Integrated Dell Remote Access Controller 9

RACADM CLI Guide

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Rev. A00

DELL Technologies

Notes, cautions, and warnings

NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

WARNING: A WARNING indicates a potential for property damage, personal injury, or death.

Contents

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Introduction

This document provides information about the RACADM subcommands, supported RACADM interfaces, and property database groups and object definitions for iDRAC for the Dell servers.

Topics:

New features added

NOTE: For new attributes added, see the Attribute Registry guide available at dell.com/support

This section provides the list of new features added in the following releases:

Firmware version 6.00.30.00

Following features were added or updated in this release:

- Support for Chassis Manager firmware version property for `getsysinfo` command.
- Support for enabling/disabling PCIe VDM inventory for specified devices.

Firmware version 6.00.02.00

Following features were added or updated in this release:

- Support for `pcieslotview` command to display PCIe slot details.
- Support for attaching second remote image using `remoteimage2` command.
- Support for CPUAffinity (NUMA) property for PCIe devices and GPU cards.

Firmware version 5.10.10.00

Following features were added or updated in this release:

- Support added to restart chassis manager through RACADM interface.

Firmware version 5.10.00.00

Following features were added or updated in this release:

- Support for TLS 1.3.
- Support for iDRAC reserved user account (Support enabled with help of OEM-ID).
- Support for `storage security` subcommand for HBA controllers.
- Support for `storage encryptpd` subcommand for physical disks behind HBA controllers, Direct attached and PCIe switch attached NVMe SEDs and SAS SEDs.
- Support for `ilkm` command to enable Local Key Management on iDRAC.
- Support for `CPUAffinity` (NUMA) property for Network devices (NIC, FC, InfiniBand), storage devices (PERC, HBA, BOSS), disks (SAS, SATA, NVMe) and DIMMs.
- Support to migrate PERC security mode from LKM to SEKM.
- Support for `InputPower` property for sensor type Power in `getsensorinfo` command.
- Support for `EncryptionCapability, SecurityStatus` and `Encryptionmode` properties for HBA controllers using `storage get controllers` subcommand.
- Support for `EncryptionCapability, SecurityStatus, EncryptionProtocol, Cryptographicerasecapability` and `SystemEraseCapability` properties for physical disks behind HBA controller and Direct attached and PCIe switch attached NVMe SEDs using `storage get pdisks` subcommand.
- Support to turn off ICMP pings on iDRAC network interface.
- Support for AutoSecure feature for security capable NVMe SED (get/set idrac.sekm.autosecure).
- Support to enable HTTP Host Header validation.
- Support for Manual FQDN/Hostname or TLS SAN domain name(s) for validating HTTP host header.
- Passphrase support for `sekm enable` command to change iDRAC encryption mode from iLKM to SEKM.
- Rebootless updates for NVMe drives (SK-Hynix PE8010 and later only).

Firmware version 5.00.00.00

Following features were added or updated in this release:

- Added support for `racadm plugin` command.
- Added support for `racadm ackdriveremoval` command.

Deprecated and New Subcommands

NOTE:

- Following commands are deprecated, and will not be available from iDRAC version 4.40.00.00 and onwards. Ensure that you reconfigure the scripts that use these commands to avoid any issues or failures.
- WSMan is deprecated, with no further updates or new features to be added.

Table 1. Details of Deprecated and New Subcommands

Deprecated Subcommands	New Subcommands
getconfig	get
config	set
NOTE: Some examples in this document still use getconfig and config subcommands as they still work with previous versions of iDRAC.	
getuscversion	getversion
systemconfig	N/A

Unsupported RACADM Subcommands

The following table provides the list of RACADM subcommands which are not supported through Telnet/SSH/Serial interface of RACADM.

Table 2. Unsupported RACADM Subcommands

Subcommand	iDRAC on Blade Servers
	Telnet/SSH/Serial
krbkeytabupload	No
sslcertupload	No
sslkeyupload	No
usercertupload	No

Supported RACADM Interfaces

The RACADM command-line utility provides a scriptable interface that allows you to locally or remotely configure your iDRAC. The utility runs on the management station and the managed system. The RACADM utility is available on the Dell OpenManage Systems Management and Documentation DVD or at https://www.dell.com/support.

The RACADM utility supports the following interfaces:

- Local—Supports running RACADM commands from the managed server's operating system. To run local RACADM commands, install the OpenManage software on the managed server. Only one instance of Local RACADM can be executed on a system at a time. If you try to open another instance, an error message is displayed and the second instance of Local RACADM closes immediately. To download the local RACADM tool from https://www.dell.com/support, select **Drivers and Downloads**, select a server, and then select **Systems Management** > **Dell Toolkit**.

  NOTE: Local RACADM and local RACADM proxy runs with root user privilege.
- SSH—Also known as Firmware RACADM. Firmware RACADM is accessible by logging in to iDRAC using SSH. Similar to Remote RACADM, at the RACADM prompt, directly run the commands without the RACADM prefix.
- Remote—Supports running RACADM commands from a remote management station such as a laptop or desktop. To run Remote RACADM commands, install the DRAC Tools utility from the OpenManage software on the remote computer. To run Remote RACADM commands:
  - Formulate the command as an SSH RACADM command.

  NOTE:
  - You must have administrator privileges to run RACADM commands using Remote RACADM.
  - ESXi operating system allows up to 1020 characters in a RACADM command. This is limited to local and remote RACADM interfaces.

  For more information about the options, see RACADM Subcommand Details. To download the local RACADM tool, go to https://www.dell.com/poweredgemanuals, select the desired server. and then click **Drivers & downloads**.

RACADM Syntax Usage

The following section describes the syntax usage for SSH and Remote RACADM.

SSH or Remote RACADM

```
racadm -r <racIPAddr> -u <username> -p <password> <subcommand>
```

```
racadm -r <racIPAddr> -u <username> -p <password> get -g <group name> -o <object name>
```

```
racadm <subcommand>
```

Example

```
racadm getsysinfo
```

```
racadm -r 192.168.0.2 -u username -p xxx getsysinfo
```

```
racadm -r 192.168.0.2 -u username -p xxx get -g cfgchassispower
```

Remote RACADM

NOTE:

- By default, TLS version 1.0 is enabled on Windows 2012 R2 which is not supported on the Remote RACADM. Install the latest Windows update available, to upgrade TLS to version 1.1 or higher. Also, set the TLS version in the `iDRAC.Webserver.TLSProtocol` as appropriate. For more information about Windows update see, support.microsoft.com/en-us/help/3140245/update-to-enable-tls-1-1-and-tls-1-2-as-default-secure-protocols-in-wi
- Before configuring the webserver settings to TLS version 1.3, ensure that the client OS supports TLS 1.3.
- If Force Change of Password (FCP) feature is enabled, it is recommended to change the default password using SSH or iDRAC GUI. Changing the default password using Remote RACADM may not be successful.

```
racadm -r <racIPAddr> -u <username> -p <password> <subcommand>
```

Example

```
racadm -r 192.168.0.2 -u root -p xxxx getsysinfo
Security Alert: Certificate is invalid - Certificate is not signed by Trusted Third
Party Continuing execution.
```

NOTE: The following command does not display a security error:

```
racadm -r 192.168.0.2 -u noble -p xxx getsysinfo --nocertwarn
```

The remote RACADM commands must link to the libssl library on the HOST, which corresponds to the version of OpenSSL package installed on the HOST. Perform the following steps to verify and link the library.

- Check the openssl version installed in the HOST:

```
[root@localhost ~]# openssl
OpenSSL> version
OpenSSL 1.0.1e-fips 11 Feb 2013
OpenSSL>
```

- Locate the openSSL libraries are in the HOST machine (/usr/lib64/ in case of RHEL), and to check the various versions of the libraries:

```
[root@localhost ~]# ls -l /usr/lib64/libssl*
-rwxr-xr-x. 1 root root 249368 Oct 15  2013 /usr/lib64/libssl3.so
lrwxrwxrwx. 1 root root     16 Oct 29  2014 /usr/lib64/libssl.so.10 ->
libssl.so.1.0.1e
-rwxr-xr-x. 1 root root 439912 Sep 27  2013 /usr/lib64/libssl.so.1.0.1e
```

- Link the library libssl.so using ln -s command to the appropriate OpenSSL version in the HOST:

```
[root@localhost ~]# ln -s /usr/lib64/libssl.so.1.0.1e /usr/lib64/libssl.so
```

- Verify if the libssl.so soft linked to libssl.so.1.0.1e:

```
[root@localhost ~]# ls -l /usr/lib64/libssl*
-rwxr-xr-x. 1 root root 249368 Oct 15  2013 /usr/lib64/libssl3.so
lrwxrwxrwx. 1 root root     27 Aug 28 13:31 /usr/lib64/libssl.so -> /usr/lib64/
libssl.so.1.0.1e
lrwxrwxrwx. 1 root root     16 Oct 29  2014 /usr/lib64/libssl.so.10 ->
libssl.so.1.0.1e
-rwxr-xr-x. 1 root root 439912 Sep 27  2013 /usr/lib64/libssl.so.1.0.1e
```

Accessing Indexed-Based Device Groups and Objects

- To access any object, run the following syntax:

```
device.<group name>.[<index>].<object name>
```

- To display the supported indexes for a specified group, run:

```
racadm get device.<group name>
```

Example

```
racadm get nic.nicconfig
NIC.nicconfig.1 [Key=NIC.Integrated.1-1-1#nicconfig]
NIC.nicconfig.2 [Key=NIC.Integrated.1-2-1#nicconfig]
NIC.nicconfig.3 [Key=NIC.Integrated.1-3-1#nicconfig]
NIC.nicconfig.4 [Key=NIC.Integrated.1-4-1#nicconfig]
```

- To display the object list for the specified group, run:

```
racadm get device.<group name>.<index>
```

Example

```
racadm get nic.nicconfig.2
[Key=NIC.Integrated.1-2-1#nicconfig]
BannerMessageTimeout=5
BootStrapType=AutoDetect
HideSetupPrompt=Disabled
LegacyBootProto=NONE
LnkSpeed=AutoNeg
#VLanId=1
VLanMode=Disabled
```

- To display a single object for the specified group, run:

```
racadm get device.<group name>.<index>.<object name>
```

Example

```
racadm get nic.nicconfig.3.legacybootproto
[Key=NIC.Integrated.1-3#NICConfig]
Legacybootproto=PXE
```

RACADM Command Options

The following table lists the options for the RACADM command:

Table 3. RACADM Command Options

Option	Description
`-r <racIpAddr>` `-r <racIpAddr> : <port number>`	Specifies the controller's remote IP address. Use `<port number>` if the iDRAC port number is not the default port (443).
`-u <username>`	Specifies the user name that is used to authenticate the command transaction. If the `-u` option is used, the `-p` option must be used, and the `-i` option (interactive) is not allowed. **NOTE:** If you delete a user account using the iDRAC web interface and then use RACADM to create a new account with the same user name, you are not prompted to enter a password. However, you must manually provide a password for the account to be able to log into iDRAC using that account.
`-p <password>`	Specifies the password used to authenticate the command transaction. If the `-p` option is used, the `-i` option is not allowed.
`--nocertwarn`	Does not display certificate related warning message.

Using autocomplete feature

Use the autocomplete feature in firmware RACADM to:

- Display all the available RACADM commands in the alphabetical order by pressing the tab key at the `racadm>>` prompt.
- View the complete list, by entering the starting letter of the command at the `racadm>>` prompt and press tab key.

