanceids -i} [id] <id> <id> <id> ...
  Specifies the instance ID of the event that you want to quiet. Specifies multiple event instances in a comma-separated list.
  You can specify all event instances with all.
isi events sendtest

Sends a test event notification to verify event notification settings.

**Syntax**

`isi events sendtest --wait`

**Options**

`{-wait | -w}`

Specifies a wait for an event existence in the master database.

isi events settings list

Displays a list of global settings and values.

**Syntax**

`isi events settings list --name <name>`

**Options**

`{-name | -n} <name>`

Specifies the name of the setting to display.

isi events settings set

Changes the values of global settings.

**Syntax**

`isi events settings set --name <name> --value <value>`

**Options**

`{-name | -n} <name>`

Specifies the name of the setting to be changed.

`{-value | -v} <value>`

Specifies the new value for the specified setting.

isi events show

Displays information for an event.

**Syntax**

`isi events show --instanceid <id>`

`[{---wide}]
[{-localdb}]`

**Options**

`{-instanceid | -i} <id>`

Specifies the ID of the event to view.

`{-wide | -w}`

Displays the event information in wide mode.

`{-localdb | -l}`
Uses localdb instead of the master.

**isi events unquiet**

Returns a quieted event to an unacknowledged state.

**Syntax**

```
isi events unquiet --instanceid <id>
```

**Options**

```
{-instanceid | -i} {<id> | <id, id, id...>}
```

- Instance ID of the event that you want to unquiet.
- Specify multiple event instances in a comma-separated list.
- Specify all event instances with all.
You can configure quotas to track, limit, and manage disk usage by directory, user, or group. Quota commands that create and modify quotas are available only if a SmartQuotas license is configured on the cluster.

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isi quota quotas create

Creates new file system quotas.

Syntax

```
isi quota quotas create
--path <path>
--type{directory | user | group | default-user | default-group}
[|--user <name> | |--group <name> | |--uid <id> | |--gid <id>]
| |--sid <sid>]
|--hard-threshold <size>
|--advisory-threshold <size>
|--soft-threshold <size> [--soft-grace <duration>]
|--container {yes | no}
|--include-snapshots {yes | no}
|--thresholds-include-overhead {yes | no}
|--enforced {yes | no} [--zone <zone>]
|--verbose
```

Options

```
--path <path>

Specifies an absolute path within the /ifs file system.

CAUTION

You should not create quotas of any type on the /ifs directory. A root-level quota
may result in significant performance degradation.
```

```
--type

Specifies a quota type. The following values are valid:

- DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
- USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- DEFAULT-USER — Creates a master quota that creates a linked quota for every user who
has data in the directory.
- DEFAULT-GROUP — Creates a master quota that creates a linked quota for every group
that owns data in the directory.
```

```
--user <name>

Specifies a user name.
```

```
--group <name>

Specifies a group name.
```

```
--gid <id>

Specifies the numeric group identifier (GID).
```

```
--uid <id>

Specifies a numeric user identifier (UID).
```

```
--sid <sid>

Sets a security identifier (SID). For example, S-1-5-21-13.
```

```
--hard-threshold <size>

```
Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if
the request violates the quota limit. Size is a capacity value formatted as
<integer>[b | K | M | G | T | P]].

--advisory-threshold <size>
Sets the advisory threshold. For notification purposes only. Does not enforce
limitations on disk write requests. Size is a capacity value formatted as
<integer>[b | K | M | G | T | P]].

--soft-threshold <size>
Specifies the soft threshold, which allows writes to disk above the threshold until the
soft grace period expires. Attempts to write to disk are denied thereafter. Size is a
capacity value formatted as  <integer>[b | K | M | G | T | P]].

--soft-grace <duration>
Specifies the soft threshold grace period, which is the amount of time to wait before
disk write requests are denied.
Specify <duration> in the following format.
<integer><time>
Specify <time-and-date> in the following format:
<YYYY>-<MM>-<DD>[T<hh>:<mm>[:<ss>]]
Specify <time> as one of the following values.

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days
- H — Specifies hours
- S — Specifies seconds

--container {yes | no}
Specifies that threshold be shown as the available space on the SMB share, instead
of the whole cluster. The setting applies only to hard thresholds. When setting this
value, you must specify --enforced.

--include-snapshots {yes | no}
Includes snapshots in the quota size.

--thresholds-include-overhead {yes | no}
Includes OneFS storage overhead in the quota threshold when set to yes.

--enforced {yes | no}
Enforces this quota when set to yes. Specifying any threshold automatically sets this
value to yes on create.

--zone <zone>
Specifies an access zone.

{--verbose | -v}
Displays more detailed information.
isi quota quotas delete

Deletes a file system quota or multiple quotas.

