



升级 **ONTAP Mediator**

ONTAP Mediator

NetApp
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升级 ONTAP Mediator

升级 ONTAP Mediator

要将 ONTAP Mediator 升级到较新版本而不升级主机操作系统，请下载新版本的安装包，并在已安装 ONTAP Mediator 的主机上运行安装程序。



如果您需要将主机操作系统升级到新版本，并作为该过程的一部分重新安装或升级 ONTAP Mediator，请改为参见 ["升级主机操作系统和 ONTAP Mediator"](#)。

开始之前

- 确认您的主机满足["准备安装 ONTAP Mediator"](#)中所述的先决条件，包括主机、防火墙和操作系统要求。
- 下载新版本的安装软件包。请参阅 ["下载 ONTAP Mediator 安装包"](#)。
- NetApp 建议验证新安装包的代码签名。请参阅 ["验证 ONTAP Mediator 安装包的代码签名"](#)。

关于此任务

在升级 ONTAP Mediator 之前，请查看下列信息。

- 您应该将 ONTAP Mediator 升级到最新版本。旧版本仍然适用于所有 ONTAP 版本，但新版本包含第三方组件的安全补丁。
- 当您升级到包含 SCST 包的新 ONTAP Mediator 版本时，安装程序会自动升级到推荐的 SCST 版本，除非有更高版本可用。有关手动安装更高 SCST 版本的说明，请参见 ["维护 ONTAP Mediator 的主机操作系统"](#)。有关支持的版本，请参见 ["SCST 支持矩阵"](#)。



- 如果升级失败，您可能需要尝试更新版本的 ONTAP Mediator。

- 从 2025 年 6 月 15 日起，您无法安装或升级 ONTAP Mediator 1.9 和 1.8，因为它们的代码签名证书已过期。如果升级失败，请改用 ONTAP Mediator 1.9.1 补丁版本。

- 从 ONTAP 9.19.1 和 ONTAP Mediator 1.12 开始，您可以选择安装支持 iSCSI 和 HTTPS 的 ONTAP Mediator，或仅支持 HTTPS。如果您选择安装仅支持 HTTPS 的 ONTAP Mediator，则不会安装 SCST 软件包。
- 如果您从安装了 SCST 的 ONTAP Mediator 1.11 或更早版本升级，并且在升级期间选择了 HTTPS only 选项，则会卸载 SCST 包，并且新的 ONTAP Mediator 版本不包含 SCST 包。
- 如果您计划使用 ONTAP Mediator 来监控多个 MetroCluster IP 配置，则支持取决于您的 Mediator 类型、ONTAP 版本和操作系统。有关详细信息，请参见["使用 ONTAP Mediator 监控多个 MetroCluster IP 配置"](#)。
- 仅对以下用例支持安装支持 HTTPS 的 ONTAP Mediator：
 - 您计划仅使用 ONTAP Mediator 来监控您的 SnapMirror 活动同步集群。
 - 您计划使用 HTTPS 配置 ONTAP Mediator 以监视一个或多个 MetroCluster IP 配置。
- 在以下情况下，必须安装支持 iSCSI 和 HTTPS 的 ONTAP Mediator：
 - 您计划使用 iSCSI 配置 ONTAP Mediator 以监视一个或多个 MetroCluster IP 配置。
- 当您针对现有的 ONTAP Mediator 安装运行安装程序时，它会检测到当前版本并提示您确认升级：

ONTAP Mediator will be upgraded from version <current-version> to <new-version>.

Do you wish to continue? Y(es)/n(o):

- 作为升级的一部分，安装程序会收集升级前配置的支持包，并在升级 ONTAP Mediator 软件之前迁移数据库。
- 对于自动化用例，您可以使用 `./ontap-mediator-1.12.1/ontap-mediator-1.12.1 -y` 命令跳过安装程序提示。

步骤

1. 运行新版本的安装程序并根据需要响应提示：

```
./ontap-mediator-1.12.1/ontap-mediator-1.12.1
```



要跳过升级期间的签名检查，请使用 `./ontap-mediator-1.12.1/ontap-mediator-1.12.1 --skip-code-signature-check` 命令