  NOTE:
  - Commands that are displayed/suggested by the shell are case insensitive.
  - If an attribute group does not include any attributes, autocomplete does not display this group at all.
- Navigate the cursor within a command, by pressing:

  Home key: Directs to the starting of the command

  End key: Directs to the end of the command
- View the history of the commands that were run in the current session by pressing up and down arrow key.
- If an attribute value starts with double quotes but does not end with them, the value is still considered and the command runs successfully.
- Exit the Autocomplete mode, by entering `Quit` or `Exit`

For example:

- Example 1: `racadm>> <press tab>`

```
arp
autoupdatescheduler
clearasrscreen
clearpending
closessn
clrraclog
.
.
.
.
.
.
.
vflashsd
vflashpartition
vmdisconnect
cd
quit
```

- Example 2: `racadm>> get <press tab>`

```
get
getled
getniccfg
getraclog
getractime
getsel
getsensorinfo
getssninfo
getsvctag
getsysinfo
gettracelog
getversion
```

- Example 3:

```
racadm>> getl<press tab>
```

```
racadm>> getled <press enter> or <racadm getled>
LEDState: Not-Blinking
```

- Example 4:

```
racadm>> get bios.uefiBootSettings
BIOS.UefiBootSettings
BIOS.UefiBootSettings.UefiBootSeq
BIOS.UefiBootSettings.UefiPxeIpVersion
```

NOTE:

- In the RACADM autocomplete mode, type the commands directly without giving racadm as prefix.
- NIC/FC/InfiniBand FQDDs are configuration-dependent. To find FQDDs present in system, run the RACADM command `racadm hwinventory NIC/FC/InfiniBand`

Lifecycle Controller Log

Lifecycle Controller logs provide the history of changes related to components installed on a managed system. You can also add work notes to each log entry.

The following events and activities are logged:

- System events
- Storage devices
- Network devices
- Configuration
- Audit
- Updates

You can view and filter logs based on the category and severity level. You can also export and add a work note to a log event.

If you initiate configuration jobs using RACADM CLI or iDRAC web interface, the Lifecycle log captures the information about the user, interface used, and the IP address of the system from which you initiate the job.

Proxy parameters

Some commands do not support setting the proxy parameters if the share location (-l) is HTTP/HTTPS. To perform the operation with HTTP or HTTPS through a proxy, the proxy parameters must be first configured using the lifecyclecontroller.lcattributes. Once these proxy parameters are configured, they become the part of default configuration; the proxy attributes should be cleared to end use of the HTTP/HTTPS proxy.

The valid lifecyclecontroller.lcattributes HTTP/HTTPS proxy parameters are:

- `UserProxyUserName`
- `UserProxyPassword`

- `UserProxyServer`
- `UserProxyPort`
- `UserProxyType`

To view the list of proxy attributes, use `racadm get lifecycleController.lcAttributes`.

Supported Storage Controller cards

The following table lists the supported Storage Controller cards:

PERC 11	PERC H350, PERC H355, PERC H750, and PERC H755
PERC 10	PERC H345, PERC H740, PERC H740P, PERC H745P, and PERC H840
PERC 9	PERC H330, PERC H730, PERC H730P, PERC H830, PERC FD33xS, and PERC FD33xD
HBA cards	HBA 330, HBA 345, HBA 355, HBA 350i and 12Gbps SAS HBA
BOSS Cards cards	BOSS S1, BOSS S2
Software RAID	PERC S130, PERC S140, PERC S150

Other Documents You May Need

In addition to this guide, you can access the following guides available on the Dell Support website at https://www.dell.com/idracmanuals. To access the documents, click the appropriate product link.

- The *Integrated Dell Remote Access Controller User's Guide* provides information about configuring and using an iDRAC to remotely manage and monitor your system and its shared resources through a network.
- The *iDRAC9 Attribute Registry* provides information about all attributes to perform get and set operations using RACADM interface.
- Documentation specific to your third-party management console application.
- The *Dell OpenManage Server Administrator's User's Guide* provides information about installing and using Dell OpenManage Server Administrator.
- The *Dell Update Packages User's Guide* provides information about obtaining and using Dell Update Packages as part of your system update strategy.
- The *Glossary* provides information about the terms used in this document.

The following system documents are also available to provide more information about the system in which iDRAC is installed:

- The *Hardware Owner's Manual* provides information about system features and describes how to troubleshoot the system and install or replace system components.
- Documentation for any components you purchased separately provides information to configure and install the options.
- Release notes or readme files may be included to provide last-minute updates to the system or documentation or advanced technical reference material intended for experienced users or technicians.

Updates are sometimes included with the system to describe changes to the system, software, and/or documentation. Always read the updates first because they often supersede information in other documents.

See the *Safety and Regulatory* information that is shipped with your system.

NOTE: Warranty information may be included within this document or as a separate document.

Accessing documents from Dell support site

You can access the required documents in one of the following ways:

- Using the following links:
  - For all Enterprise Systems Management documents — https://www.dell.com/esmmanuals
  - For OpenManage documents — https://www.dell.com/openmanagemanuals
  - For iDRAC and Lifecycle Controller documents — https://www.dell.com/idracmanuals

- For OpenManage Connections Enterprise Systems Management documents — https://www.dell.com/omconnectionsclient
- For Serviceability Tools documents — www.dell.com/ServiceabilityTools
- For Client Command Suite Systems Management documents — www.dell.com/DellClientCommandSuiteManuals

- From the Dell Support site:
  1. Go to www.dell.com/support/home.
  2. Under **Browse all products** section, click **Software**.
  3. In the **Software** group box, click the required link from the following:
     - **Enterprise Systems Management**
     - **Client Systems Management**
     - **Serviceability Tools**
  4. To view a document, click the required product version.
- Using search engines:
  - Type the name and version of the document in the search box.

Contacting Dell

NOTE: If you do not have an active Internet connection, you can find contact information on your purchase invoice, packing slip, bill, or Dell product catalog.

Dell provides several online and telephone-based support and service options. Availability varies by country and product, and some services may not be available in your area. To contact Dell for sales, technical support, or customer service issues:

1. Go to https://www.dell.com/support.
2. Select your support category.
3. Verify your country or region in the **Choose a Country/Region** drop-down list at the bottom of the page.
4. Select the appropriate service or support link based on your need.

2

Running Get and Set

This section provides detailed description of the RACADM Get and Set subcommands including the syntax and valid entries.

For more information about all attributes to perform get and set operations, see the *Integrated Dell Remote Access Controller Attribute Registry* available at https://www.dell.com/idracmanuals

Topics:

get

Table 4. Details of get

Description	Displays the value of one or more objects. The `get` subcommand has two forms. • Displays the value of a single object. • Exports the value of multiple objects to a file. It supports multiple object value exports in the below file format: • Server Configuration Profile(SCP) XML and JSON format—XML and JSON format files can be imported from a local file, from an NFS, CIFS, HTTP, HTTPS, FTP and TFTP network share. **NOTE:** You need admin user privilege to perform import and export SCP operations. **NOTE:** • Some objects may have a pending value if a `Set` operation is performed on the object through a reboot job. To complete the pending operation, schedule the job using a `jobqueue` command, and then check for completion of the job using the returned Job ID. For more information, see `jobqueue`. • Import and Export of INI file type doesn't support -c option for firmware versions earlier than iDRAC version 4.40.00.00. • For more information on the `get` subcommand, run the RACADM command `racadm help get` • Autobackup will return a license error from iDRAC version 4.40.00.00 release for Rx4xx and Mx4xx platforms. The command will display this error as the feature and the corresponding license will be removed. • For HddSeq, BootSeq and UefiBootSeq attributes, a maximum of 32 device list is supported. For Unique FQDDs, use the iDRAC Redfish interface.

Synopsis	Single-object Get
	`racadm get <FQDD Alias>.<group>`
	`racadm get <FQDD Alias>.<group>.<object>`
	`racadm get <FQDD Alias>.<group>.[<index>].<object>`
	`racadm get <FQDD Alias>.<index>.<group>.<index>.<object>`

Table 4. Details of get (continued)

	Multi-object Get
	`racadm get -f <filename> -t xml -l <NFS share> [--clone | --replace ] [--includeph]`
	`racadm get -f <filename> -t xml -l <NFS share> -c <FQDD>[,<FQDD>*]`
	`racadm get -f <filename> -t xml -u <username> -p <password> -l <FTP share> -c <FQDD>`
	`racadm get -f <filename> -t xml -l <TFTP share> -c <FQDD>`
	`racadm get -f <filename> -t xml -u <username> -p <password> -l <CIFS share> [--clone | --replace ] [--includeph]`
	`racadm get -f <filename> -t xml -u <username> -p <password> -l <CIFS share> -c <FQDD>[,<FQDD>*]`
	`racadm get -f <filename> -t xml -u <username> -p <password> -l <HTTP share> -c <FQDD>`
	`racadm get -f <filename> -t xml -u <username> -p <password> -l <HTTPS share> -c <FQDD>`
	`racadm get -f <filename> -t xml --customdefaults`
	`racadm get -f -t xml -l <NFS share>  [--clone | --replace ] [--includeph]  [--includeCustomTelemetry]`
	`racadm get -f -t xml -u -p -l <CIFS share> [--clone | --replace ] [--includeph] [--includeCustomTelemetry]`

Input	• `<FQDD Alias>`
	  ○ Examples for FQDDs
	  ▪ `System.Power`
	  ▪ `System.Power.Supply`
	  ▪ `System.Location`
	  ▪ `LifecycleController.LCAttributes`
	  ▪ `System.LCD`
	  ▪ `iDRAC.Serial`
	For the list of supported groups and objects under the get command, see Database objects with get and set commands.
	• `<group>`—Specifies the group containing the object that must be read.
	• `<object>`—Specifies the object name of the value that must be read.
	• `<index>`—Specifies where FQDD Aliases or Groups must be indexed.
	• `-f <filename>`—This option enables you to export multiple object values to a file. This option is not supported in the Firmware RACADM interface.
	• `-u`—Specifies user name of the remote CIFS share to which the file must be exported.
	• `-p`—Specifies password for the remote CIFS share to which the file must be exported.
	• `-l`—Specifies network share location to which the file is exported.
	• `-t`—Specifies the file type to be exported.
	The valid values are:

Table 4. Details of get (continued)

	○ JSON—It exports the SCP JSON file to a network share file. ○ xml—It exports the SCP xml format file, either to a local or network share file. ● --clone—Gets the configuration .xml files without system-related details such as service tag. The .xml file received does not have any virtual disk creation option. ● --replace—Gets the configuration .xml files with the system-related details such as service tag. ● -c—Specifies the FQDD or list of FQDDs separated by ',' of the components for which the configurations should be exported. If this option is not specified, the configuration related to all the components are exported. ● --includeph—Specifies that the output of the passwords included in the exported configuration .xml file are in the hashed format. **NOTE:** if --includeph is not used, the output of the passwords are in the .xml file in clear text. ● --customdefaults—Exports custom default configuration to file. Supports only with XML file type and local share. ● --includeCustomTelemetry—Includes Telemetry Custom Metric Report Definitions (MRDs) in the configuration XML file. **NOTE:** ● For --clone and --replace options, only .xml file template is received. These options --clone and --replace cannot be used in the same command. ● --customdefaults and --includeCustomTelemetry cannot be used in the same command. This command does not support proxy parameters. To perform the operation with http and https, the proxy parameters has to be configured in the lifecyclecontroller.lcattributes. Once these proxy parameters are configured, they become the part of default configuration. They have to be removed to ignore the proxy parameters. This command does not support setting the proxy parameters if the share location (-l) is HTTP/HTTPS. To perform the operation with HTTP or HTTPS through a proxy, the proxy parameters must be first configured using the lifecyclecontroller.lcattributes. Once these proxy parameters are configured, they become the part of default configuration; the proxy attributes should be cleared to end use of the HTTP/HTTPS proxy. The valid lifecyclecontroller.lcattributes HTTP/HTTPS proxy parameters are: ● UserProxyUserName ● UserProxyPassword ● UserProxyServer ● UserProxyPort ● UserProxyType To view the list of proxy attributes, use racadm get lifecycleController.lcAttributes.