Syntax

```sh
isi quota quotas delete
--path <path>
--type {directory | user | group | default-user | default-group | --all}
[|--user <name> | |--group <name> | |--gid <id> | |--uid <id>
 | |--sid <sid>]
|--recurse-path-parents
|--recurse-path-children
|--include-snapshots {yes | no}
|--zone <zone>
|--force
|--verbose
```

Options

```sh
--path <path>
  Specifies an absolute path within the /ifs file system.

--type
  Deletes quotas of the specified type. Argument must be specified with the --path option. The following values are valid:
  • DIRECTORY — Specifies a quota for all data in the directory, regardless of owner.
  • USER — Specifies a quota for one specific user. Requires specification of --user, --uid, or --sid.
  • GROUP — Specifies a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
  • DEFAULT-USER — Specifies a master quota that creates a linked quota for every user who has data in the directory.
  • DEFAULT-GROUP — Specifies a master quota that creates a linked quota for every group that owns data in the directory.
  • --ALL — Deletes all quotas. Flag may not be specified with --type or --path.

--user <name>
  Deletes a quota associated with the user identified by name.

--gid <id>
  Deletes a quota by the specified numeric group identifier (GID).

--uid <id>
  Deletes a quota by the specified numeric user identifier (UID).

--sid <sid>
  Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

--recurse-path-parents
  Searches parent paths for quotas.

--recurse-path-children
  Searches child paths for quotas.

--include-snapshots {yes | no}
  Deletes quotas that include snapshot data usage.

--zone <zone>
```
Specifies an access zone.

```
{-force | -f}
```

Bypasses the confirmation message.

```
{-verbose | -v}
```

Displays more detailed information.

## isi quota quotas modify

Modifies a file system quota.

### Syntax

```
isi quota quotas modify
--path <path>
--type {directory | user | group | default-user | default-group}
[{---user <name>} | {---group <name>} | {---gid <id>} | {---uid <id>}]
[{---sid <sid>}] [-hard-threshold <size>] [-advisory-threshold <size>]
[{---soft-threshold <size>}] [-soft-grace <duration>]
[{---container {yes | no}}]
[{---include-snapshots {yes | no}}]
[{---thresholds-include-overhead {yes | no}}]
[{---enforced {yes | no}}]
[{---linked {yes | no}}]
[{---clear-hard-threshold]
[{---clear-advisory-threshold]
[{---clear-soft-threshold]
```

### Options

**--path <path>**

Specifies an absolute path within the /ifs file system.

**--type**

Specifies a quota type. The following values are valid:

- DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
- USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- DEFAULT-USER — Creates a master quota that creates a linked quota for every user who has data in the directory.
- DEFAULT-GROUP — Creates a master quota that creates a linked quota for every group that owns data in the directory.

**--user <name>**

Specifies a user name.

**--group <name>**

Specifies a group name.

**--gid <id>**

Specifies the numeric group identifier (GID).

**--uid <id>**

Specifies a numeric user identifier (UID).
Specifies a security identifier (SID) for selecting the quota that you want to modify. For example, S-1-5-21-13.

Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit. Size is a capacity value formatted as \(<integer>[b | K | M | G | T | P]\).

Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests. Size is a capacity value formatted as \(<integer>[b | K | M | G | T | P]\).

Specifies the soft threshold, which allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter. Size is a capacity value formatted as \(<integer>[b | K | M | G | T | P]\).

Specifies the soft threshold grace period, which is the amount of time to wait before disk write requests are denied. Specify \(<duration>\) in the following format.

\(<integer><time>\)

Specify \(<time-and-date>\) in the following format:
\(<YYYY>-<MM>-<DD>[T<hh>:<mm>:<ss>]\)

Specify \(<time>\) as one of the following values.

- \(Y\) — Specifies years
- \(M\) — Specifies months
- \(W\) — Specifies weeks
- \(D\) — Specifies days
- \(H\) — Specifies hours
- \(S\) — Specifies seconds

Specifies that threshold be shown as the available space on the SMB share, instead of the whole cluster. The setting applies only to hard thresholds. When setting this value, you must specify --enforced.

Includes snapshots in the quota size.

Includes OneFS storage overhead in the quota threshold when set to yes.

Enforces this quota when set to yes. Specifying any threshold automatically sets this value to yes on create.

Unlinks a linked quota created automatically by a default-user or default-group quota. Unlinking allows the quota to be modified separately. To modify a linked
quota, you must modify the original default-user or default-group quota it originated from, instead of the linked quota itself.

--clear-hard-threshold
Clears an absolute limit for disk usage.

--clear-advisory-threshold
Clears the advisory threshold.

--clear-soft-threshold
Clears the soft threshold.

isi quota quotas list
Displays a list of quotas.

Syntax

isi quota quotas list

([--user <name>] | [--group <name>] | [--gid <id>] | [--uid <id>]
 | [--sid <sid>]
[--type {directory | user | group | default-user | default-group}]
[--path]
[--recurse-path-parents]
[--recurse-path-children]
[--include-snapshots {yes | no}]
[--exceeded]
[--enforced {yes | no}]
[--zone <zone>]
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]

Options

--user <name>
Specifies a user name.

--group <name>
Specifies a group name.

--gid <id>
Specifies the numeric group identifier (GID).

--uid <id>
Specifies a numeric user identifier (UID).

--sid <sid>
Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

<type>
Specifies a quota type. The following values are valid:

• DIRECTORY — Creates a quota for all data in the directory, regardless of owner.

• USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.

• GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
Quota commands

- **DEFAULT-USER** — Creates a master quota that creates a linked quota for every user who has data in the directory.

- **DEFAULT-GROUP** — Creates a master quota that creates a linked quota for every group that owns data in the directory.

--path
   Specifies quotas on the specified path.

--recurse-path-parents
   Specifies parent paths for quotas.

--recurse-path-children
   Specifies child paths for quotas.

--include-snapshots {yes | no}
   Specifies quotas that include snapshot data usage.

--exceeded
   Specifies only quotas that have an exceeded threshold.

--enforced {yes | no}
   Specifies quotas that have an enforced threshold.

--zone <zone>
   Specifies quotas in the specified zone.

--limit <integer>
   Specifies the number of quotas to display.