安装程序检测到现有安装并提示您升级，然后安装所需的程序包并迁移配置。

▼ 支持 HTTPS 和 iSCSI 的 ONTAP Mediator 升级示例（控制台输出）

```
[root@mediator_host ~]# ontap-mediator-1.11.0/ontap-mediator-1.11.0
```

```
ONTAP Mediator: Self Extracting Installer
```

```
+ Extracting the ONTAP Mediator installation/upgrade archive
+ Performing the ONTAP Mediator run-time code signature check
  Using openssl from the path: /usr/bin/openssl configured for
  CApath:/etc/pki/tls
+ Unpacking the ONTAP Mediator installer
ONTAP Mediator requires two user accounts. One for the service
(netapp), and one for use by ONTAP to the mediator API
(mediatoradmin).
Using default account names: netapp + mediatoradmin
```

```
Enter ONTAP Mediator user account (mediatoradmin) password:
```

```
Re-Enter ONTAP Mediator user account (mediatoradmin) password:
```

```
+ Checking if SELinux is in enforcing mode
```

```
+ Checking for default Linux firewall
```

+ Installing required packages.

Last metadata expiration check: 0:03:56 ago on Mon 20 Apr 2026
02:49:08 PM EDT.

Package openssl-1:3.5.1-7.el9_7.x86_64 is already installed.

Package openssl-devel-1:3.5.1-7.el9_7.x86_64 is already installed.

Package kernel-devel-5.14.0-611.45.1.el9_7.x86_64 is already
installed.

Package kernel-modules-core-5.14.0-611.45.1.el9_7.x86_64 is already
installed.

Package gcc-11.5.0-11.el9.x86_64 is already installed.

Package make-1:4.3-8.el9.x86_64 is already installed.

Package which-2.21-30.el9_6.x86_64 is already installed.

Package libselinux-utils-3.6-3.el9.x86_64 is already installed.

Package patch-2.7.6-16.el9.x86_64 is already installed.

Package perl-Data-Dumper-2.174-462.el9.x86_64 is already installed.

Package perl-ExtUtils-MakeMaker-2:7.60-3.el9.noarch is already
installed.

Package bzip2-1.0.8-10.el9_5.x86_64 is already installed.

Package efibootmgr-16-12.el9.x86_64 is already installed.

Package mokutil-2:0.7.2-1.el9.x86_64 is already installed.

Package python3-pip-21.3.1-1.el9.noarch is already installed.

Package elfutils-libelf-devel-0.193-1.el9.x86_64 is already installed.

Package polycycoreutils-python-utils-3.6-3.el9.noarch is already
installed.

Package python3.12-3.12.12-4.el9_7.2.x86_64 is already installed.

Package python3.12-devel-3.12.12-4.el9_7.2.x86_64 is already
installed.

Dependencies resolved.

Nothing to do.

Complete!

OS package installations finished

+ Installing ONTAP Mediator. (Log: /root/ontap_mediator.uigddi/ontap-
mediator-1.11.0/ontap-mediator-1.11.0/install_20260420145003.log)

This step will take several minutes. Use the log file to view
progress.

Sudoer config verified

ONTAP Mediator rsyslog and logging rotation enabled

+ Install successful. (Moving log to
/opt/netapp/lib/ontap_mediator/log/install_20260420145003.log)

+ Note: ONTAP Mediator generated a self-signed server certificate for

temporary use on
this host. If the DNS name or IP address for the host is changed,
the certificate
will no longer be valid. The default certificates should be
replaced with secure
trusted certificates signed by a known certificate authority prior
to use for production.
For more information, see /opt/netapp/lib/ontap_mediator/README

+ Note: ONTAP Mediator uses a kernel module compiled specifically for
the current

OS. Using 'yum update' to upgrade the kernel might cause
service interruption.

For more information, see /opt/netapp/lib/ontap_mediator/README
[root@mediator_host ~]# ontap-mediator-1.12.1/ontap-mediator-1.12.1

ONTAP Mediator: Self Extracting Installer

+ Extracting the ONTAP Mediator installation/upgrade archive
+ Performing the ONTAP Mediator run-time code signature check
Using openssl from the path: /usr/bin/openssl configured for
CApath:/etc/pki/tls
+ Unpacking the ONTAP Mediator installer
+ ONTAP_MEDIATOR_INSTALL_HTTPS_ONLY is set to '0', args are: ''
+ Starting ONTAP Mediator install/update process: previous
installation_mode is ''

ONTAP Mediator can be installed with iSCSI and HTTPS support, or
support for HTTPS only.