Examples	● Get system LCD information.
	`racadm get system.lcdLCDUserString`
	● Display an entire group, in this case the topology configuration.
	`racadm get system.location`
	● Display a single object from a particular group.
	`racadm get system.location.rack.name`
	● Export the xml configuration to a CIFS share.
	`racadm get -f file -t xml -u myuser -p xxx -l //192.168.0/share`
	● Export the xml configuration to an NFS share.
	`racadm get -f file -t xml -l 192.168.0:/myshare`

Table 4. Details of get (continued)

- Export a “cloned” xml configuration to a CIFS share

```
racadm get -f xyz_temp_clone -t xml -u Administrator -p xxx -l //
192.168.0/xyz --clone
```

- Export a “replace” xml configuration to a CIFS share

```
racadm get -f xyz_temp_replace -t xml -u Administrator -p xxx -l //
192.168.0/xyz --replace
```

- Export the xml configuration of the iDRAC component to FTP share.

```
racadm get -f file -t xml -u username -p password -l ftp://
192.168.10.24/
```

- Export the JSON configuration of the iDRAC component to FTP share.

```
racadm get -f file -t json -u username -p password -l ftp://
192.168.10.24/
```

- Export the xml configuration of the iDRAC component to TFTP share.

```
racadm get -f file -t xml  -l tftp://192.168.10.24/
```

- Export the JSON configuration of the iDRAC component to TFTP share.

```
racadm get -f file -t json -l ftp://192.168.10.24/
```

- Export the xml configuration of the iDRAC component to a CIFS share.

```
racadm get -f file -t xml -u myuser -p xxx -l //192.168.0/share  -c
iDRAC.Embedded.1
```

- Export the xml configuration of the iDRAC component to NFS share.

```
racadm get -f file -t xml -l 10.1.12.13:/myshare
```

- Export the xml configuration of the iDRAC component to HTTP share.

```
racadm get -f file -t xml -u httpuser -p httppwd -l http://test.com/
myshare
```

- Export the xml configuration of the iDRAC component to HTTPS share.

```
racadm get -f file -t xml -u httpuser -p httppwd -l https://test.com/
myshare
```

- Export the JSON configuration of the iDRAC component to HTTP share.

```
racadm get -f file -t json -u httpuser -p httppwd -l http://test.com/
myshare
```

- Export the JSON configuration of the iDRAC component to HTTPS share.

```
racadm get -f file -t json -u httpuser -p httppwd -l https://test.com/
myshare
```

- Export the custom default xml configuration to local share.

```
racadm get -f file -t xml --customdefaults
```

- Include Telemetry Custom Metric Report Definitions in the configuration .xml file.

```
racadm get -f <filename> -t xml -l <NFS or CIFS share> -u <username> -p
<password> --includeCustomTelemetry
```

Table 4. Details of get (continued)

	• Include password hash in the configuration `.xml` file.
	`racadm get -f<filename> -t xml -l<NFS or CIFS share> -u<username> -p<password> -t xml --includeph`
	• Configure proxy parameters.
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername admin1`
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername`
	• View the list of proxy attributes.
	`racadm get lifecycleController.lcAttributes`
	• To display InfiniBand related groups.
	`racadm get InfiniBand`

set

Table 5. Details of set

Description	Modifies the value of configuration objects on a component. The `Set` sub-command has two forms: • The modification of a single object to a new value specified in the command line. • The modification of multiple objects to new values using a configuration file. It supports multi-object value import from the below configuration file format: ○ Server Configuration Profile(SCP) XML and JSON format—XML and JSON format files can be imported from a local file, from an NFS, CIFS, HTTP, HTTPS, FTP and TFTP network share. **NOTE:** You need admin user privilege to perform import and export SCP operations. Depending on the type of configuration object being modified, the new values could be applied immediately (in "real-time") or require staging and a reboot of the system to apply the new values. The following components support either real-time or staged application of new values: ○ iDRAC with Lifecycle Controller ○ PowerEdge RAID controllers **NOTE:** Use PowerEdge RAID controllers with firmware version 9.1 or later. The real-time support is provided only while performing hardware RAID configuration. The following components require staging and system reboot for application of new values: • BIOS • Other PowerEdge RAID controllers — For software RAID configuration • Networking devices – Ethernet and Fibre Channel **NOTE:** • To modify the value of staged objects such as BIOS or NIC, commit and reboot job creation must be used to apply the pending values. When single object `Set`operations are used to stage value modification, use the jobqueue command to schedule a job to reboot the server and apply the new values. For staged multi-object `Set`operations using xml configuration files, a job will automatically be created by the `Set` command; use the –b, -w and -s options to specify how the staged reboot will be performed. For more information, see jobqueue. • Import and Export of INI file type doesn't support -c option for firmware versions earlier than iDRAC 4.40.00.00. • For more information on the `set` subcommand, run the RACADM command `racadm help set`.
Synopsis	Single-object Set

Table 5. Details of set (continued)

	• `racadm set <FQDD Alias>.<group> <value>`
	• `racadm set <FQDD Alias>.<group>.<object> <value>`
	• `racadm set <FQDD Alias>.<group>.[<index>].<object> <value>`
	• `racadm set <FQDD Alias>.<index>.<group>.<index>.<object> <value>`
	Multi-object Set
	• `racadm set -f <filename> -t xml -l <NFS share> [--preview] [--continue]`
	• `racadm set -f <filename> -t xml -l <NFS share> -c <FQDD>[,<FQDD>*]`
	• `racadm set -f <filename> -t xml -u <username> -p <password> -l <CIFS share> [--preview] [--continue]`
	• `racadm set -f <filename> -t xml -u <username> -p <password> -l <CIFS share> -c <FQDD>[,<FQDD>*]`
	• `racadm set -f <filename> -t <file_type> -u <user> -p <pass> -l <location> \ [-s <state>] [-c <component_FQDD>] [--preview] [--customdefaults]`
	• `racadm set --savecustomdefaults`
	• Configure a RAC from an XML configuration file located on a remote NFS share
	`racadm set -f <filename> -t xml -l <NFS> 10.1.2.3:/myshare`
	• Configure a RAC from an XML configuration file located on a remote HTTP share.
	`racadm set -f <filename> -t xml -u <httpuser> -p <httppwd> -l <HTTP> http://test.com/myshare`
	• Configure a RAC from an XML configuration file located on a remote HTTPS share.
	`racadm set -f <filename> -t xml -u <httpsuser> -p <httpspwd> -l <HTTPS> https://test.com/myshare`
	• Configure a RAC from an XML configuration file located on a remote FTP share
	`racadm set -f <filename> -t xml -u <username> -p <password> -l <FTP share> -c <FQDD>`
	• Configure a RAC from an XML configuration file located on a remote TFTP share.
	`racadm set -f <filename> -t xml -l <TFTP share> -c <FQDD>`
	• To modify the value of InfiniBand attribute
	`racadm set <InfiniBand Attribute> <value>`

Input	• `<FQDD Alias>` Examples for FQDDs: ○ System.Power ○ System.Power.Supply ○ System.Location ○ LifecycleController.LCAttributes ○ System.LCD ○ iDRAC.Serial • `<group>` — Specifies the group containing the object that must be written.

Table 5. Details of set (continued)

- `<object>` — Specifies the object name of the value that must be written.
- `<index>` — This option is specified where FQDD Aliases or Groups must be indexed.
- `-f <filename>` — Enables set to configure the device from a specified file. This option is not supported in the Firmware RACADM interface.
- `-u` — Specifies user name of the CIFS remote share from which the file must be imported
- `-p` — Specifies password for the remote CIFS share from which the file must be imported.
- `-l` — Specifies network share location from where the file must be imported.
- `-t` — Specifies the file type to be imported.

  The valid values are:
  - `xml`—Imports the Server Configuration Profile in XML format either from a local or network share file.
  - `JSON`—Specifies a JSON file.

Staging and reboot control options

The following options control when and how system reboots are performed when using the –f option. As noted above, some `FQDD`s require a system reboot to apply the new values; other `FQDD`s optionally support immediate application of new values. If the imported file contains ONLY immediate application-capable `FQDD`s such as iDRAC, do NOT use the –b option and the Set command will schedule a real-time job to immediately apply the new values.

NOTE: The –b, -w, –s, and --preview options are applicable only with –f option.

- `-b`—Specifies the host shutdown type to run scheduled import job. The parameters are `Graceful`, `Forced`, and `NoReboot` for graceful shutdown, forced shutdown, and no reboot respectively. If -b is not specified, graceful shutdown is taken as the default except as noted above for files containing new values for immediate application-capable <FQDD>s.

  NOTE: If the operating system is in use, then the `graceful` shutdown option may time out within 300 seconds. If this operation is unsuccessful, then retry with the `force` option.
- `-w`—Maximum time to wait for the graceful shutdown to occur. The value must be entered in seconds. Minimum accepted value is 300 seconds and the maximum accepted value is 3600 seconds. The default value is 1800 seconds.
- `-s`—Power state of the host when the import operation completes. The parameters are "On" for powered ON and "Off" for powered OFF. If this parameter is not specified, power ON is taken as default.
- `--preview`—Validates the configuration `.xml` file and view the status.

  The `--preview` option provides the **Job ID** to verify the status of the file preview operation. The **Job ID** can be tracked by running the `racadm jobqueue view -I <JID>` command.

  NOTE:
  - The `--preview` option does not restart the system.
  - The`-b`,`-w` options cannot be included with the `--preview` option.
  - A scheduled job or pending configuration should not be running while using the `--preview` option.
- `-c`—Specifies the FQDD or list of FQDDs separated by ',' of the components for which the configurations should be imported. If this option is not specified, configuration related to all the components are imported.

NOTE:
- To use the `-c` or `--preview` option, the minimum Lifecycle Controller version required is 1.2.
- On certain devices, importing the server configuration profile requires two imports to apply the configuration to all the devices. The first import of the profile enables hidden devices which are then configured with a second import. The devices that require two imports are as follows:
  - PERC S110 and PERC S130 controllers
  - PERC S110 and PERC S130 controllers
  - BIOS and PCIe device: enabling PCIe slots in the system that are disabled and configuring the PCIe device

Table 5. Details of set (continued)

	○ BIOS: enabling processor trusted execution (TXT) when server has Trusted Platform Module (TPM) 2.0 installed ○ BIOS: if SCP contains only a BIOS section that includes switching boot mode to UEFI and configuration of UEFI PXE network settings ○ BIOS: if SCP contains only a BIOS section that includes switching boot mode to legacy BIOS or UEFI along with changes to the boot order sequence using changes to BootSeq, HddSeq, or UefiBootSeq attributes. ○ BIOS: changing TPM 2.0 cryptographic support from the default of SHA-1 **NOTE:** Boot mode and boot order sequence can be changed with a single SCP import if the SetBootOrderFqddN and SetLegacyHddOrderFqddN attributes are used. ● `--savecustomdefaults`—Saves current configuration as custom default configuration. ● `--customdefaults`—Performs the upload of custom default configuration file. This option should not be combined with `--preview`. Supports XML file type only. This command does not support setting the proxy parameters if the share location (-l) is HTTP/HTTPS. For more information, see Proxy parameter section.