--format
   Displays quotas in the specified format. The following values are valid:
   table
   json
   csv
   list

{--no-header | -a}
   Suppresses headers in CSV or table formats.

{--no-footer | -z}
   Suppresses table summary footer information.

{--verbose | -v}
   Displays more detailed information.

**isi quota quotas view**

Displays detailed properties of a single file system quota.

**Syntax**

```
isi quota quotas view
   --path
   --type {directory | user | group | default-user | default-group}
   [{--user <name> | --group <name> | --gid <id> | --uid <id>
     | |--sid <sid>]
   [-include-snapshots {yes | no}]
   [-zone <string>]
```
Options
--path <path>
   Specifies an absolute path within the /ifs file system.

--type
   Specifies quotas of the specified type. Argument must be specified with the --path option. The following values are valid:
   - DIRECTORY — Specifies a quota for all data in the directory, regardless of owner.
   - USER — Specifies a quota for one specific user. Requires specification of --user, --uid, or --sid.
   - GROUP — Specifies a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
   - DEFAULT-USER — Specifies a master quota that creates a linked quota for every user who has data in the directory.
   - DEFAULT-GROUP — Specifies a master quota that creates a linked quota for every group that owns data in the directory.

--user <name>
   Specifies a quota associated with the user identified by name.

--group <name>
   Specifies a quota associated with the group identified by name.

--gid <id>
   Specifies a quota by the numeric group identifier (GID).

--uid <id>
   Specifies a quota by the specified numeric user identifier (UID).

--sid <sid>
   Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

--include-snapshots {yes | no}
   Specifies quotas that include snapshot data usage.

--zone <zone>
   Specifies an access zone.

**isi quota quotas notifications clear**

Clears rules for a quota and uses system notification settings.

**Note** Use the disable to disable all notifications for a quota.

Syntax

```
isi quota quotas notifications clear
   --path <path>
   --type {directory | user | group | default-user | default-group}
   [--user <name> | --group <name> | --gid <id> | --uid <id>
   | --sid <sid>]
   [--include-snapshots {yes | no}]
   [--thresholds-include-overhead {yes | no}]
   [--force]
```

Options
--path <path>
   Specifies an absolute path within the /ifs file system.
<type> --type
Specifies a quota type. The following values are valid:

- DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
- USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- DEFAULT-USER — Creates a master quota that creates a linked quota for every user who has data in the directory.
- DEFAULT-GROUP — Creates a master quota that creates a linked quota for every group that owns data in the directory.

--user <name>
Specifies a user name.

--group <name>
Specifies a group name.

--gid <id>
Specifies the numeric group identifier (GID).

--uid <id>
Specifies a numeric user identifier (UID).

--sid <sid>
Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

--include-snapshots {yes | no}
Includes snapshots in the quota size.

--thresholds-include-overhead {yes | no}
Includes OneFS storage overhead in the quota threshold when set to yes.

{--force | -f}
Bypasses the confirmation message.

isi quota quotas notifications create
Creates a notification rule for a quota.

Syntax

```
isi quota quotas notifications create
   --path <path>
   --type {directory | user | group | default-user | default-group}
   --threshold {hard | soft | advisory}
   --condition {exceeded | denied | violated | expired}
   [{--user <name> | |--group <name> | |--gid <id> | |--uid <id>
     | |--sid <sid>]
   [--include-snapshots {yes | no}]
   [--schedule <string>]
   [--holdoff <duration>]
   [--action-alert {yes | no}]
   [--action-email-owner {yes | no}]
   [--action-email-address <address>]
   [--verbose]
```

Options

--path <path>
Specifies an absolute path within the /ifs file system.

--type

Specifies a quota type. The following values are valid:

- **DIRECTORY** — Creates a quota for all data in the directory, regardless of owner.
- **USER** — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- **GROUP** — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- **DEFAULT-USER** — Creates a master quota that creates a linked quota for every user who has data in the directory.
- **DEFAULT-GROUP** — Creates a master quota that creates a linked quota for every group that owns data in the directory.

--threshold

Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

--condition

Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

--user <name>

Specifies a user name.

--group <name>

Specifies a group name.

--gid <id>

Specifies the numeric group identifier (GID).

--uid <id>

 Specifies a numeric user identifier (UID).

--sid <sid>

Sets a security identifier (SID). For example, S-1-5-21-13.

--include-snapshots {yes | no}

Specifies quotas that include snapshot data usage.

--schedule <name>
Specifies the date pattern at which recurring notifications are made.

```
--holdoff <duration>
```

Specifies the length of time to wait before generating a notification. Specify <duration> in the following format:

```
<YYYY>-<MM>-<DD>[T<hh>:<mm>[::<ss>]]
```

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days
- H — Specifies hours
- S — Specifies seconds

```
--action-alert {yes | no}
```

Generates an alert when the notification condition is met.

```
--action-email-owner {yes | no}
```

Specifies that an email be sent to a user when the threshold is crossed. Requires --action-email-address.

```
--action-email-address <address>
```

Specifies the email address of user to be notified.

```
{--verbose | -v}
```

Displays more detailed information.

## isi quota quotas notifications delete

Deletes a quota notification rule.