Do you wish to install ONTAP Mediator with iSCSI and HTTPS support?

Y(es)/n(o): yes

ONTAP Mediator will be installed with mode: ISCSI_HTTPS

+ Selected install package mode: ISCSI_HTTPS

ONTAP Mediator will be upgraded from version 1.11.0 to 1.12.1.

Do you wish to continue? Y(es)/n(o): yes

Capturing support_bundle to save pre-upgrade configuration. API
Credentials are required.

Mediator API User Name: mediatoradmin

Password: Running plugins, please wait...

Creating tar archive...

Support bundle has been generated at

```

/opt/netapp/data/support_bundles/scs001097036-1_1776711598_BASIC.tgz
Testing the DB can be upgraded
Cloning database...
Cloning successful.
Verifying database is up-to-date...
Database out-of-date.Migrations are necessary:
Current revision: 0d5dcf349b27, Head revision: 758e4873c40d
Performing database migrations against clone...
Migrations successful.
Database upgrade operation complete.
+ Adding python312 specific packages
+ Upgrading ONTAP Mediator. (Log: /root/ontap_mediator.gwaGmU/ontap-
mediator-1.12.1/ontap-mediator-1.12.1/upgrade_20260420145942.log)

+ Note: ONTAP Mediator generated a self-signed server certificate for
temporary use on
    this host. If the DNS name or IP address for the host is changed,
the certificate
    will no longer be valid. The default certificates should be
replaced with secure
    trusted certificates signed by a known certificate authority prior
to use for production.
    For more information, see /opt/netapp/lib/ontap_mediator/README

+ Note: ONTAP Mediator uses a kernel module compiled specifically for
the current
    OS. Using 'yum update' to upgrade the kernel might cause
service interruption.
    For more information, see /opt/netapp/lib/ontap_mediator/README
[root@mediator_host ~]#

```

▼ 仅支持 HTTPS 的 ONTAP Mediator 升级示例 (控制台输出)

```

[root@mediator_host~]# ontap-mediator-1.11.0/ontap-mediator-1.11.0

ONTAP Mediator: Self Extracting Installer

+ Extracting the ONTAP Mediator installation/upgrade archive
+ Performing the ONTAP Mediator run-time code signature check
    Using openssl from the path: /usr/bin/openssl configured for
CApath:/etc/pki/tls
+ Unpacking the ONTAP Mediator installer
ONTAP Mediator requires two user accounts. One for the service
(netapp), and one for use by ONTAP to the mediator API
(mediatoradmin).
Using default account names: netapp + mediatoradmin

```

Enter ONTAP Mediator user account (mediatoradmin) password:

Re-Enter ONTAP Mediator user account (mediatoradmin) password:

+ Checking if SELinux is in enforcing mode

+ Checking for default Linux firewall

+ Installing required packages.

Last metadata expiration check: 0:33:41 ago on Tue 21 Apr 2026
10:48:35 AM EDT.

Package openssl-1:3.5.1-7.el9_7.x86_64 is already installed.

Package openssl-devel-1:3.5.1-7.el9_7.x86_64 is already installed.

Package kernel-devel-5.14.0-611.45.1.el9_7.x86_64 is already
installed.

Package kernel-modules-core-5.14.0-611.45.1.el9_7.x86_64 is already
installed.

Package gcc-11.5.0-11.el9.x86_64 is already installed.

Package make-1:4.3-8.el9.x86_64 is already installed.

Package which-2.21-30.el9_6.x86_64 is already installed.

Package libselinux-utils-3.6-3.el9.x86_64 is already installed.

Package patch-2.7.6-16.el9.x86_64 is already installed.

Package perl-Data-Dumper-2.174-462.el9.x86_64 is already installed.

Package perl-ExtUtils-MakeMaker-2:7.60-3.el9.noarch is already
installed.

Package bzip2-1.0.8-10.el9_5.x86_64 is already installed.

Package efibootmgr-16-12.el9.x86_64 is already installed.

Package mokutil-2:0.7.2-1.el9.x86_64 is already installed.

Package python3-pip-21.3.1-1.el9.noarch is already installed.

Package elfutils-libelf-devel-0.193-1.el9.x86_64 is already installed.

Package polycoreutils-python-utils-3.6-3.el9.noarch is already
installed.