Example	**Single-object Set of real-time objects**
	● Configure LCD String.
	`racadm set system.lcd.LCDUserString test`
	● ○ Configure iDRAC name.
	`racadm set iDRAC.Info.Name idrac-server100`
	Single-object Set of staged objects
	● Configure several BIOS settings, create a job to initiate application of new values, reboot the system, then wait for the job to complete.
	`racadm set BIOS.SysProfileSettings.ProcTurboMode Disabled`
	`racadm set BIOS.ProcSettings.ProcVirtualization Enabled`
	`racadm set BIOS.ProcSettings.ControlledTurbo Enabled`
	`racadm jobqueue create BIOS.Setup.1-1 -r Graceful`
	○ Note of the Job ID output by the jobqueue command
	○ After reboot, wait for the job to complete by checking the job status
	`racadm jobqueue view -i <Job ID>`
	Multi-object Set of real-time objects
	● Configure the iDRAC using a local Server Configuration Profile XML file containing only iDRAC settings.
	`racadm set -f myidrac.xml -t xml`
	● Configure the iDRAC using a Server Configuration Profile XML file stored on an NFS share containing only iDRAC settings.
	`racadm set -f myidrac.xml -t xml -l 10.1.2.3:/myshare`
	● Import a Server Configuration Profile from a CIFS share, using only the iDRAC component.
	`racadm set -f file -t xml -u myuser -p mypassword -l //192.168.0/share -c iDRAC.Embedded.1`
	Multi-object Set of staged objects
	● Configure a systems using a local Server Configuration Profile XML file containing a mix of real-time and staged objects; reboot the server gracefully with a wait time of ten minutes, leaving the server powered on after the reboot.
	`racadm set -f myfile.xml -t xml -b "graceful" -w 600 -s "on"`
	○ Make note of the Job ID output by the Set command.
	○ After reboot, wait for the job to complete by checking the job status.

Table 5. Details of set (continued)

```
racadm jobqueue view -i <Job ID>
```

- Configure a systems using a local Server Configuration Profile XML file containing a mix of real-time and staged objects; postpone reboot until other operations have been completed.

  ```
  racadm set -f myfile.xml -t xml -b NoReboot
  ```

  - Make note of the Job ID output by the Set command; because of the NoReboot option, the job will be pending until the server is rebooted
  - Complete other operations, then perform a reboot
  - After reboot, wait for the job to complete by checking the job status

  ```
  racadm jobqueue view -i <Job ID>
  ```

- Verify the Server Configuration Profile XML file content located in a remote CIFS share.

  ```
  racadm set -f temp_Configuration_file -t xml -u Administrator -p
  Password -l //192.168.0/xyz -preview
  ```

- Configure a RAC from an XML configuration file located on a remote FTP share.

  ```
  racadm set -f myfile.xml -t xml -u username -p password -l ftp://
  192.168.10.24/
  ```

- Configure a RAC from a JSON configuration file located on a remote FTP share.

  ```
  racadm set -f myfile.xml -t json -u httpsuser -p httpspwd -l ftp://
  192.168.10.24/
  ```

- Configure a RAC from an XML configuration file located on a remote TFTP share.

  ```
  racadm set -f myfile.xml -t xml -l tftp://192.168.10.24/
  ```

- Configure a RAC from a JSON configuration file located on a remote TFTP share.

  ```
  racadm set -f myfile.xml -t json -l tftp://192.168.10.24/
  ```

- Configure a RAC from an XML configuration file located on a remote HTTP share.

  ```
  racadm set -f myfile.xml -t xml -u httpuser -p httppwd -l http://
  test.com/myshare
  ```

- Configure a RAC from an XML configuration file located on a remote HTTPS share.

  ```
  racadm set -f myfile.xml -t xml -u httpsuser -p httpspwd -l https://
  test.com/myshare
  ```

- Configure a RAC from a JSON configuration file located on a remote HTTPS share.

  ```
  racadm set -f myfile.xml -t json -u httpsuser -p httpspwd -l https://
  test.com/myshare
  ```

- Configure the proxy parameter.

  ```
  racadm set lifecyclecontroller.lcattributes.UserProxyUsername admin1
  ```

- Remove the proxy parameter.

  ```
  racadm set lifecyclecontroller.lcattributes.UserProxyUsername
  ```

- Upload the custom default XML configuration file located on NFS share to RAC.

  ```
  racadm set -f myfile.xml -t xml -l share_ip:/PATH --customdefaults
  ```

- Save current configuration as custom default configuration.

  ```
  racadm set --savecustomdefaults
  ```

3

RACADM Subcommand Details

This section provides detailed description of the RACADM subcommands including the syntax and valid entries.

Topics:

- license
- netstat
- networktransceiverstatistics
- nicstatistics
- pcieslotview
- ping
- ping6
- plugin
- racadm proxy
- racdump
- racreset
- racresetcfg
- recover
- remoteimage
- remoteimage2
- rollback
- SEKM
- serialcapture
- sensorsettings
- serveraction
- setled
- setniccfg
- sshpkauth
- sslcertdelete
- sslcertdownload
- sslcertupload
- sslcertview
- sslcsrgen
- sslkeyupload
- sslresetcfg
- storage
- supportassist
- swinventory
- switchconnection
- systemerase
- systemperfstatistics
- techsupreport
- testalert
- testemail
- testrsyslogconnection
- testtrap
- traceroute
- traceroute6
- update
- usercertupload
- usercertview
- vflashpartition
- vflashsd
- vmdisconnect

Guidelines to Quote Strings Containing Special Characters When Using RACADM Commands

When using strings that contain special characters, use the following guidelines:

Strings containing the following special characters must be quoted using single quotation marks or double quotation marks:

- $ (dollar sign)
- " (double quotation marks)
- ` (backward quotation marks)
- \ (backward slash)
- ~ (tilde)
- | (vertical bar)
- ((left parentheses)
-) (right parentheses)
- & (ampersand)
- > (greater than)
- < (less than)
- # (pound)
- ASCII code 32 (space)

There are different escaping rules for double quotation marks.

For using double quotation marks:

The following characters must be escaped by preceding with a backward slash:

- $ (dollar sign)
- " (double quotation marks)
- ` (back quotation marks)
- ' (single quotation marks)

help and help subcommand

Table 6. help and help subcommand

Description	Lists all the subcommands available for use with RACADM and provides a short description about each subcommand. You may also type a subcommand, group, object or Fully Qualified Descriptor (FQDD) name after `help`.
Synopsis	• `racadm help` • `racadm help <subcommand>`
Input	• `<subcommand>` — specifies the subcommand for which you need the help information. • `<device name>` — specifies the device name such as iDRAC, BIOS, NIC, LifecycleController, FC, system, or Storage. • `<group>` — specifies the group name supported by the corresponding device. • `<object>` — specifies the object for the entered group.
Output	• The `help` command displays a complete list of subcommands. • The `racadm help <subcommand>` command displays information for the specified subcommand only. • The `racadm help <device name> <Group>` command displays information for the specified group. • The `racadm help <device name> <Group> <Object>` command displays information for the specified object. **NOTE:** `help` for NIC/FC/Infiniband vendor implementation specific attributes are fetched from the respective vendors and may not be complete for few attributes.
Example	To display the help information about InfiniBand FQDD: `racadm help <InfiniBand FQDD>`

ackdriveremoval

Table 7. Details of RACADM Ackdriveremoval

Description	The plugin subcommand acknowledges drive removal and clears the amber state of the chassis LED to healthy state.
Synopsis	racadm ackdriveremoval -d <drive_id> -b <bay_id> racadm ackdriveremoval --all
Input	• --all—Acknowledge all the drive removal. • -d—Drive ID to acknowledge drive removal. • -b—Bay ID to acknowledge drive removal.

Example	To acknowledge all the drive removal:
	`racadm ackdriveremoval --all`
	To acknowledge the drive removal for a given drive and bay id:
	`racadm ackdriveremoval -d 2 -b 0`

arp

Table 8. Details of arp sub command

Description	Displays the contents of the Address Resolution Protocol (ARP) table. ARP table entries cannot be added or deleted. To use this subcommand, you must have Debug privilege.
Synopsis	`racadm arp`
Input	N/A
Example	`racadm arp`

Output

Table 9. Details of output

Address	HW Type	HW Address	Mask	Device
192.168.1.1	Ether	00:0d:65:f3:7c:bf	C	eth0

autoupdatescheduler

Table 10. Details of the autoupdatescheduler command

Description	You can automatically update the firmware of the devices on the server. To run this subcommand, you must have the Server Control privilege. **NOTE:** • The `autoupdatescheduler` subcommand can be enabled or disabled. • Lifecycle Controller and CSIOR may not be enabled to run this subcommand. • The autoupdatescheduler can be enabled or disabled.

Table 10. Details of the autoupdatescheduler command (continued)

	• The minimum Lifecycle Controller version required is Lifecycle Controller 1.3. • When a job is already scheduled and the `clear` command is run, the scheduling parameters are cleared. • If the network share is not accessible or the catalog file is missing when the job is scheduled, then the job is unsuccessful.

Synopsis	• To create the AutoUpdateScheduler, run the command.
	`racadm autoupdatescheduler create -u <user> -p <password> -l <location> -f <filename> -time <time> -dom <DayOfMonth> -wom <WeekOfMonth> -dow <DayofWeek> -rp <repeat> -a <applyreboot> -ph <proxyHost> -pu <proxyUser> -pp <proxyPassword> -po <proxyPort> -pt <proxyType>`
	• To view AutoUpdateScheduler parameter, run the command.
	`racadm autoupdatescheduler view`
	• To clear and display AutoUpdateScheduler parameter, run the command.
	`racadm autoupdatescheduler clear`
	NOTE: After the parameters are cleared, the AutoUpdateScheduler is disabled. To schedule the update again, enable the AutoUpdateScheduler.

Input	Valid options: • `-u` — Specifies the user name of the remote share that stores the catalog file. **NOTE:** For CIFS, enter the domain name as domain or username. • `-p` — Specifies the password of the remote share that stores the catalog file. • `-l` — Specifies the network share (NFS, CIFS, FTP, TFTP,HTTP, or HTTPS) location of the catalog file. IPv4 and IPv6 addresses are supported. • `-f` — Specifies the catalog location and the filename. If the filename is not specified, then the default file used is `catalog.xml`. **NOTE:** If the file is in a subfolder within the share location, then enter the network share location in the `-l` option and enter the subfolder location and the filename in the `-f` option. • `-ph` — Specifies the FTP/HTTP proxy host name. • `-pu` — Specifies the FTP/HTTP proxy user name. • `-pp` — Specifies the FTP/HTTP proxy password. • `-po` — Specifies the FTP/HTTP proxy port. • `-pt` — Specifies the FTP/HTTP proxy type. • `-time` — Specifies the time to schedule an autoupdate in the HH:MM format. This option must be specified. • `-dom` — Specifies the day of month to schedule an autoupdate. Valid values are 1–28, L (Last day) or '*' (default — any day). • `-wom` — Specifies the week of month to schedule an autoupdate. Valid values are 1–4, L (Last week) or '*' (default — any week). • `-dow` — Specifies the day of week to schedule an autoupdate. Valid values are sun, mon, tue, wed, thu, fri, sat, or '*' (default — any day). **NOTE:** The `-dom`, `-wom`, or `-dow` option must be included in the command for the autoupdate schedule. The * value for the options must be included within ' ' (single quotation mark). • If the `-dom` option is specified, then the `-wom` and `-dow` options are not required. • If the`-wom` option is specified, then the`-dow` is required and `-dom` is not required. • If the`-dom` option is non-'*', then the schedule repeats by month. • If the`-wom` option is non-'*', then the schedule repeats by month. • If the`-dom` and `-wom` options are '*' and the `-dow` option is non-'*', then the schedule repeats by week. • If all the three `-dom`, `-wom` and `-dow` options are '*', then the schedule repeats by day.

Table 10. Details of the autoupdatescheduler command (continued)

	• `-rp` — Specifies the repeat parameter. This parameter must be specified.
	  ○ If the `-dom` option is specified, then the valid values for `-rp` are 1–12.
	  ○ If the `-wom` option is specified, then the valid values for `-rp` are 1–52.
	  ○ If the `-dow` option is specified, then the valid values for `-rp` are 1–366.
	• `-a` — Applies reboot (1 — Yes, 0 — No). This option must be specified.