### Syntax

```
isIQ quota quotas notifications delete
   --path <path>
   --type {directory | user | group | default-user | default-group}
   --threshold {hard | soft | advisory}
   --condition {exceeded | denied | violated | expired}
   [ [--user <name>] | [--group <name>] | [--gid <id>] | [--uid <id>]
      | [--sid <sid>]]
   [--include-snapshots {yes | no}]
   [--force]
   [--verbose]
```

### Options

```
--path <path>
```

Specifies an absolute path within the /ifs file system.

```
--type
```

Specifies a quota type. The following values are valid:

- DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
- USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
• **DEFAULT-USER** — Creates a master quota that creates a linked quota for every user who has data in the directory.

• **DEFAULT-GROUP** — Creates a master quota that creates a linked quota for every group that owns data in the directory.

---threshold

Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.

- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.

- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

---condition

Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.

- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.

- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.

- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

---user <name>

Specifies a user name.

---group <name>

Specifies a group name.

---gid <id>

Specifies the numeric group identifier (GID).

---uid <id>

Specifies a numeric user identifier (UID).

---sid <sid>

Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

---include-snapshots {yes | no}

Includes snapshots in the quota size.

{---force | -f}

Bypasses the confirmation message.

{---verbose | -v}

Displays more detailed information.
isi quota quotas notifications disable

Disables all quota notifications.

⚠️ CAUTION ⚠️

When you disable all quota notifications, system notification behavior is disabled also. Use the --clear options to remove specific quota notification rules and fall back to the system default.

Syntax

```bash
isi quota quotas notifications disable
    --path
    --type {directory | user | group | default-user | default-group}
        [|--user <name> | |--group <name> | |--gid <id> | |--uid <id> | |--sid <sid>]
        [--include-snapshots {yes | no}]
        [--force]
```

Options

--path <path>

Specifies an absolute path within the /ifs file system.

--type

Disables quotas of the specified type. Argument must be specified with the --path option. The following values are valid:

- DIRECTORY — Specifies a quota for all data in the directory, regardless of owner.
- USER — Specifies a quota for one specific user. Requires specification of --user, --uid, or --sid.
- GROUP — Specifies a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- DEFAULT-USER — Specifies a master quota that creates a linked quota for every user who has data in the directory.
- DEFAULT-GROUP — Specifies a master quota that creates a linked quota for every group that owns data in the directory.

--user <name>

Disables a quota associated with the user identified by name.

--gid <id>

Disables a quota by the specified numeric group identifier (GID).

--uid <id>

Disables a quota by the specified numeric user identifier (UID).

--sid <sid>

Specifies a security identifier (SID) for selecting a quota. For example, S-1-5-21-13.

--include-snapshots {yes | no}

Disables quotas that include snapshot data usage.

{--force | -f}

Bypasses the confirmation message.
isi quota quotas notifications list

Displays a list of quota notification rules.

Syntax

```
isi quota quotas notifications list
  --path <path>
  --type [directory | user | group | default-user | default-group]
  [{--user <name> | [--group <name> | [--gid <id> | [--uid <id>]
  | [--sid <sid>]]
  [--include-snapshots {yes | no}]
  [--limit <integer>]
  [--format {table | json | csv | list}]
  [--no-header]
  [--no-footer]
  [--verbose]
```

Options

```
--path <path>
  Specifies an absolute path within the /ifs file system.
--type
  Specifies a quota type. The following values are valid:
  * DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
  * USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
  * GROUP — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
  * DEFAULT-USER — Creates a master quota that creates a linked quota for every user who has data in the directory.
  * DEFAULT-GROUP — Creates a master quota that creates a linked quota for every group that owns data in the directory.
--threshold
  Specifies the threshold type. The following values are valid:
  * HARD — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
  * SOFT — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
  * ADVISORY — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.
--condition
  Specifies the quota condition on which to send a notification. The following values are valid:
  * DENIED — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
  * EXCEEDED — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
  * VIOLATED — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
```
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the
soft-grace period has expired.

- `--user <name>`
  Specifies a user name.

- `--group <name>`
  Specifies a group name.

- `--gid <id>`
  Specifies the numeric group identifier (GID).

- `--uid <id>`
  Specifies a numeric user identifier (UID).

- `--sid <sid>`
  Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

- `--include-snapshots {yes | no}`
  Includes snapshots in the quota size.

- `[--limit | -l] <integer>`
  Specifies the number of quota notification rules to display.

- `--format`
  Displays quota notification rules in the specified format. The following values are valid:
  table
  json
  csv
  list

- `{--no-header | -a}`
  Suppresses headers in CSV or table formats.

- `{--no-footer | -z}`
  Suppresses table summary footer information.

- `{--verbose | -v}`
  Displays more detailed information.

**isi quota quotas notifications modify**

Modifies a notification rule for a quota.

**Syntax**

`isi quota quotas notifications modify`

```
--path <path>
--type {directory | user | group | default-user | default-group}
--threshold {hard | soft | advisory}
--condition {exceeded | denied | violated | expired}
[ [ include-snapshots {yes | no}] ]
[ [ schedule <string>] ]
[ [ holdoff <duration>] ]
[ [ clear-holdoff] ]
[ [ action-alert {yes | no}] ]
[ [ action-email-owner {yes | no}] ]
[ [ action-email-address {yes | no}] ]
[ [ verbose] ]
```
Options

--path <path>
   Specifies an absolute path within the /ifs file system.

--type
   Specifies a quota type. The following values are valid:
   - DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
   - USER — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
   - GROUP — Creates a quota for one specific group. Requires specification of --group, --gid, or --sid.
   - DEFAULT-USER — Creates a master quota that creates a linked quota for every user who has data in the directory.
   - DEFAULT-GROUP — Creates a master quota that creates a linked quota for every group that owns data in the directory.

