

## NAME

itadm – administer iSCSI targets

## SYNOPSIS

```
itadm create-target [-a –auth-method radius | chap | none | default][–s –chap-secret]
  [–S –chap-secret-file <path>][–u –chap-user <chap-user-name>]
  [–n –node-name <target_node_name>] [–l –alias <alias>]
  [–t –tpg <tpg-name>[,<tpg-name>]]
```

```
itadm modify-target [-a –auth-method radius | chap | none | default][–s –chap-secret]
  [–S –chap-secret-file <path>] [–u –chap-user <chap-user-name>]
  [–n –node-name <new-target-node-name>] [–l –alias alias]
  [–t –tpg <tpg-name>[,<tpg-name>] <target-node-name>
```

```
itadm delete-target [–f –force] <target-node-name>
```

```
itadm list-target [–v –verbose] [–H –script] [<target-node-name>]
```

```
itadm create-tpg <tpg-name> <IP-address[:port]> ...
```

```
itadm list-tpg [–v –verbose] [–H –script] [<tpg-name>]
```

```
itadm delete-tpg [–f –force] <tpg-name>
```

```
itadm create-initiator [–s –chap-secret] [–S –chap-secret-file <path>]
  [–u –chap-user <chap-user-name>] <initiator-node-name>
```

```
itadm modify-initiator [–s –chap-secret] [–S –chap-secret-file <path>]
  [–u –chap-user <chap-user-name>] <initiator-node-name>
```

```
itadm list-initiator [–v –verbose] [–H –script] <initiator-node-name>
```

```
itadm delete-initiator <initiator-node-name>
```

```
itadm modify-defaults [-a –auth-method radius | chap | none]
  [–r –radius-server <IP address>[:port]][–d –radius-secret]
  [–D –radius-secret-file <path>] [–i –isns enable | disable]
  [–I –isns-server <ip_address>[:port][,<ip_address>[:port]]]
```

```
itadm list-defaults [–H –script]
```

## DESCRIPTION

The `itadm` command manages Internet SCSI (iSCSI) target nodes within the SCSI Target Mode Framework described by `stmf(7D)`. This allows the iSCSI initiators to access STMF logical units using the iSCSI protocol. In addition to iSCSI target nodes, `itadm` manage two other classes of managed objects: ISCSI Target Portal Groups, and ISCSI Initiator Node

Contexts.

## ISCSI Target Nodes

STMF treats iSCSI targets as “local ports” and logical units (LUs) can be mapped to specific iSCSI target nodes using the `stmfadm(1M)` command. An iSCSI target is used as an access point to STMF luns and has no backing store associated with it directly. One target is sufficient to access all STMF luns but users may want to create additional targets if required for specific configurations. For example, target portal groups (see below) can be used to restrict traffic to specific network interface cards (NICs). By creating multiple targets and mapping individual sets of LUs to discrete targets the traffic to those LU sets can be isolated to a specific NIC. Even in this case the number of targets created should be chosen by the target portal group configuration requirements and does not need to correspond to the number of LUs – in other words there is no need for a one for one correspondence between target nodes and LUs. An iSCSI Target Node is identified by its Target Node Name, formatted in either IQN or EUI format (see RFC3720). For example:

```
iqn.1986-03.com.sun:02:a9a366f8-909b-cc2b-f291-840948c7f29e
```

```
eui.02004567A425678D
```

## ISCSI Target Portal Groups

An iSCSI Target Network Portal is an IP address and TCP port that may be used by an initiator node to connect to an iSCSI target. A collection of such portals represents a Target Portal Group (TPG). TPGs can be used to limit access to an iSCSI target through certain network interface cards. A TPG is identified by a unique name provided when the TPG is created. A numerical “Target Portal Group Tag” from 2-65535 is automatically generated when the TPG is created. The Target Portal Group Tag 1 is reserved for the 'default' target portal group which is used when no explicit Target Portal Groups are set on the target. The portal for the default TPG matches requests from all network interfaces on port 3260.