Example	Usage examples:
	• To configure autoupdate feature settings.
	  ○ For CIFS, run the command:
	`racadm autoupdatescheduler create -u domain/admin -p xxx -l // 1.2.3.4/share -f cat.xml -time 14:30 -wom 1 -dow sun -rp 1 -a 1`
	  ○ For NFS, run the command:
	`racadm autoupdatescheduler create -u nfsadmin -p nfspwd -l 1.2.3.4:/share -f cat.xml -time 14:30 -dom 1 -rp 5 -a 1`
	  ○ For FTP, run the command:
	`racadm autoupdatescheduler create -u ftpuser -p ftppwd -l` **`ftp.test.com`** `-f cat.xml.gz -ph 10.20.30.40 -pu padmin -pp ppwd -po 8080 -pt http -time 14:30 -dom 1 -rp 5 -a 1`
	  ○ For HTTP, run the command:
	`racadm autoupdatescheduler create -u httpuser -p httppwd -l http://test.com -f cat.xml -ph 10.20.30.40 -pu padmin -pp ppwd -po 8080 -pt http -time 14:30 -dom 1 -rp 5 -a 1`
	  ○ For TFTP, run the command:
	`racadm autoupdatescheduler create -l tftp://1.2.3.4 -f cat.xml.gz -time 14:30 -dom 1 -rp 5 -a 1`
	  ○ To view AutoUpdateScheduler parameter:
	`racadm autoupdatescheduler view`
	`hostname = 192.168.0`
	`sharename = nfs`
	`sharetype = nfs`
	`catalogname = Catlog.xml`
	`time = 14:30dayofmonth =1`
	`repeat = 5`
	`applyreboot = 1`
	`idracuser = racuser`
	  ○ To clear and display AutoUpdateScheduler parameter:
	`racadm autoupdatescheduler clear`
	`RAC1047: Successfully cleared the Automatic Update (autoupdate) feature settings`

bioscert

Table 11. Details of the bioscert subcommand

Description	Allows you to • View the installed Secure Boot Certificates. To view, you must have the Login privilege • Export the Secure Boot Certificate to a remote share or local system. To export, you must have the Login privilege

Table 11. Details of the bioscert subcommand (continued)

	• Import the Secure Boot Certificate from a remote share or local system. To import, you must have login and system control privilege • Delete the installed Secure Boot Certificate. To delete, you must have login and system control privilege • Restore the installed Secure Boot Certificate Sections. To restore, you must have login and system control privilege

Synopsis	• To view the installed Secure Boot Certificates
	`racadm bioscert view –all`
	• To export the Secure Boot Certificate to a remote share or local system.
	`racadm bioscert view -t <keyType> -k <KeySubType> -v <HashValue or ThumbPrintValue>`
	• `racadm bioscert export -t <keyType> -k <KeySubType> -v <HashValue or ThumbPrintValue> -f <filename> -l <CIFS/NFS/HTTP/HTTPS share> -u <username> -p <password>`
	• `racadm bioscert import -t <keyType> -k <KeySubType> -f <filename> -l <CIFS/NFS/HTTP/HTTPS share> -u <username> -p <password>`
	• `racadm bioscert delete –all`
	• `racadm bioscert delete -t <keyType> -k <KeySubType> -v <HashValue or ThumbPrintValue>`
	• `racadm bioscert restore –all`
	• `racadm bioscert restore -t <keyType>`

Input	• `-t`— Specifies the key type of the Secure Boot Certificate to be exported. ○ 0— Specifies the PK (Platform Key) ○ 1— Specifies the KEK (Key Exchange Key) ○ 2— Specifies the DB (Signature Database) ○ 3— Specifies the DBX (Forbidden signatures Database) • `-k` — Specifies the Certificate type or the Hash type of the Secure Boot Certificate file to be exported. ○ 0— Specifies the Certificate type ○ 1— Specifies the Hash type (SHA - 256) ○ 2— Specifies the Hash type (SHA - 384) ○ 3— Specifies the Hash type (SHA - 512) • `-v`— Specifies the Thumbprint value or the Hash value of the Secure Boot Certificate file to be exported.Filename of the exported. • `-f`—Specifies the file name of the exported Secure Boot Certificate. • `-l`—Specifies the network location to where the Secure Boot Certificate file must be exported. • `-u`—Specifies the username for the remote share to where the Secure Boot Certificate file must be exported. • `-p`—Specifies the password for the remote shre to where the Secure Boot Certificate file must be exported.

Example	• To view the installed Secure boot Certificates.
	`racadm bioscert view –all`
	• To view an installed PK Certificate
	`racadm bioscert view -t 0 -k 0 -v AB:A8:F8:BD:17:1E:35:12:90:67:CD:0E:69:66:79:9B:BE:64:52:0E`

Table 11. Details of the bioscert subcommand (continued)

- To view installes DBX certificate of HASH type SHA-256

```
 racadm bioscert view -t 3 -k 1 -v
416e3e4a6722a534afba9040b6d6a69cc313f1e48e7959f57bf248d543d00245
```

- Export the KEK certificate to a remote CIFS share

```
 racadm bioscert export -t 1 -k 0 -v
AB:A8:F8:BD:17:1E:35:12:90:67:CD:0E:69:66:79:9B:BE:64:52:0E
-f kek_cert.der -l //10.94.161.103/share -u admin -p mypass
```

- Export the DBX (Hash Type SHA-256) to a remote NFS share

```
 racadm bioscert export -t 3 -k 1 -v
416e3e4a6722a534afba9040b6d6a69cc313f1e48e7959f57bf248d543d00245
-f kek_cert.der -l 192.168.2.14:/share
```

- Export the KEK certificate to a local share using the local racadm

```
 racadm bioscert export -t 1 -k 0 -v
AB:A8:F8:BD:17:1E:35:12:90:67:CD:0E:69:66:79:9B:BE:64:52:0E   -f
kek_cert.der
```

- Export the KEK certificate to a local share using remote racadm

```
racadm -r 10.94.161.119 -u root -p calvin bioscert export -t 1
-k 0 -v AB:A8:F8:BD:17:1E:35:12:90:67:CD:0E:69:66:79:9B:BE:64:52:0E -f
kek_cert.der
```

- Import the KEK certificate from the CIFS share to the embedded iDRAC

```
racadm bioscert import -t 1 -k 0 -f kek_cert.der -l //10.94.161.103/
share -u admin -p mypass
```

- Import KEK (Hash Type SHA-256) from a CIFS share to the embedded iDRAC

```
racadm bioscert import -t 1 -k 1 -f kek_cert.der -l //192.168.2.140/
licshare -u admin -p passwd
```

- Import KEK certificate from a NFS share to the embedded iDRAC

```
 racadm bioscert import -t 1 -k 0 -f kek_cert.der -l 192.168.2.14:/share
```

- Import KEK certificate from a local share using Local RACADM

```
racadm bioscert import -t 1 -k 0 -f kek_cert.der
```

- Import KEK certificate from a local share using remote RACADM

```
racadm -r 10.94.161.119 -u root -p calvin bioscert import -t 1 -k 0 -f
kek_cert.der
```

- To delete an installed KEK Secure Boot Certificate

```
racadm bioscert delete -t 3 -k 0 -v
416e3e4a6722a534afba9040b6d6a69cc313f1e48e7959f57bf248d543d00245
```

- To delete an installed DBX Secure Boot Certificate of HASH type SHA-256

```
racadm bioscert delete -t 3 -k 1 -v
416e3e4a6722a534afba9040b6d6a69cc313f1e48e7959f57bf248d543d00245
```

- To delete all the installed KEK Secure Boot Certificates

```
racadm bioscert delete --all
```

Table 11. Details of the bioscert subcommand (continued)

	• To restore the installed KEK Secure Boot Certificates
	`racadm bioscert restore -t 1`
	• To restore all the installed Secure Boot Certificates
	`racadm bioscert restore --all`

biosscan

Table 12. Details of the biosscan subcommand

Description	Allows iDRAC to scan the BIOS on scheduled intervals or as requested by the user.

Synopsis	To schedule BIOS scanning
	`racadm biosscan -s <Frequency Type>`
	or
	`racadm biosscan -s <frequency> -t <start-time> -d <start-date>`

Input	• `-s`—Specifies the type of schedule for BIOS scan. ○ 0—Never schedule for BIOS scan and deletes existing schedules ○ 1—Schedule now ○ 2—Schedule daily ○ 3—Schedule weekly ○ 4—Schedule monthly ○ 5—Schedule yearly • `-t<HH:00>`—Schedule start time in 24-hour format. Specifying minute is not supported, therefore the minute value must be set as 00. Default time is set to 23:00 if time is not specified. • `-d<YYYY-MM-DD>`—Schedule start date. Default date is set to the current date when date is not specified. **NOTE:** -t and -d inputs must be specified together and are not applicable for -s 0 and -s 1. **NOTE:** In modular systems, scheduled start time (minutes) may vary based on the server slot number.

Example	• To perform the BIOS Scan immediately:
	`racadm biosscan -s 1`
	• To perform the BIOS Scan daily:
	`racadm biosscan -s 2`
	• To perform BIOS scan weekly at 2100 Hrs from December 20, 2020:
	`racadm biosscan -s 3 -t 21:00 -d 2020-12-20`
	• To perform BIOS scan weekly from today at default time 23:00:
	`racadm biosscan -s 3`

cd

Table 13. cd

Description	To change the current working object, use this command.
Synopsis	`racadm>> cd <object>`
Input	`racadm>> cd <object>`
Output	Displays the new prompt.

Example	• **Example 1:** To navigate to the system device type directory:
	`racadm>>cd system`
	`racadm/system>`
	• **Example 2**: To run all the power-related `get` or `set` commands:
	`racadm/system>cd power`
	`racadm/Power>`

NOTE: To go back to the previous directory, use the `cd..` command.

clearasrscreen

Table 14. Details of the clearasrscreen attribute

Description	Clears the last crash (ASR) screen that is in memory. For more information, see "Enabling Last Crash Screen" section in *Integrated Dell Remote Access Controller User's Guide* available at https://www.dell.com/idracmanuals . **NOTE:** To run this subcommand, you must have the Clear Logs permission.
Synopsis	`racadm clearasrscreen`
Input	None
Output	Clears the last crash screen buffer.
Example	`racadm clearasrscreen`

clearpending

Table 15. clearpending

Description	Deletes the pending values of all the attributes (objects) in the device (NIC, BIOS, FC, and Storage). **NOTE:** If any attribute is not modified or a job is already scheduled for the same device, then the pending state is not cleared or deleted.
Synopsis	`racadm clearpending <FQDD>`
Input	`<FQDD>` — The values are:

Table 15. clearpending (continued)

	• BIOS FQDD • NIC FQDD • Infiniband FQDD • FC FQDD • Storage controller FQDD
Output	A message is displayed indicating that the pending state is cleared or deleted.

Example	• To clear the pending state of NIC device
	`racadm clearpending NIC.Integrated.1-1`
	• To clear the pending state of InfiniBand device
	`racadm clearpending <InfiniBand FQDD>`

closessn

Table 16. Details of closessn

Description	Closes a communication session on the device. Use `getssninfo` to view a list of sessions that can be closed using this command. To run this subcommand, you must have the Administrator permission. **NOTE:** This subcommand ends all the sessions other than the current session.
Synopsis	• `racadm closessn -i <session_ID>` • `racadm closessn -a` • `racadm closessn -u <username>`
Input	• `-i <session_ID>` — The session ID of the session to close, which can be retrieved using RACADM `getssninfo` subcommand. Session running this command cannot be closed. • `-a` — Closes all sessions. • `-u <username>` — Closes all sessions for a particular user name.
Output	Successful or error message is displayed.