--threshold
   Specifies the threshold type. The following values are valid:
   - HARD — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
   - SOFT — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
   - ADVISORY — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

--condition
   Specifies the quota condition on which to send a notification. The following values are valid:
   - DENIED — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
   - EXCEEDED — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
   - VIOLATED — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
   - EXPIRED — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

--user <name>
   Specifies a user name.

--group <name>
   Specifies a group name.

--gid <id>
   Specifies the numeric group identifier (GID).

--uid <id>
   Specifies a numeric user identifier (UID).

--sid <sid>
   Sets a security identifier (SID). For example, S-1-5-21-13.

--include-snapshots {yes | no}
Includes snapshots in the quota size.

--schedule <name>
  Specifies the date pattern at which recurring notifications are made.

--holdoff <duration>
  Specifies the length of time to wait before generating a notification. Specify
  <duration> in the following format:
  <YYYY>-<MM>-<DD>[<hh>:<mm>[<ss>]]

  • Y — Specifies years
  • M — Specifies months
  • W — Specifies weeks
  • D — Specifies days
  • H — Specifies hours
  • S — Specifies seconds

--clear-holdoff
  Clears the value for the --holdoff duration.

--action-alert {yes | no}
  Generates an alert when the notification condition is met.

--action-email-owner {yes | no}
  Specifies that an email be sent to a user when the threshold is crossed. Requires --
  action-email-address.

--action-email-address <address>
  Specifies the email address of user to be notified.

{--verbose | -v}
  Displays more detailed information.

### isi quota quotas notifications view

Displays the properties of a quota notification rule.

**Syntax**

```plaintext
isi quota quotas notifications view
  --path <path>
  --type {directory | user | group | default-user | default-group}
  --threshold {hard | soft | advisory}
  --condition {exceeded | denied | violated | expired}
  [{--user <name> | {--group <name>} | {--gid <id>} | {--uid <id>}
  | {--sid <sid>}]}
  [--include-snapshots {yes | no}]
```

**Options**

--path <path>
  Specifies an absolute path within the /ifs file system.

--type
  Specifies a quota type. The following values are valid:

  • DIRECTORY — Creates a quota for all data in the directory, regardless of owner.
Quota commands

- **USER** — Creates a quota for one specific user. Requires specification of the --user, --uid, or --sid option.
- **GROUP** — Creates a quota for one specific group. Requires specification of the --group, --gid, or --sid option.
- **DEFAULT-USER** — Creates a master quota that creates a linked quota for every user who has data in the directory.
- **DEFAULT-GROUP** — Creates a master quota that creates a linked quota for every group that owns data in the directory.

**--threshold**
Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

**--condition**
Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

**--user <name>**
Specifies a user name.

**--group <name>**
Specifies a group name.

**--gid <id>**
Specifies the numeric group identifier (GID).

**--uid <id>**
Specifies a numeric user identifier (UID).

**--sid <sid>**
Specifies a security identifier (SID) for selecting the quota. For example, S-1-5-21-13.

**--include-snapshots {yes | no}**
Includes snapshots in the quota size.
isi quota reports create

Generates an ad hoc quota report.

Syntax
isi quota reports create
    [--verbose]

Options
{-v} Displays more detailed information.

isi quota reports delete

Deletes a specified report.

Syntax
isi quota reports delete
    --time <string>
    --generated {live | scheduled | manual}
    --type {summary | detail}
    [--force]
    [--verbose]

Options
-time <time>
    Specifies the timestamp of the report.
    Specify <time-and-date> in the following format:
    <YYYY>-<MM>-<DD>[T<hh>:<mm>:<ss>]]

Specify <time> as one of the following values.

- Y — Specifies years
- M — Specifies months
- W — Specifies weeks
- D — Specifies days
- H — Specifies hours
- S — Specifies seconds

--generated
    Specifies the method used to generate the report. The following values are valid:
    live
    scheduled
    manual

--type
    Specifies a report type. The following values are valid:
    summary
    detail

{-f} Bypasses the confirmation message.

{-v} Displays more detailed information.
Disables more detailed information.

**isi quota reports list**

Displays a list of quota reports.

**Syntax**

```
isi quota reports list
[--limit <integer>]
[--format {table | json | csv | list}]
[--no-header]
[--no-footer]
[--verbose]
```

**Options**

--limit <integer>

Specifies the number of quotas to display.

--format

Displays quotas in the specified format. The following values are valid: table, json, csv, list.

(--no-header | -a)

Suppresses headers in CSV or table formats.

(--no-footer | -z)

Suppresses table summary footer information.

(--verbose | -v)

Displays more detailed information.

**isi quota settings notifications clear**

Cleats all default quota notification rules.

When you clear all default notification rules, the system reverts to system notification behavior. Use the --disable option to completely disable notification settings for a specific quota notification rule.

**Syntax**

```
isi quota settings notifications clear
[--force]
```

**Options**

(--force | -f)

Bypasses the confirmation message.

**isi quota settings notifications create**

Creates a default notification rule.

**Syntax**

```
isi quota settings notifications create
--threshold {hard | soft | advisory}
--condition {exceeded | denied | violated | expired}
```
Options

--threshold

Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

--condition

Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

--schedule <string>

Specifies the date pattern at which recurring notifications are made.