Package python3.12-3.12.12-4.el9_7.2.x86_64 is already installed.

Package python3.12-devel-3.12.12-4.el9_7.2.x86_64 is already
installed.

Dependencies resolved.

Nothing to do.

```

Complete!
OS package installations finished
+ Installing ONTAP Mediator. (Log: /root/ontap_mediator.JclgnS/ontap-
mediator-1.11.0/ontap-mediator-1.11.0/install_20260421112205.log)
    This step will take several minutes. Use the log file to view
progress.
    Sudoer config verified
    ONTAP Mediator rsyslog and logging rotation enabled
+ Install successful. (Moving log to
/opt/netapp/lib/ontap_mediator/log/install_20260421112205.log)

+ Note: ONTAP Mediator generated a self-signed server certificate for
temporary use on
    this host. If the DNS name or IP address for the host is changed,
the certificate
    will no longer be valid. The default certificates should be
replaced with secure
    trusted certificates signed by a known certificate authority prior
to use for production.
    For more information, see /opt/netapp/lib/ontap_mediator/README

+ Note: ONTAP Mediator uses a kernel module compiled specifically for
the current
    OS. Using 'yum update' to upgrade the kernel might cause
service interruption.
    For more information, see /opt/netapp/lib/ontap_mediator/README
[root@mediator_host~]#
[root@mediator_host~]# tar -zxvf ontap-mediator-1.12.1.tgz
ontap-mediator-1.12.1/
ontap-mediator-1.12.1/csc-prod-chain-ONTAP-Mediator.pem
ontap-mediator-1.12.1/tsa-prod-ONTAP-Mediator.pem
ontap-mediator-1.12.1/csc-prod-ONTAP-Mediator.pem
ontap-mediator-1.12.1/tsa-prod-chain-ONTAP-Mediator.pem
ontap-mediator-1.12.1/ONTAP-Mediator-production.pub
ontap-mediator-1.12.1/ontap-mediator-1.12.1
ontap-mediator-1.12.1/ontap-mediator-1.12.1.sig
ontap-mediator-1.12.1/ontap-mediator-1.12.1.tsr
ontap-mediator-1.12.1/ontap-mediator-1.12.1.sig.tsr
[root@mediator_host~]#
[root@mediator_host~]# ontap-mediator-1.12.1/ontap-mediator-1.12.1
--https-only

ONTAP Mediator: Self Extracting Installer

+ Extracting the ONTAP Mediator installation/upgrade archive
+ Performing the ONTAP Mediator run-time code signature check

```

```
Using openssl from the path: /usr/bin/openssl configured for
CApath:/etc/pki/tls
+ Unpacking the ONTAP Mediator installer
+ ONTAP_MEDIATOR_INSTALL_HTTPS_ONLY is set to '1', args are: ''
+ Starting ONTAP Mediator install/update process: previous
installation_mode is ''
+ Selected install package mode: HTTPS_ONLY
ONTAP Mediator will be upgraded from version 1.11.0 to 1.12.1.
```

```
Do you wish to continue? Y(es)/n(o): yes
Capturing support_bundle to save pre-upgrade configuration. API
Credentials are required.
```

```
Mediator API User Name: mediatoradmin
```

```
Password: Running plugins, please wait...
```

```
Creating tar archive...
```

```
Support bundle has been generated at
```

```
/opt/netapp/data/support_bundles/scs001097036-1_1776785423_BASIC.tgz
```

```
Testing the DB can be upgraded
```

```
Cloning database...
```

```
Cloning successful.
```

```
Verifying database is up-to-date...
```

```
Database out-of-date.Migrations are necessary:
```

```
Current revision: 0d5dcf349b27, Head revision: 758e4873c40d
```

```
Performing database migrations against clone...
```

```
Migrations successful.
```

```
Database upgrade operation complete.
```

```
+ Adding python312 specific packages
```

```
+ Upgrading ONTAP Mediator. (Log: /root/ontap_mediator.cRy0mN/ontap-
mediator-1.12.1/ontap-mediator-1.12.1/upgrade_20260421113003.log)
```

```
fapolicyd not installed or no rules.d directory found, skipping
fapolicyd configuration
```

```
ONTAP Mediator rsyslog and logging rotation enabled
```

```
+ Upgrade successful. (Moving log to
```

```
/opt/netapp/lib/ontap_mediator/log/upgrade_20260421113003.log)\n
```

```
+ Note: ONTAP Mediator generated a self-signed server certificate for
temporary use on
```

```
this host. If the DNS name or IP address for the host is changed,
the certificate
```

```
will no longer be valid. The default certificates should be
replaced with secure
```

```
trusted certificates signed by a known certificate authority prior
to use for production.
```

```
For more information, see /opt/netapp/lib/ontap_mediator/README

+ Note: ONTAP Mediator uses a kernel module compiled specifically for
the current
    OS. Using 'yum update' to upgrade the kernel might cause
service interruption.
    For more information, see /opt/netapp/lib/ontap_mediator/README

[root@mediator_host ~]#
```