Example	• Closes the session 1234.
	`racadm closessn -i 1234`
	• Closes all the sessions other then the active session for root user.
	`racadm closessn -u root`
	• Closes all the sessions.
	`racadm closessn -a`

clrsel

Table 17. Details of clrsel

Description	Removes all the existing records from the System Event Log (SEL). To use this subcommand, you must have **Clear Logs** permission.
Synopsis	`racadm clrsel`
Example	• `racadm clrsel` The SEL was cleared successfully

cmreset

Table 18. Details of cmreset

Description	This command is used to perform a chassis manager reset operation.
Synopsis	**NOTE:** This command is only supported on DCS systems. • `racadm cmreset`
Input	
Example	• To perform the chassis manager reset operation. `racadm cmreset`

connect

Table 19. Details of connect

Description	Allows you to connect to the switch or blade serial console. **NOTE:** This subcommand is only supported on the firmware interface.
Synopsis	• `racadm connect [-b] -m <module>`
Input	• `-b`—binary mode. **NOTE:** If -b is used, CMC must be reset to terminate connect. • `-m`—module, and can be one of the following values: ○ `server-<n>`—where n = 1 to 16 ○ `server-<nx>`—where n = 1 to 8 and x = a to d ○ `switch-n`—where n = 1 to 6 or <a1 | a2 | b1 | b2 | c1 | c2>

Examples	• To connect to I/O Module 1 serial console:
	`racadm connect -m switch-1`
	• To connect to server 1 serial console:
	`racadm connect -m server-1`

coredump

Table 20. Details of coredump

Description	Displays detailed information related to any recent critical issues that have occurred with iDRAC. The coredump information can be used to diagnose these critical issues. If available, the coredump information is persistent across iDRAC power cycles and remains available until either of the following conditions occur: The coredump information is deleted using the coredumpdelete subcommand. For more information about clearing the `coredump`, see the coredumpdelete. **NOTE:** To use this subcommand, you must have the **Execute Debug** privilege.
Synopsis	`racadm coredump`

Example	• `racadm coredump`
	`There is no coredump currently available.`
	• `racadm coredump`
	`Feb 19 15:51:40 (none) last message repeated 5 times`
	`Feb 19 15:52:41 (none) last message repeated 4 times`
	`Feb 19 15:54:12 (none) last message repeated 4 times`
	`Feb 19 15:56:11 (none) last message repeated 2 times`
	`Feb 22 11:46:11 (none) kernel:`

coredumpdelete

Table 21. Details of coredumpdelete

Description	Deletes any currently available coredump data stored in the RAC. To use this subcommand, you must have **Execute Debug** Command permission. **NOTE:** If a `coredumpdelete` command is issued and a `coredump` is not currently stored in the RAC, the command displays a success message. This behavior is expected. See the `coredump` subcommand for more information about viewing a coredump.
Synopsis	`racadm coredumpdelete`
Output	Coredump is deleted.
Example	`racadm coredumpdelete` `Coredump request completed successfully`

diagnostics

Table 22. Details of diagnostics

Description	Collects and exports remote diagnostics report from iDRAC. The results of the latest successfully run remote diagnostics are available and retrievable remotely through an NFS, CIFS, HTTP, or HTTPS) share.

Table 22. Details of diagnostics (continued)

Synopsis	To run a remote diagnostic report:
	`racadm diagnostics run -m <mode> -r <reboot type> -s <start time> -e <expiration time>`
	To export a remote diagnostic report:
	`racadm diagnostics export -f <file name> -l <NFS,CIFS,HTTP,or HTTPS share location> -u <username> -p <password>`

Input	• `–m <mode>`—Specifies the type of diagnostic mode. The types are:
	  ○ Collect and export remote diagnostics report from the iDRAC.
	  The results of the latest successfully executed remote Diagnostics will be available and retrievable remotely through the NFS, CIFS, HTTP, and HTTPS share.
	  ○ `0`(Express)—The express mode executes a subset of diagnostic tests.
	  ○ `1`(Extended)—The extended mode executes all available diagnostics tests.
	  ○ `2`(Both)—Runs express and extended tests serially in sequence.
	• `-f <filename>`—Specifies the name of the configuration file.
	• `-l`—Specifies the location of the network share (NFS, CIFS, HTTP, and HTTPS).
	• `-u <username>`—Specifies the user name of the remote share to import the file.
	• `-p <password>`—Specifies the password of the remote share to import the file.
	• `-r <reboot type>`—Specifies the reboot type. The type can be one of the following:
	  ○ `pwrcycle`—Power cycle
	  ○ `Graceful` —Graceful reboot without forced shutdown
	  ○ `Forced`—Graceful reboot with forced shutdown
	• `-s <start time>`—Specifies the start time for the scheduled job in yyyymmddhhmmss format. The default value `TIME_NOW` starts the job immediately.
	• `-e <expiration time>`—Specifies the expiry time for the scheduled job in yyyymmddhhmmss format. The default value `TIME_NA` does not apply the waiting time.
	NOTE: For the diagnostic report run operation, the time difference between the `-s` and `-e` options must be more than five minutes.

Output	Provides the Job ID for the diagnostic operation.

Examples	• To initiate the remote diagnostic operation:
	`racadm diagnostics run -m 1 -r forced -s 20121215101010 -e TIME_NA`
	• To export a remote diagnostics report to CIFS share:
	`racadm diagnostics export -f diagnostics -l //192.168.0/cifs -u administrator -p xxx`
	• To export a remote diagnostics report to NFS share:
	`racadm diagnostics export -f diagnostics -l 192.168.0:/nfs -u administrator -p xxx`
	• To export a remote diagnostics report to the HTTP share:
	`racadm diagnostics export -f diags.txt -u httpuser -p httppwd -l http://test.com`
	• To export a remote diagnostics report to the HTTPS share:
	`racadm diagnostics export -f diags.txt -u httpsuser -p httpspwd -l https://test.com`

Table 22. Details of diagnostics (continued)

	• To export a remote diagnostics report to a local share: `racadm diagnostics export -f diags.txt`

driverpack

Table 23. Details of driverpack

Description	Installs the driver pack for the operating system.

Synopsis	To get information about the available driver packs
	`racadm driverpack getinfo`
	To attach the driver pack that matches the operating system
	`Racadm driverpack attach -i <index> -t <expose duration>`
	To detach the driver pack
	`Racadm driverpack detach`

Input	• `-i`—index of the operating system • `-t`—exposed time duration in seconds. It is an optional parameter and the default value is 64800 seconds.

Output	• `racadm driverpack getinfo`—<OS name>
	• `Racadm driverpack attach`—Job Id details
	• `Racadm driverpack detach`—detach successful
	`racadm driverpack getinfo–<OS name>`
	`Racadm driverpack attach–Job Id details`
	`Racadm driverpack detach–detach successful`

Example	• To attach the driver pack with operating system index and exposed time
	`racadm driverpack attach -i <OS Index> [-t <exposed time>]`
	• To check the job status
	`racadm jobqueue view -i JID_000000000000`
	• To detach the operating system
	`racadm driverpack detach`

NOTE: In the local RACADM interface, if a driver pack is attached, some of the export operation commands may not work as expected. Ensure that the driver pack is detached before using commands like serialcapture export, hwinventory, swinventory, hwinventory export, and inlettemphistory export.

eventfilters

Table 24. Details of eventfilters

Description	Displays the list of event filter settings. To use this subcommand with the `set` and `test` option, you must have the **Administrator** privilege.

Synopsis	`racadm eventfilters <eventfilters command type>`
	`racadm eventfilters get -c <alert category>`
	`racadm eventfilters set -c <alert category> -a <action> -n <notifications>`
	`racadm eventfilters set -c <alert category> -a <action> -r <recurrence>`
	`racadm eventfilters test -i <Message ID to test>`
	NOTE: The general format of an alert category:
	`idrac.alert.category.[subcategory].[severity]`
	where category is mandatory, but subcategory and severity are optional. A severity cannot precede a subcategory.
	Valid Category values are:
	• `All`
	• `System`
	• `Storage`
	• `Updates`
	• `Audit`
	• `Config`
	• `Worknotes`
	Definitions of the values are:
	• System Health—System Health category represents all the alerts that are related to hardware within the system chassis. Examples include temperature errors, voltage errors, and device errors.
	• Storage Health—Storage Health category represents alerts that are related to the storage subsystem. Examples include, controller errors, physical disk errors, and virtual disk errors.
	• Updates—Update category represents alerts that are generated when firmware/drivers are upgraded or downgraded.
	NOTE: This does not represent firmware inventory.
	• Audit—Audit category represents the audit log. Examples include, user login/logout information, password authentication failures, session info, and power states.
	• Configuration—Configuration category represents alerts that are related to hardware, firmware, and software configuration changes. Examples include, PCIe card added/removed, RAID configuration changed, iDRAC license changed.
	• Work notes—Work notes represents an entry in the Lifecycle log. You can add a work note to the Lifecycle Log to record comments for your reference. You can enter comments such as scheduled downtime or changes that are made by administrators who work in different shifts for the later reference.
	NOTE: `idrac.all.all` is not a valid sub category.
	Valid Severity values are:
	• `Critical`
	• `Warning`
	• `Info`

Table 24. Details of eventfilters (continued)

	Valid examples of alert queries are: • `idrac.alert.all` • `idrac.alert.audit` • `idrac.alert.audit.lic` • `idrac.alert.audit.warning` • `idrac.alert.audit.lic.critical` This command does not support setting the proxy parameters if the share location (-l) is HTTP/HTTPS. For more information, see Proxy parameter section.
Input	• `get`—Displays the list of eventfilter settings • `set`—Configures the actions and notifications for a given eventfilter configuration • `-i`—Message ID for which the simulation is needed • `-c`—Alert category of the specific event filter • `-a`—The action that must be invoked when the event occurs. Valid values are `none`, `powercycle`, `power off`, or `systemreset` • `-n`—The notification is sent when the event occurs. Valid values are `all`, `snmp`, `ipmi`, `ws-events`, `redfish-events`, `oslog`, `email`, `remotesyslog`, or `none`. You can append multiple notifications that are separated by a comma. You cannot enter the values `all` or `none` with other notifications. If incorrect notification is specified along with other valid notifications, the valid and invalid notification set is failed. • `-r`—Event generation interval. This option is applicable only to the temperature statistics subcategory `tmps`. You can use this option as a stand-alone or with `-n` and `-a`. **NOTE:** If both **event generation interval** and **notifications** are configured and there is an error while configuring the notifications, the event generation interval is not set. The valid values are 0–365. 0 disables the event generation.

Example	• Display all available event filter configurations.
	`racadm eventfilters get -c idrac.alert.all`
	• Display eventfilter configurations for a specific category. For example, audit
	`racadm eventfilters get -c idrac.alert.audit`
	• Display eventfilter configurations for a specific subcategory. For example, licensing under the audit category
	`racadm eventfilters get -c idrac.alert.audit.lic`
	• Display eventfilter configurations for a specific severity. For example, warning under the audit category
	`racadm eventfilters get -c idrac.alert.audit.warning`
	• Display eventfilter configurations for a specific severity and subcategory. For example, a severity of warning in the subcategory licensing under audit category
	`racadm eventfilters get -c idrac.alert.audit.lic.warning`
	• Clear all available alert settings.
	`racadm eventfilters set -c idrac.alert.all -a none -n none`
	• Configure using severity as a parameter. For example, all informational events in storage category are assigned power off as action, and email and SNMP as notifications.
	`racadm eventfilters set -c idrac.alert.storage.info -a poweroff -n email,snmp`

Table 24. Details of eventfilters (continued)

	• Configure using subcategory as a parameter. For example, all configurations under the licensing subcategory in the audit category are assigned power off as action and all notifications are enabled.
	`racadm eventfilters set -c idrac.alert.audit.lic -a poweroff -n all`
	• Configure using subcategory and severity as parameters. For example, all information events under the licensing subcategory in the audit category are assigned power off as action and all notifications are disabled:
	`racadm eventfilters set -c idrac.alert.audit.lic.info -a poweroff -n none`
	• Configure the event generation interval for temperature statistics.
	`racadm eventfilters set -c idrac.alert.system.tmps.warning -r 10`
	• Configure the event generation interval and notifications for temperature statistics.
	`racadm eventfilters set -c idrac.alert.system.tmps -r 5 -a none -n snmp`
	• Send a test alert for the fan event.
	`racadm eventfilters test -i FAN0001`
	• To configure the proxy parameter.
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername admin1`
	• To remove the proxy parameter.
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername`
	• To view the list of proxy attributes.
	`racadm get lifecycleController.lcAttributes`

exposeismminstallertohost

Table 25. Details of exposeismminstallertohost

Description	Exposes the ISM installer to host OS
Synopsis	`racadm exposeismminstallertohost`
Input	Not Applicable
Example	Not Applicable

fcstatistics

Table 26. Details of fcstatistics

Description	Displays a list of FCs (FQDDs), managed server for which statistics is available.
Synopsis	`racadm fcstatistics <FC fqdd>`
Input	`<FC fqdd>` — Specify the FQDD of the target FC device.
Example	`racadm fcstatistics <FC fqdd>`

frontpanelerror

Table 27. Details of frontpanelerror

Description	Enables or disables the live-feed of the errors currently being displayed on the LCD screen. For error acknowledge use `hide`, and error assert use `show`.
Synopsis	`racadm frontpanelerror show` `racadm frontpanelerror hide`
Input	• `show` — to view the errors currently being displayed on the LCD screen. • `hide` — to hide the errors currently being displayed on the LCD screen.