--holdoff <duration>

Specifies the length of time to wait before generating a notification. Specify <duration> in the following format:

```
<YYYY>-<MM>-<DD>[T<hh>:<mm>:<ss>]]
```

- **Y** — Specifies years
- **M** — Specifies months
- **W** — Specifies weeks
- **D** — Specifies days
- **H** — Specifies hours
- **S** — Specifies seconds

--action-alert {yes | no}

Generates an alert when the notification condition is met.

--action-email-owner {yes | no}

Specifies that an email be sent to a user when the threshold is crossed. Requires --action-email-address.

--action-email-address <address>

Specifies the email address of user to be notified.
Quota commands

```bash
{-verbose | -v}
Displays more detailed information.

isi quota settings notifications delete
Delete a default quota notification rule.

Syntax
isi quota settings notifications delete
   --threshold {hard | soft | advisory}
   --condition {exceeded | denied | violated | expired}
   [--force]
   [--verbose]
```

Options
--threshold
Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

--condition
Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

```bash
{-force | -f}
Bypasses the confirmation message.
```

```bash
{-verbose | -v}
Displays more detailed information.
```

isi quota settings notifications list
Displays a list of global quota notification rules.

Syntax
```bash
isi quota settings notifications list
   [--limit <integer>]
   [--format {table | json | csv | list}]
   [--no-header]
   [--no-footer]
   [--verbose]
```
**Options**

`{-limit | -l} <integer>`

Specifies the number of quota notification rules to display.

`--format`

Displays quotas in the specified format. The following values are valid:
- `table`
- `json`
- `csv`
- `list`

`{-no-header | -a}`

Suppresses headers in CSV or table formats.

`{-no-footer | -z}`

Suppresses table summary footer information.

`{-verbose | -v}`

Displays more detailed information.

---

**isi quota settings notifications modify**

Modifies a quota notification rule.

**Syntax**

```bash
isi quota settings notifications modify
--threshold {hard | soft | advisory}
--condition> {exceeded | denied | violated | expired}
[--schedule <string>]
[--holdoff <duration>]
[--clear-holdoff]
[--action-alert {yes | no}]
[--action-email-owner {yes | no}]
[--action-email-address <address>]
[--verbose]
```

**Options**

`--threshold`

Specifies the threshold type. The following values are valid:

- **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.
- **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
- **ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

`--condition`

Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
• **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.

• **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

```plaintext
--schedule <string>
Specifies the date pattern at which recurring notifications are made.
```

```plaintext
--holdoff <duration>
Specifies the length of time to wait before generating a notification. Specify <duration> in the following format:
<YYYY>-<MM>-<DD>[T<hh>:<mm>[<ss>]]
```

• Y — Specifies years
• M — Specifies months
• W — Specifies weeks
• D — Specifies days
• H — Specifies hours
• S — Specifies seconds

```plaintext
--clear-holdoff
Clears the value for the --holdoff duration.
```

```plaintext
--action-alert {yes | no}
Generates an alert when the notification condition is met.
```

```plaintext
--action-email-owner {yes | no}
Specifies that an email be sent to a user when the threshold is crossed. Requires --action-email-address.
```

```plaintext
--action-email-address <address>
Specifies the email address of user to be notified.
```

```plaintext
genesis | -v
Displays more detailed information.
```

**isi quota settings notifications view**

Displays properties of a system default notification rule.

**Syntax**

```plaintext
isi quota settings notifications view
  --threshold {hard | soft | advisory}
  --condition {exceeded | denied | violated | expired}
```

**Options**

```plaintext
--threshold
Specifies the threshold type. The following values are valid:
```

• **HARD** — Sets an absolute limit for disk usage. Attempts to write to disk are generally denied if the request violates the quota limit.

• **SOFT** — Specifies the soft threshold. Allows writes to disk above the threshold until the soft grace period expires. Attempts to write to disk are denied thereafter.
**ADVISORY** — Sets the advisory threshold. For notification purposes only. Does not enforce limitations on disk write requests.

---

**--condition**

Specifies the quota condition on which to send a notification. The following values are valid:

- **DENIED** — Specifies a notification when a hard threshold or soft threshold outside of its soft grace period causes a disk write operation to be denied.
- **EXCEEDED** — Specifies a notification when disk usage exceeds the threshold. Applies to only soft thresholds within the soft-grace period.
- **VIOLATED** — Specifies a notification when disk usage exceeds a quota threshold but none of the other conditions apply.
- **EXPIRED** — Specifies a notification when disk usage exceeds the soft threshold and the soft-grace period has expired.

### isi quota settings reports modify

Modifies cluster-wide quota report settings.

**Syntax**

```
isi quota settings reports modify
[[--schedule <schedule>]
[--revert-schedule]
[--scheduled-dir <dir>]
[--revert-scheduled-dir]
[--scheduled-retain <integer>]
[--revert-scheduled-retain]
[|--live-dir <dir> | --revert-live-dir]
[|--live-retain <integer> | --revert-live-retain]]
[--verbose]
```

**Options**

---

**--schedule <schedule>**

Specifies the date pattern at which recurring notifications are made. For more information about date pattern or other schedule parameters, see `man isi-schedule`.

**--revert-schedule**

Sets the --schedule value to system default.

**--scheduled-dir <dir>**

Specifies the location where scheduled quota reports are stored.

**--revert-scheduled-dir**

Sets the --scheduled-dir value to system default.

**--scheduled-retain <integer>**

Specifies the maximum number of scheduled reports to keep.

**--revert-scheduled-retain**

Sets the --scheduled-retain value to system default.

**--live-dir <dir>**

Specifies the location where live quota reports are stored.