升级主机操作系统并重新安装或升级 ONTAP Mediator

要将安装了 SCST 的 ONTAP Mediator 的主机操作系统升级到更高版本，您必须卸载 ONTAP Mediator。操作系统升级后，您可以重新安装当前版本的 ONTAP Mediator 或升级到较新版本。

关于此任务

- 此任务适用于安装了 SCST 的 ONTAP Mediator 版本。如果您安装了仅支持 HTTPS 的 ONTAP Mediator 1.12 或更高版本，则未安装 SCST 软件包，您可以升级主机操作系统而不会影响 ONTAP Mediator。有关操作系统升级说明，请参阅主机操作系统供应商的文档。
- 如果您只需要将主机操作系统内核更新为受支持的版本，而无需升级到新的操作系统版本，请改为参阅 ["维护 ONTAP Mediator 的主机操作系统"](#)。
- 在使用 leapp-upgrade 工具升级 ONTAP Mediator 的主机操作系统之前，["卸载 ONTAP Mediator"](#)。该工具会检查已注册存储库中的新 RPM 版本。
- ONTAP Mediator 安装程序会安装 .rpm 文件，leapp-upgrade 工具会将其包含在搜索中。由于安装程序解压文件而不是从注册存储库下载文件，因此该工具无法找到升级。您必须使用 leapp-upgrade 工具来卸载此软件包。

步骤

1. 备份日志文件：

```
[root@mediator-host ~]# tar -czf ontap_mediator_file_backup.tgz -C
/opt/netapp/lib/ontap_mediator ./log
./ontap_mediator/server_config/ontap_mediator.user_config.yaml
[root@mediator-host ~]# tar -tf ontap_mediator_file_backup.tgz
./log/
./log/ontap_mediator.log
./log/scstadmin.log
./log/ontap_mediator_stdout.log
./log/ontap_mediator_requests.log
./log/install_20230419134611.log
./log/scst.log
./log/ontap_mediator_syslog.log
./ontap_mediator/server_config/ontap_mediator.user_config.yaml
```

```
[rootmediator-host ~]#
```

2. 使用 leapp-upgrade 工具执行升级:

```
[rootmediator-host ~]# leapp preupgrade --target 9.8
..<snip upgrade checks>..
..<fix issues found>..
[rootmediator-host ~]# leapp upgrade --target 9.8
..<snip upgrade>..
[rootmediator-host ~]# cat /etc/os-release | head -2
NAME="Red Hat Enterprise Linux"
VERSION="8.4 (Ootpa)"
[rootmediator-host ~]#
```

3. 重新安装 ONTAP Mediator:



重新安装 ONTAP Mediator 后立即执行其余步骤，以防止日志文件丢失。

```
[rootmediator-host ~]# ontap-mediator-1.12.1/ontap-mediator-1.12.1

ONTAP Mediator: Self Extracting Installer

..<snip installation>..
[rootmediator-host ~]#
```

4. 停止 ontap_mediator:

```
[rootmediator-host ~]# systemctl stop ontap_mediator
[rootmediator-host ~]#
```

5. 替换日志文件:

```
[rootmediator-host ~]# tar -xf ontap_mediator_file_backup.tgz -C
/opt/netapp/lib/ontap_mediator
[rootmediator-host ~]#
```

6. 启动 ontap_mediator:

```
[rootmediator-host ~]# systemctl start ontap_mediator
[rootmediator-host ~]#
```

7. 将所有 ONTAP 集群重新连接到升级后的 ONTAP 调解器:

MetroCluster 基于 IP

```
siteA::> metrocluster configuration-settings mediator show
Mediator IP      Port      Node      Configuration
Connection
Status          Status
-----
-----
172.31.40.122
          31784    siteA-node2    true          false
                  siteA-node1    true          false
                  siteB-node2    true          false
                  siteB-node2    true          false

siteA::> metrocluster configuration-settings mediator remove
Removing the mediator and disabling Automatic Unplanned Switchover. It
may take a few minutes to complete.
Please enter the username for the mediator: mediatoradmin
Please enter the password for the mediator:
Confirm the mediator password:
Automatic Unplanned Switchover is disabled for all nodes...
Removing mediator mailboxes...
Successfully removed the mediator.

siteA::> metrocluster configuration-settings mediator add -mediator
-address 172.31.40.122
Adding the mediator and enabling Automatic Unplanned Switchover. It may
take a few minutes to complete.
Please enter the username for the mediator: mediatoradmin
Please enter the password for the mediator:
Confirm the mediator password:
Successfully added the mediator.

siteA::> metrocluster configuration-settings mediator show
Mediator IP      Port      Node      Configuration
Connection
Status          Status
-----
-----
172.31.40.122
          31784    siteA-node2    true          true
                  siteA-node1    true          true
                  siteB-node2    true          true
                  siteB-node2    true          true
```

```
siteA::>
```

SnapMirror 活动同步

对于 SnapMirror 活动同步，您无需重新安装存储在 /opt/netapp 之外的 TLS 证书。备份和还原存储在 /opt/netapp 中的证书。

```
peer1::> snapmirror mediator show
Mediator Address Peer Cluster      Connection Status Quorum Status
-----
172.31.49.237    peer2              unreachable      true

peer1::> snapmirror mediator remove -mediator-address 172.31.49.237
-peer-cluster peer2

Info: [Job 39] 'mediator remove' job queued

peer1::> job show -id 39

Job ID Name              Owning
Vserver      Node              State
-----
39      mediator remove      peer1      peer1-node1      Success
Description: Removing entry in mediator

peer1::> security certificate show -common-name ONTAPMediatorCA
Vserver      Serial Number      Certificate Name      Type
-----
peer1
4A790360081F41145E14C5D7CE721DC6C210007F
ONTAPMediatorCA      server-
ca
Certificate Authority: ONTAP Mediator CA
Expiration Date: Mon Apr 17 10:27:54 2073

peer1::> security certificate delete -common-name ONTAPMediatorCA *
1 entry was deleted.

peer1::> security certificate install -type server-ca -vserver peer1

Please enter Certificate: Press <Enter> when done
..<snip ONTAP Mediator CA public key>..

You should keep a copy of the CA-signed digital certificate for future
reference.
```

The installed certificate's CA and serial number for reference:

CA: ONTAP Mediator CA

serial: 44786524464C5113D5EC966779D3002135EA4254

The certificate's generated name for reference: ONTAPMediatorCA

```
peer2::> security certificate delete -common-name ONTAPMediatorCA *
1 entry was deleted.
```

```
peer2::> security certificate install -type server-ca -vserver peer2
```

Please enter Certificate: Press <Enter> when done
....

You should keep a copy of the CA-signed digital certificate for future reference.

The installed certificate's CA and serial number for reference:

CA: ONTAP Mediator CA

serial: 44786524464C5113D5EC966779D3002135EA4254

The certificate's generated name for reference: ONTAPMediatorCA

```
peer1::> snapmirror mediator add -mediator-address 172.31.49.237 -peer
-cluster peer2 -username mediatoradmin
```

Notice: Enter the mediator password.

Enter the password:

Enter the password again:

Info: [Job: 43] 'mediator add' job queued

```
peer1::> job show -id 43
```

Job ID	Name	Owning		State
		Vserver	Node	
43	mediator add	peer1	peer1-node2	Success
	Description: Creating a mediator entry			

```
peer1::> snapmirror mediator show
```

Mediator Address	Peer	Cluster	Connection Status	Quorum Status
172.31.49.237	peer2		connected	true

```
peer1::>
```

相关信息

- ["security certificate delete"](#)
- ["security certificate install"](#)
- ["security certificate show"](#)
- ["snapmirror mediator add"](#)
- ["snapmirror mediator remove"](#)
- ["storage iscsi-initiator show"](#)

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