Example	• `racadm frontpanelerror show`
	`Front Panel Error—Show Enabled.`
	• `racadm frontpanelerror hide`
	`Front Panel Error—Hide Enabled.`

fwupdate

Table 28. Details of fwupdate

Description	Allows you to update the firmware. You can: • Check the firmware update process status. • Update iDRAC firmware from FTP or TFTP server by providing an IP address and optional path. • Update iDRAC firmware from the local file system using Local and Remote RACADM. • Roll back to the standby firmware. To use this subcommand, you must have Configure iDRAC permission. **NOTE:** This command is only for iDRAC firmware update. For any other firmware update like BIOS or DUPs, use **Update** subcommand. **NOTE:** If the iSM is exposed on the host server, you may see the `Firmware update operation is already in progress` error.

Synopsis	`racadm fwupdate -s`
	`racadm fwupdate -g -u -a <TFTP_Server_IP_Address> [-d <path> [--clearcfg]`
	`racadm -r <iDRAC IP_Address> -u <username> -p <password> fwupdate -f <ftpserver ip> <ftpserver username> <ftpserver password> -d <path> where path is the location on the ftp server where firmimgFIT.d9 is stored.`
	`racadm fwupdate -r`
	`racadm fwupdate -p -u [-d <path>]`
	NOTE: When attempting to run firmware update task, if the firmware image path length is greater than 256 characters, remote RACADM client exits with the error message "`ERROR: Specified path is too long`".

Table 28. Details of fwupdate (continued)

Input	• —u—The update option performs a checksum of the firmware update file and starts the update process. This option may be used along with the —g or —p options. At the end of the update, iDRAC performs a soft reset. • —s—This option returns the status of the update process. • -a—The -a option specifies TFTP server IP address that is used for firmware image. This option must be used with the -g option. • --clearcfg—The -clearcfg option removes the previous iDRAC configuration after firmware update. • -g—The get option instructs the firmware to get the firmware update file from the TFTP server. Specify the -a -u, and —d options. In the absence of the —a option, the defaults are read from properties in the group cfgRemoteHosts, using properties cfgRhostsFwUpdateIpAddr and cfgRhostsFwUpdatePath. • -p—The -p, or put, option is used to update the firmware file from the managed system to iDRAC. The -u option must be used with the -p option. • Default: Designated TFTP default directory on that host for the file if -g option is absent. If -g is used, it defaults to a directory configured on the TFTP server. **NOTE:** The -p option is supported on local and remote RACADM and is not supported with the serial/ssh console and on the Linux operating systems. **NOTE:** The -p option is applicable for both remote and local RACADM proxy commands. However, this option is not supported for local RACADM running on Linux operating systems. **NOTE:** The filename for firmware update file must be firmimgFIT.d9. • -r—The rollback option is used to roll back to the standby firmware.
Output	Displays a message indicating the operation that is being performed.

Example	• Uploads a firmware image from the client and start firmware update:
	`racadm fwupdate -p -u -d /tmp/images`
	• Upload firmware image from FTP server and start firmware update:
	`racadm fwupdate -f 192.168.0.10 test test -d firmimgFIT.d9`
	• Upload firmware image from TFTP server and start firmware update:
	`racadm fwupdate -g -u -a 192.168.0.100 -d /tmp/images`
	• Query the current status of the firmware update process:
	`racadm fwupdate -s`
	• Rollback to the standby firmware:
	`racadm fwupdate -r`
	• Upload firmware image from TFTP server, start firmware update. After firmware update is complete, delete previous iDRAC configuration:
	`racadm fwupdate -g -u -a 192.168.0.100 -d /tmp/images --clearcfg`
	NOTE: Firmware update from local RACADM (using -p -u -d options) is not supported on Linux operating system.

The following table describes the firmware update method that is supported for each interface:

Table 29. Details of fwupdate methods

FW Update Method	iDRAC on Blade Servers	iDRAC on Rack and Tower Servers
Local RACADM	Yes	Yes

Table 29. Details of fwupdate methods (continued)

FW Update Method	iDRAC on Blade Servers	iDRAC on Rack and Tower Servers
Local RACADM-TFTP	Yes	Yes
Local RACADM-FTP	Yes	Yes
Remote RACADM	Yes	Yes
Remote RACADM-TFTP	Yes	Yes
Remote RACADM-FTP	Yes	Yes
Firmware RACADM-TFTP	Yes	Yes
Firmware RACADM-FTP	Yes	Yes

gethostnetworkinterfaces

Table 30. Details of gethostnetworkinterfaces

Description	Displays host network interface details. **NOTE:** To run this subcommand, you must have iDRAC Service Module installed on the server operating system.

Synopsis	`racadm gethostnetworkinterfaces`
	
	`racadm gethostnetworkinterfaces <NIC FQDD>`

Examples	• To display the details of all the network interfaces on the server.
	`racadm gethostnetworkinterfaces`
	
	`Local Area Connection 12`
	`Description : iDRAC Virtual NIC USB Device #8`
	`Status : Up`
	`Interface Type : Ethernet`
	`DHCP : Enabled`
	`DHCPServerV4 : 169.254.0.1`
	`MAC Address : 00-25-64-F9-7A-E7`
	`IPv4 Address : 169.254.0.2`
	`Subnet Mask : 255.255.255.0`
	`IPv6 Address : fe80::1cce:a0a7:f30e:54fc`
	`Prefix Length : 64`
	`IPv6 DNSServer Address 0: fec0:0:0:ffff::1`
	`IPv6 DNSServer Address 1: fec0:0:0:ffff::2`
	`IPv6 DNSServer Address 2: fec0:0:0:ffff::3`
	• To display the details of a particular NIC on the server.
	`racadm gethostnetworkinterfaces NIC.Integrated.1-1-1`
	
	`Local Area Connection`
	`Description : Broadcom NetXtreme Gigabit Ethernet`
	`Status : Up`
	`Interface Type : Ethernet`
	`DHCP : Enabled`
	`DHCPServerV4 : 10.94.224.25`
	`MAC Address : 14-FE-B5-FF-B1-9C`
	`FQDD : NIC.Integrated.1-1-1`
	`IPv4 Address : 10.94.225.189`
	`Subnet Mask : 255.255.255.128`

Table 30. Details of gethostnetworkinterfaces (continued)

	IPv6 Address : fe80::7c5f:a114:84d4:17f6 Prefix Length : 64 IPv4 Gateway Address : 10.94.225.129 IPv4 DNSServer Address 0: 10.116.2.250 IPv4 DNSServer Address 1: 10.116.2.251

getled

Table 31. Details of getled

Description	Displays the LED settings on a module: blinking, not blinking, or unknown (for empty slots). To run this subcommand, you must have the Login User privilege.
Synopsis	`racadm getled`
Input	
Output	• LED is blinking • LED is not-blinking

Example	`racadm getled`
	`LED State : Blinking`
	`racadm getled`
	`LED State : Not-Blinking`

getniccfg

Table 32. Details of getniccfg

Description	Displays the current and static NIC settings for iDRAC.
Synopsis	`racadm getniccfg`
Input	
Output	The `getniccfg` subcommand displays an appropriate error message if the operation is not successful. Otherwise, the output is displayed in the following format:

Table 33. Details of IPV4 settings

IPv4 settings:	
NIC Enabled	=1
IPv4 Enabled	=1
DHCP Enabled	=0
IP Address	=10.94.227.207
Subnet Mask	=255.255.255.0
Gateway	=10.94.227.1
IPv6 settings:	
IPv6 Enabled	=Enabled
DHCP6 Enabled	=Enabled

Table 32. Details of getniccfg

Table 33. Details of IPV4 settings (continued)

IP Address 1	=::
Gateway	=::
Link Local Address	=::
IP Address 2	=::
IP Address 3	=::
IP Address 4	=::
IP Address 5	=::
IP Address 6	=::
IP Address 7	=::
IP Address 8	=::
IP Address 9	=::
IP Address 10	=::
IP Address 11	=::
IP Address 12	=::
IP Address 13	=::
IP Address 14	=::
IP Address 15	=::
LOM Status:	
NIC Selection	=dedicated
Link Detected	=Yes
Speed	=1Gb/s
Duplex Mode	=Full Duplex
Active NIC	=Dedicated
Static IPv4 settings:	
Static IP Address	=10.94.227.207
Static Subnet Mask	=255.255.255.0
Static Gateway	=10.94.227.1
Static IPv6 settings:	
Static IP Address 1	=::
Static Prefix Length	=64
Static Gateway	=::

NOTE: IPv6 information is displayed only if IPv6 is enabled in iDRAC.

NOTE: IPv6 Address 1 field indicates static IP and IPv6 Address 2 field indicates dynamic IP.

NOTE: LOM Status is displayed only for iDRAC on Rack and Tower servers and is not displayed for iDRAC Enterprise on Blade servers.

Table 32. Details of getniccfg (continued)

Example	• Display iDRAC network settings in server slot 1 `racadm getniccfg`

getraclog

Table 34. Details of getraclog

Description	The `getraclog` command displays RAC log entries.
Synopsis	• `racadm getraclog [-i]` • `racadm getraclog [-s <start>] [-c <count>]` `racadm getraclog [-c <count>] [-s <start-record>]` **NOTE:** If options are not provided, the entire log is displayed.
Input	• `-c` — Specifies the number of records to display. **NOTE:** On Local RACADM, the number of logs are restricted to 100 by default. • `-s` — Specifies the starting record used for the display. **NOTE:** When Enhanced Chassis Logging and Events feature is enabled, then -i and --more options are not displayed.