**--revert-live-dir**

Sets the --live-dir value to system default.
-live-retain <integer>
    Specifies the maximum number of live quota reports to keep.

-revert-live-retain
    Sets the --live-retain value to system default.

{--verbose | -v}
    Displays more detailed information.

isi quota settings reports view

Displays cluster-wide quota report settings.

Syntax

isi quota settings reports view
You can check the status of your cluster hardware, including specific node components, through the hardware commands.

- isi batterystatus ................................................................. 416
- isi devices ........................................................................ 416
- isi servicelight status ......................................................... 417
- isi servicelight off .............................................................. 417
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- isi firmware package ......................................................... 418
- isi firmware status ............................................................. 418
- isi firmware update ............................................................ 420
- isi readonly off ................................................................. 421
- isi readonly on ................................................................. 421
- isi readonly show .............................................................. 422
isi batterystatus

Displays the current state of NVRAM batteries and charging systems on node hardware that supports this feature.

**Syntax**

```
isi batterystatus
```

**Options**

There are no options for this command.

**Examples**

To view the current state of NVRAM batteries and charging systems, run the following command:

```
isi batterystatus
```

The system displays output similar to the following example:

```
battery 1 : Good (10)
battery 2 : Good (10)
```

If the node hardware is not compatible, the system displays output similar to the following:

```
Battery status not supported on this hardware.
```

isi devices

Displays information about devices in the cluster and changes their status.

**Syntax**

```
isi devices
   [--action {status | smartfail | stopfail | add | format | discover | confirm}]
   [--device <node>:<drive>]
   [--grid]
   [--log <syslog-tag>]
   [--timeout <timeout>]
```

**Options**

If no options are specified with this command, the current status of the local node is displayed.

```
{--action | -a} {status | smartfail | stopfail | add | format | discover | confirm}
```

Designates the action to perform on a target device.

```
{--device | -d} <node>:<drive>
```

Sets the target device on which to perform an action. If just `<node>` is specified, the action is performed on the entire node. If just `<drive>` is specified, the action is performed on the specified drive in the local node.

The following values are valid for `<drive>`:

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>&lt;N&gt;</code></td>
<td>Where <code>&lt;N&gt;</code> is a valid bay number.</td>
</tr>
<tr>
<td><code>bay</code>&lt;N&gt;</td>
<td>Where <code>&lt;N&gt;</code> is a valid bay number.</td>
</tr>
<tr>
<td><code>lnum</code>&lt;N&gt;</td>
<td>Where <code>&lt;N&gt;</code> is a valid lnum number.</td>
</tr>
</tbody>
</table>

```
{--grid | -g}
```

Hardware commands
Formats the requested system output to display in a grid to represent the physical layout of the drive bays in the node chassis.

\texttt{\{--log \mid -L\} \texttt{<syslog-tag>}}

Tags the command output and logs it in \texttt{/var/log/messages}. Only logs the following successfully parsed commands: smartfail, stopfail, add, format.

\texttt{\{--timeout \mid -t\} \texttt{<timeout>}}

Establishes a timeout limit for the cluster information gathering period.

**Examples**

To view the status of node 1, run the following command:

\texttt{isi devices --device 1}

The following command smartfails the drive in bay 6, in node 3.

\texttt{isi devices --device 3:6 --action smartfail}

**isi servicelight status**

Indicates whether the LED service light on the back panel of a node is on or off.

**Syntax**

\texttt{isi servicelight status}

**Options**

There are no options for this command.

**Examples**

To display the status of the service light, run the following command.

\texttt{isi servicelight status}

The system displays output similar to the following example.

The service LED is off

**isi servicelight off**

Turns off the LED service light on the back panel of a node.

**Syntax**

\texttt{isi servicelight off}

**Options**

There are no options for this command.

**Examples**

To turn off the LED service light on the back panel of a node, run the following command.

\texttt{isi servicelight off}

**isi servicelight on**

Turns on the LED service light on the back panel of a node.

**Syntax**

\texttt{isi servicelight on}
Options
There are no options for this command.

Examples
To turn on the LED service light on the back panel of a node, run the following command.

       isi servicelight on

**isi firmware package**

Displays information related to the installed firmware package.

Syntax

    isi firmware package
        [--local]
        [--diskless]
        [--storage]
        [--include-nodes <nodes>]
        [--exclude-nodes <nodes>]

Options

{--local | -L}

   Displays information from the local node only.

{--diskless | -D}

   Displays information only from diskless nodes such as accelerators.

{--storage | -S}

   Displays information only from storage nodes.

{--include-nodes | -n} <nodes>

   Displays information only from the specified nodes.

{--exclude-nodes | -x} <nodes>

   Displays information from all nodes except those that are specified.

Examples

To display the status of all firmware, run the following command:

       isi firmware status

To display firmware package information from all storage nodes in the cluster, run the following command:

       isi firmware package --storage

**isi firmware status**

Displays information on firmware types and versions.

Syntax

    isi firmware status
        [--local]
        [--diskless]
        [--storage]
        [--include-nodes <nodes>]
        [--exclude-nodes <nodes>]
        [--include-device <device>]
        [--exclude-device <device>]
        [--include-type <device-type>]
        [--exclude-type <device-type>]


Options

|--local | -L|
Displays information from the local node only.

|--diskless | -D|
Displays information only from diskless nodes such as accelerators.

|--storage | -S|
Displays information only from storage nodes.

|--include-nodes | -n <nodes>
Displays information only from the specified nodes.

|--exclude-nodes | -x <nodes>
Displays information from all nodes except those that are specified.

|--include-device | -d <device>
Displays information only from the specified device.

|--exclude-device <device>
Displays information from all devices except those that are specified.

|--include-type | -t <device-type>
Displays information only from the specified device type.

|--exclude-type <device-type>
Displays information from all device types except those that are specified.

|--save
Save the output of the status to /etc/ifs/firmware_versions.

|--verbose | -v
Displays more detailed information.