## ISCSI Initiator Node Contexts

Certain operations like authentication via Challenge Handshake Authentication Protocol (CHAP) require parameters associated with a remote iSCSI Initiator Node. These parameters are associated with an iSCSI Initiator Node Context. An iSCSI Initiator Node Context is identified by its Initiator Node Name, formatted in either IQN or EUI format (see RFC3720). For example:

```
iqn.1986-03.com.sun:01:e00000000000.47d55444
```

```
eui.02004567A425678D
```

## SUBCOMMANDS

```
itadm -?
```

```
itadm create-target [-a –auth-method radius | chap | none | default][–s –chap-secret]
  [-S –chap-secret-file <path>] [-u –chap-user <chap-user-name>]
  [-n –node-name <target_node_name>] [-l –alias <alias>]
  [-t –tpg <tpg-name>[,<tpg-name>]]
```

Create a iSCSI target with the specified options

`-a --auth-method radius | chap | none | default`

Specifies the authentication method to use for the target. Valid values are “radius”, “chap” and “none”. “chap” indicates that initiators connecting to this target must be authenticated using Challenge Handshake Authentication Protocol (CHAP). “radius” indicates initiators should also be authenticated via CHAP but the required authentication parameters should be obtained from a central RADIUS server (see “radius-server” and “radius-secret” options). “none” means that no authentication is required to connect to the target. “default” means the target will use the global setting of this property (see `modify-defaults` subcommand).

`-s --chap-secret`

The CHAP secret to send during mutual CHAP authentication. There is no default for this property. Maximum length is 255 characters; minimum required length is 12 characters.

`-S --chap-secret-file <path>`

Path to a temporary file containing the CHAP secret as described in the `-s` option.

`-u --chap-user <chap username>`

Specifies the CHAP username for a target for use in mutual CHAP authentication. This value is only allowed for targets, cannot be set globally and is only used when the initiator node is configured to use mutual CHAP authentication. If no value is specified then the target node name is used as the username. See also `iscsiadm(1m)`.

`-n --node-name <target-node-name>`

An iSCSI Target Node is identified by its Target Node Name, formatted in either IQN or EUI format (see RFC3720).

`-l --alias <alias>`

An alternate identifier associated with a target node. The identifier does not necessarily need to be unique.

`-t --tpg <tpg-name>[,<tpg-name>,...]`

A list of Target Portal Group (TPG) identifiers that specifies the TPGs that an initiator can use to access a specific target or 'default'. If 'default' is specified, the target will use the default portal (INADDR\_ANY:3260).

```
itadm modify-target [-a --auth-method radius | chap | none | default][-s --chap-secret]
[-S --chap-secret-file <path>] [-u --chap-user <chap-user-name>]
[-n --node-name <new-target-node-name>] [-l --alias alias]
[-t --tpg <tpg-name>[,<tpg-name>]] <target-node-name>
```

Modify an iSCSI target according to the specified options.

`-a --auth-method radius | chap | none | default`

Specifies the authentication method to use for the target. Valid values are “radius”, “chap” and “none”. “chap” indicates that initiators connecting to this target must be authenticated using Challenge Handshake Authentication Protocol

(CHAP). “radius” indicates initiators should also be authenticated via CHAP but the required authentication parameters should be obtained from a central RADIUS server (see “radius-server” and “radius-secret” options). “none” means that no authentication is required to connect to the target. “default” means the target will use the global setting of this property (see modify-defaults subcommand).

`-s --chap-secret`

The CHAP secret to send during mutual CHAP authentication. There is no default for this property. Maximum length is 255 characters; minimum required length is 12 characters.

`-S --chap-secret-file <path>`

Path to a temporary file containing the CHAP secret as described in the `-s` option.

`-u --chap-user <chap username>`

Specifies the CHAP username for a target for use in mutual CHAP authentication. This value is only allowed for targets, cannot be set globally and is only used when the initiator node is configured to use mutual CHAP authentication. If no value is specified then the target node name is used as the username. See `iscsiadm(1m)`. To remove an explicitly set CHAP username use `"-u none"`.

`-n --node-name <target-node-name>`

An iSCSI Target Node is identified by its Target Node Name, formatted in either IQN or EUI format (see RFC3720).

`-l --alias <alias>`

An alternate identifier associated with a target node. The identifier does not necessarily need to be unique. To remove an explicitly set alias use `"-l none"`.

`-t --tpg <tpg-name>[,<tpg-name>,...]`

A list of Target Portal Group (TPG) identifiers that specifies the TPGs that an initiator can use to access a specific target. If 'default' is specified, the target will use the default portal (INADDR\_ANY:3260).

`itadm list-target [-v --verbose] [-H --script] <target-node-name>`

List information about the configured targets. If `target-node-name` is specified then list only the information for that target.