Examples
To display firmware package information from nodes two and three, run the following command:

isi firmware status --include-nodes 2,3

The system displays output similar to the following example.

<table>
<thead>
<tr>
<th>Device</th>
<th>Type</th>
<th>Firmware</th>
<th>Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IsilonIB Network 4.8.930+205-0002-05 A</td>
<td>2-3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lsi DiskCtrl 6.28.00.00+01.28.02.00+1.17+0.99c</td>
<td>2-3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To display firmware package information for the network device type, run the following command:

isi firmware status --include-type network

The system displays output similar to the following example.

<table>
<thead>
<tr>
<th>Device</th>
<th>Type</th>
<th>Firmware</th>
<th>Nodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>IsilonIB Network 4.8.930+205-0002-05 A</td>
<td>1-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
isi firmware update

Updates firmware on devices within the cluster to match those in the installed firmware package.

Each node is updated one at a time. Each time a node is updated, the node is restarted. The system does not begin to update the next node until the previous node has rejoined the cluster.

Syntax

`isi firmware update
  [--local]
  [--diskless]
  [--storage]
  [--include-nodes <nodes>]
  [--exclude-nodes <nodes>]
  [--include-device <device>]
  [--exclude-device <device>]
  [--include-type <device-type>]
  [--exclude-type <device-type>]
  [--force]
  [--verbose]`

Options

`{-local | -L}`
Updates the local node only.

`{-diskless | -D}`
Updates diskless nodes such as accelerators only.

`{-storage | -S}`
Updates storage nodes only.

`{-include-nodes | -n} <nodes>`
Updates the specified nodes only.

`{-exclude-nodes | -x} <nodes>`
Updates all nodes except those that are specified.

`{-include-device | -d} <device>`
Updates the specified device only.

`--exclude-device <device>`
Updates all devices except those that are specified.

`{-include-type | -t} <device-type>`
Updates the specified device type only.

`--exclude-type <device-type>`
Updates all device types except those that are specified.

`--force`
Forces the update.

`{-verbose | -v}`
Displays more detailed information.

Examples

To update the firmware on nodes two and three, run the following command:

`isi firmware update --include-nodes 2,3`
To update the firmware for the network device type only, run the following command:
```
isi firmware update --include-type network
```

**isi readonly off**

Sets nodes to read-write mode.

This command only clears any user-specified requests for read-only mode. If the node has been placed into read-only mode by the system, it will remain in read-only mode until the conditions which triggered read-only mode have cleared.

**Syntax**

```
isi readonly off
[--nodes <nodes>]
[--verbose]
```

**Options**

If no options are specified, the local node is set to read-write mode.

--nodes <nodes>

Specifies the nodes to apply read-write settings to. The following values for `<nodes>` are valid:
- all
- *
- `<int>`
- `<int>-<int>`

Multiple values can be specified in a comma-separated list.

{---verbose | -v}

Displays more detailed information.

**Examples**

To apply read-write settings to every node in the cluster, run the following command.
```
isi readonly off --nodes all
```

The system displays output similar to the following example.

```
Read-only changes committed successfully
```

Use the `isi readonly show` command to confirm the read-write settings of the cluster. The system displays output similar to the following example.

```
node mode status
---- ------ -------------------------------
  1 read/write
  2 read/write
  3 read/write
  4 read/write
  5 read/write
  6 read/write
```

**isi readonly on**

Sets nodes to read-only mode.

If read-only mode is currently disallowed for this node, it will remain read/write until read-only mode is allowed again.
Syntax

**isi readonly on**

```
[--nodes <nodes>]
[--verbose]
```

Options

If no options are specified, the local node is set to read-only mode.

**--nodes <nodes>**

Specifies the nodes to apply read-only settings to. The following values for `<nodes>` are valid:

- all
- *<int>*
- `<int>-<int>`

Multiple values can be specified in a comma-separated list.

**{--verbose | -v}**

Displays more detailed information.

Examples

To apply read-only settings to every node in the cluster, run the following command.

```
isi readonly on --nodes all
```

The system displays output similar to the following example.

```
Read-only changes committed successfully
```

Use the **isi readonly show** command to confirm the read-only settings of the cluster.

The system displays output similar to the following example.

```
node  mode          status
----  ------------  ----------------------------------------------
1     read-only     user-ui
2     read-only     user-ui
3     read-only     user-ui
4     read-only     user-ui
5     read-only     user-ui
6     read-only     user-ui
```

**isi readonly show**

Displays a list of read-only settings for the cluster.

Syntax

**isi readonly show**

Options

There are no options for this command.

Examples

To display the read-only settings for the cluster, run the following command.

```
isi readonly show
```

The system displays output similar to the following example.

```
node  mode          status
----  ------------  ----------------------------------------------
1     read-only     user-ui
2     read-only     user-ui
3     read-only     user-ui
4     read-only     user-ui
5     read-only     user-ui
6     read-only     user-ui
```
1  read/write
2  read/write
3  read/write
4  read/write
5  read/write
6  read/write