`-v --verbose`

Verbose mode

`-H --script`

Display output in a form more easily parsed by scripts. Any headers are omitted, and fields are explicitly separated by a single tab instead of an arbitrary amount of space. Fields are `target-node-name`, `target state`, `number of active sessions`, `alias`, `auth-method`, `chap username`, `chap secret set/unset`.

itadm delete-target [-f --force] <target-node-name>

Delete the target specified by target-node-name. The target must be 'offline' before it may be deleted.

-f --force

If the target is determined to be online, attempts to offline the target before deleting it.

itadm create-tpg <tpg-name> <IP-address[:port]> ...

Create an iSCSI target portal group made up of the specified portals and assign it the identifier tpg-name. Each portal is an IP address and port pair.

itadm list-tpg [-v --verbose] [-H --script] [<tpg-name>]

List information about the configured target portal group. If tpg-name is specified then list only the information about the target portal group associated with tpg-name.

-v --verbose

Verbose mode

-H --script

Display output in a form more easily parsed by scripts. Any headers are omitted, and fields are explicitly separated by a single tab instead of an arbitrary amount of space. Fields are tpg-name, portal count, portals.

itadm delete-tpg [-f --force] <tpg-name>

Delete the target portal group associated with tpg-name

-f --force

If the TPG is associated with any targets, the request to delete will be denied unless the -f option is specified.

itadm create-initiator [-s --chap-secret] [-S --chap-secret-file <path>

[-u --chap-user <chap-user-name>] <initiator-node-name>

Configure parameters associated with the remote initiator named initiator-iqn.

-s

Sets the initiator's CHAP secret. There is no default value. Maximum length is 255 characters; minimum required length is 12 characters.

-S --chap-secret-file <path>

Path to a temporary file containing the CHAP secret as described in the -s option.

-u

Specifies the CHAP username for a initiator for use in CHAP authentication. If no value is specified then the initiator node name is used as the username.

-S --chap-secret-file <path>

Path to a temporary file containing the CHAP secret as described in the -s option.

```
itadm modify-initiator [-s -chap-secret] [-S -chap-secret-file <path>]  
[-u -chap-user <chap-user-name>] <initiator-node-name>
```

Modify parameters associated with the remote initiator named initiator-iqn.

-s

Sets the initiator's CHAP secret. There is no default value. Maximum length is 255 characters; minimum required length is 12 characters.

-S -chap-secret-file <path>

Path to a temporary file containing the CHAP secret as described in the -s option.

-u

Specifies the CHAP username for a initiator for use in CHAP authentication. If no value is specified then the initiator node name is used as the username.

```
itadm delete-initiator <initiator-iqn>
```

Delete parameters associated with the remote initiator named initiator-iqn.

```
itadm list-initiator [-v -verbose] [-H -script] <initiator-iqn>
```

List parameters associated with the initiator named initiator-iqn

-v -verbose

Verbose mode

-H -script

Display output in a form more easily parsed by scripts. Any headers are omitted, and fields are explicitly separated by a single tab instead of an arbitrary amount of space. Fields are initiator-iqn, chap username, chap secret set/unset.

```
itadm modify-defaults [-a -auth-method radius | chap | none]  
[-r -radius-server <IP address>[:port]][-d -radius-secret]  
[-D -radius-secret-file <path>] [-i -isns enable | disable]  
[-I --isns-server <ip_address>[:port][,<ip_address>[:port]]]
```

Modify default parameters

-a -auth-method radius | chap | none

Specifies the default authentication method to use for all targets. Valid values are “radius”, “chap” and “none”. “chap” indicates that initiators connecting to this target must be authenticated using Challenge Handshake Authentication Protocol (CHAP). “radius” indicates initiators should also be authenticated via CHAP but the required authentication parameters should be obtained from a central RADIUS server (see “--radius-server” and “--radius-secret” options). “none” means that no authentication is required to connect to the target. Individual targets can override this global setting using the -a option of the create-target and modify-target subcommands.

-r `–radius-server <IP address>[:port]`

Defines the RADIUS server to use for RADIUS-based CHAP authentication. To remove an explicitly set radius server use "-r none".

-d `–radius-secret`

RADIUS Shared Secret for centralized CHAP authentication.

-D `–radius-secret-file <path>`

Path to a temporary file containing the CHAP secret as described in the -d option.

-i `–sns enable | disable`

Specifies whether or not targets should be registered with the set of defined iSCSI Name Service (iSNS) servers.

-I `–isns-server <ip_address[:port][,<ip_address>[:port],...]`

Defines a list of iSNS servers with which iSCSI target nodes will be registered when the "isns" option associated with the respective target is set. Up to 8 iSNS servers may be specified. To remove all iSNS servers, use "-I none".

`itadm list-defaults [-H –script]`

List information about the default properties.

-H `–script`

Display output in a form more easily parsed by scripts. Any headers are omitted, and fields are explicitly separated by a single tab instead of an arbitrary amount of space. Fields are alias, auth-method, RADIUS server, RADIUS secret set/unset, iSNS enabled/disabled, iSNS servers.

## EXAMPLES

Create target:

```
# itadm create-target
```

```
Target iqn.1986-03.com.sun:02:72e1b181-7bce-c0e6-851e-ec0d8cf14b7a successfully  
created
```

Create target with a specific IQN:

```
# itadm create-target -n eui.20387ab8943ef7548
```

or

```
# itadm create-target -n iqn.1986-03.com.sun:02:a9a366f8-cc2b-f291-840948c7f29e
```

Change IQN for an existing target:

```
# itadm modify-target -n eui.20387ab8943ef7548 \  
iqn.1986-03.com.sun:02:a9a366f8-909b-cc2b-f291-840948c7f29e
```

Setup CHAP authentication for a target using default CHAP username:

```
# itadm modify-initiator -s iqn.1986-03.com.sun:01:e00000000000.47d55444
```

Enter CHAP secret: \*\*\*\*\*

Re-enter secret: \*\*\*\*\*

```
# itadm modify-target -a chap eui.20387ab8943ef7548
```

Create two target portal groups “A” and “B”, using port 8000 for the addresses in TPG 2:

```
# itadm create-tpg A 192.168.0.1 192.168.0.2
```

```
# itadm create-tpg B 192.168.0.2:8000 192.168.0.2:8000
```

Configure target to use TPGs A and B:

```
# itadm modify-target -t A,B eui.20387ab8943ef7548
```

Setup RADIUS authentication for a specific target:

```
# itadm modify-defaults -r 192.168.10.1 -d
```

Enter RADIUS secret: \*\*\*\*\*

Re-enter secret: \*\*\*\*\*

```
# itadm modify-target -a radius eui.20387ab8943ef7548
```

Setup RADIUS authentication for all targets:

```
# itadm modify-defaults -d -r 192.168.10.1 -a radius
```

Enter RADIUS secret: \*\*\*\*\*

Re-enter secret: \*\*\*\*\*

(Assumes all targets were created with “-a default”)

List default properties:

```
# itadm list-defaults
```

iSCSI Target Default Properties:

alias: <none>

auth: <none>

radiusserver: <none>

radiussecret: unset

isns: disabled

isnsserver: 2.3.4.5,4.5.6.7

List targets:

```
# itadm list-target
```

| TARGET NAME   | STATE  | SESSIONS |
|---|--------|----------|
| iqn.1986-03.com.sun:02:72e1b181-7bce-c0e6-851e-ec0d8cf14b7a | online | 0        |
| iqn.1986-03.com.sun:02:2cb0c526-c05a-e279-e396-a367006f4227 | online | 0        |

```
iqn.1986-03.com.sun:02:d14125bb-1c9d-c28d-97b0-f89259b642f3 online 0
iqn.1986-03.com.sun:02:03ff9fc5-794a-e9b4-a081-bb82917c292a online 0
```

List targets with -v (verbose):

```
# itadm list-target -v
```

```
# itadm list-target -v
```

```
TARGET NAME                               STATE  SESSIONS
iqn.1986-03.com.sun:02:72e1b181-7bce-c0e6-851e-ec0d8cf14b7a online 0
alias:                                     -
auth:                                     none
targetchapuser:                           -
targetchapsecret:                          unset
tpg-tags:                                  default
```

List specific target:

```
# itadm list-target -v iqn.1986-03.com.sun:02:2cb0c526-c05a-e279-e396-a367006f4227
```

```
TARGET NAME                               STATE  SESSIONS
iqn.1986-03.com.sun:02:2cb0c526-c05a-e279-e396-a367006f4227 online 0
alias:                                     -
auth:                                     none
targetchapuser:                           -
targetchapsecret:                          unset
tpg-tags:                                  99
```