Output	`SeqNumber = 286`
	`Message ID = USR0005`
	`Category = Audit`
	`AgentID = RACLOG`
	`Severity = Information`
	`Timestamp = 2017-05-15 06:25:27`
	`Message = Login failed from processdisco06a: 192.168.0`
	`Message Arg 1 = processdisco06a`
	`Message Arg 2 = 10.92.68.245`
	`FQDD = iDRAC.Embedded.1`

Example	Display the recent 2 records for RAC log
	`racadm getraclog -c`
	`2`
	`SeqNumber = 4102`
	`Message ID = LIC201`
	`Category = Audit`
	`AgentID = DE`
	`Severity = Warning`
	`Timestamp = 2017-05-15 06:30:20`
	`Message = License yPMRJGuEf7z5HG8LO7gh assigned to device iDRAC expires in 4 days.`
	`Message Arg 1 = yPMRJGuEf7z5HG8LO7ghMessage Arg 2 = iDRACMessage Arg 3 = 4`
	`---------`
	`SeqNumber = 4101`
	`Message ID = USR0032`
	`Category = Audit`
	`AgentID = RACLOG`
	`Severity = Information`
	`Timestamp = 2017-05-15 06:25:27`
	`Message = The session for root from 192.168.0 using RACADM is logged off.`
	`Message Arg 1 = root`
	`Message Arg 2 = 10.94.98.92`

Table 34. Details of getraclog (continued)

	`Message Arg 3 = RACADM`
	`FQDD = iDRAC.Embedded.1`
	`----------`
	`----------`

getractime

Table 35. Details of getractime

Description	Displays the current iDRAC time.
Synopsis	• `racadm getractime [-d]`
Input	• `-d` — Displays the time in the format, YYYYMMDDhhmmss.
Output	The current iDRAC time is displayed.

Example	• `racadm getractime`
	`Mon May 13 17:17:12 2013`
	• `racadm getractime -d`
	`20141126114423`

getremoteservicesstatus

Table 36. Details of getremoteservicesstatus

Description	Displays the status of a system.
Synopsis	`racadm getremoteservicesstatus`
Input	`racadm getremoteservicesstatus`
	Possible values for the host system status • Powered Off • In POST • Out of POST • Collecting System Inventory • Automated Task Execution • Lifecycle Controller Unified Server Configurator • Server has halted at F1/F2 error prompt because of a POST error • Server has halted at F1/F2/F11 prompt because there are no bootable devices available • Server has entered F2 setup menu • Server has entered F11 Boot Manager menu Possible values for the for Lifecycle controller(LC) status • Ready • Not Initialized • Reloading data • Disabled • In Recovery • In Use Possible values for the real time status • Ready • Not ready

Table 36. Details of getremoteservicesstatus (continued)

	Possible values for the overall status status • Ready • Not ready Possible values for the Telemetry status • Ready • Not ready
Example	• `racadm getremoteservicesstatus`

getsel

Table 37. Details of getsel

Description	Displays all system event log (SEL) entries in iDRAC.
Synopsis	• `racadm getsel [-i]` • `racadm getsel [-s <start>][-c <count>]` **NOTE:** If no arguments are specified, the entire log is displayed.
Input	• `–i` — Displays the number of entries in the SEL. • `-s` — Displays the starting record number. • `-c` — Specifies the number of records to display. • `--more` — Displays a screen. **NOTE:** Press Q to exit from the screen. • `-A` — Does not display headers or labels. • `-o` — Displays each record on a single line.. • `-E` — Displays RAW SEL data along with the other data. • `-R` — Displays only the RAW SEL data for each record

Example	• Display entire log.
	`racadm getsel`
	• Display number of records in log.
	`racadm getsel -i`

getsensorinfo

Table 38. Details of getsensorinfo

Description	Displays the status for system sensors. **NOTE:** For the Dell PowerEdge FX2 chassis with the FM120x4 server, the power-related information is not displayed.
Synopsis	• `racadm getsensorinfo` • `racadm getsensorinfo -c`
Input	`-c`—Compact output format.

NOTE: Chassis Controller is supported only on PowerEdge FX2, and GPU sensors are displayed only on PowerEdge C4140 servers.

Example

```
racadm getsensorinfo
Sensor Type : POWER
```

NOTE: For current information of supported properties and their values, see the iDRAC Online Help.

Table 39. racadm getsensorinfo Sensor Type : POWER

<Sensor Name>	<Status>	<Type>	<Input Power>
PS1 Status	Present	AC	Watts
PS2 Status	AC-Lost	AC	Watts

```
Sensor Type : TEMPERATURE
```

Table 40. Sensor Type : TEMPERATURE

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>	<lnc>[R/W]	<Unc>[R/W]
System Board Inlet Temp	Ok	20 C	-7 C	47 C	3 C [Y]	42C [Y]
System Board Exhaust Temp	Ok	19 C	0 C	75 C	0 C [N]	70 C [N]
CPU1 Temp	Ok	59 C	3 C	97 C	8 C [N]	92 C [N]

```
Sensor Type : FAN
```

Table 41. Sensor Type : FAN

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>	<PWM %>
System Board Fan1 RPM	Ok	5880 RPM	600 RPM	NA	21%
System Board Fan2 RPM	Ok	6000 RPM	600 RPM	NA	0%
System Board Fan3 RPM	Ok	5880 RPM	600 RPM	NA	0%
System Board Fan4 RPM	Ok	5880 RPM	600 RPM	NA	0%
System Board Fan5 RPM	Ok	5640 RPM	600 RPM	NA	144%
System Board Fan6 RPM	Ok	5880 RPM	600 RPM	NA	152%

```
Sensor Type : VOLTAGE
```

Table 42. Sensor Type : VOLTAGE

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>
CPU1 VCORE PG	Ok	Good	NA	NA

Table 42. Sensor Type : VOLTAGE (continued)

System Board 3.3V PG	Ok	Good	NA	NA
System Board 5V AUX PG	Ok	Good	NA	NA
CPU1 M23 VPP PG	Ok	Good	NA	NA
System Board 1.05V PG	Ok	Good	NA	NA
CPU1 M23 VDDQ PG	Ok	Good	NA	NA
CPU1 M23 VTT PG	Ok	Good	NA	NA
System Board 5V SWITCH PG	Ok	Good	NA	NA
System Board VCCIO PG	Ok	Good	NA	NA
System Board 2.5V AUX PG	Ok	Good	NA	NA
PS1 Voltage 1	Ok	-28.00V	NA	NA
PS1 Voltage 2	Ok	0.00V	NA	NA
CPU1 M01 VDDQ PG	Ok	Good	NA	NA
System Board NDC PG	Ok	Good	NA	NA
CPU1 M01 VPP PG	Ok	Good	NA	NA
System Board 1.5V PG	Ok	Good	NA	NA
System Board PS2 PG Fail	Ok	Good	NA	NA
System Board PS1 PG Fail	Ok	Good	NA	NA
System Board 1.5V AUX PG	Ok	Good	NA	NA
CPU1 M01 VTT PG	Ok	Good	NA	NA
PS1 Voltage 1	Ok	240 V	NA	NA
System Board DIMM PG	Ok	Good	NA	NA

```
Sensor Type : CURRENT
```

Table 43. Sensor Type : CURRENT

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>	<lnc> [R/W]	<unc> [R/W]
PS1 Current 1	Ok	0.4 Amps	NA	NA	0 Amps [N]	0 Amps [N]
System Board Pwr Consumption	Ok	56 Watts	NA	1386 Watts	0 Watts [N]	1260 Watts [N]

```
Sensor Type : PROCESSOR
```

Table 44. Sensor Type : PROCESSOR

<Sensor Name>	<Status>	<State>	<lc>	<uc>
CPU1 Status	Ok	Presence Detected	NA	NA
CPU2 Status	N/A	Absent	NA	NA

```
Sensor Type : MEMORY
```

Table 45. Sensor Type : MEMORY

<Sensor Name>	<Status>	<State>	<lc>	<uc>
DIMM A1	N/A	Presence Detected	NA	NA
DIMM A2	N/A	Absent	NA	NA
DIMM A3	Ok	Absent	NA	NA
DIMM A4	N/A	Absent	NA	NA
DIMM A5	N/A	Absent	NA	NA
DIMM A6	N/A	Absent	NA	NA
DIMM A7	N/A	Absent	NA	NA
DIMM A8	N/A	Absent	NA	NA
DIMM A9	N/A	Absent	NA	NA
DIMM A10	N/A	Absent	NA	NA
DIMM A11	N/A	Absent	NA	NA
DIMM A12	N/A	Absent	NA	NA
DIMM B1	N/A	Absent	NA	NA
DIMM B2	N/A	Absent	NA	NA
DIMM B3	N/A	Absent	NA	NA
DIMM B4	N/A	Absent	NA	NA
DIMM B5	N/A	Absent	NA	NA
DIMM B6	N/A	Absent	NA	NA
DIMM B7	N/A	Absent	NA	NA
DIMM B8	N/A	Absent	NA	NA
DIMM B9	N/A	Absent	NA	NA
DIMM B10	N/A	Absent	NA	NA
DIMM B11	N/A	Absent	NA	NA
DIMM B12	N/A	Absent	NA	NA

```
Sensor Type : Chassis Controller
```

Table 46. Sensor Type : Chassis Controller

<Sensor Name>	<Status>	<State>
Chassis Controller	OK	OK

```
Sensor Type : BATTERY
```

Table 47. Sensor Type : BATTERY

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>
System Board CMOS Battery	Ok	Present	NA	NA
PERC1 ROMB Battery	Ok	Unknown	NA	NA
PERC2 ROMB Battery	Ok	Unknown	NA	NA

```
Sensor Type : PERFORMANCE
```

Table 48. Sensor Type : PERFORMANCE

<Sensor Name>	<Status>	<Status>	<lc>	<uc>
System Board Power Optimized	Ok	Not Degraded	NA	NA

```
Sensor Type : INTRUSION
```

Table 49. Sensor Type : INTRUSION

<Sensor Name>	<Intrusion>	<Status>
System Board Intrusion	Closed	Power ON

```
Sensor Type : REDUNDANCY
```

Table 50. Sensor Type : REDUNDANCY

<Sensor Name>	<Status>	<Type>
System Board Fan Redundancy	Full Redundant	Fan
System Board PS Redundancy	Disabled	PSU

```
Sensor Type : SYSTEM PERFORMANCE
```

Table 51. Sensor Type : SYSTEM PERFORMANCE

<Sensor Name>	<Status>	<Reading>	<lc>	<uc>	<lnc> [R/W]	<unc> [R/W]
System Board CPU Usage	Non-Critical	0%	0%	100%	0% [N]	99% [Y]
System Board IO Usage	Non-Critical	0%	0%	100%	0% [N]	99% [Y]
System Board MEM Usage	Non-Critical	0%	0%	100%	0% [N]	99% [Y]
System Board SYS Usage	Non-Critical	0%	0%	100%	0% [N]	99% [Y]

Table 52. Sensor Type : GPU Power

<Sensor Name>	<PwrConsumption>	<PwrSupplyStatus>	<BoardPwrSupplyStatus>
Video.Slot.1	4.3MW	Enabled	Disabled
Video.Slot.3	4.3MW	Enabled	Disabled
Video.Slot.5	4.3MW	Enabled	Disabled
Video.Slot.4	4.3MW	Enabled	Disabled
Video.Slot.8	4.3MW	Enabled	Disabled

Table 53. Sensor Type : GPU Temperature

<Sensor Name>	<GPU Temperature>	<SecondaryGPUTemp>	<BoardTemp>	<MemoryTemp>
Video.Slot.1	29C	255C	255C	255C
Video.Slot.3	56C	255C	255C	255C
Video.Slot.5	57C	255C	255C	255C
Video.Slot.4	32C	255C	255C	255C
Video.Slot.8	30C	255C	255C	255C

Table 54. Sensor Type : GPU Thermal

<Sensor Name>	<GPU Target Temp>	<MinGPU HwSlowdownTemp>	<GPUShutdownTemp>	<MaxMemory OperatingTemp>	<MaxGPUOperatingTemp>	<ThermalAlert Status>	<PowerBrake Status>
Video.Slot.1	255C	255C	255C	255C	255C	Disabled	Disabled
Video.Slot.3	255C	255C	255C	255C	255C	Disabled	Disabled
Video.Slot.5	255C	255C	255C	255C	255C	Disabled	Disabled
Video.Slot.4	255C	255C	255C	255C	255C	Disabled	Disabled
Video.Slot.8	255C	255C	255C	255C	255C	Disabled	Disabled

Table 55. Sensor Type : MAX DIMM TEMPERATURE

Sensor Name	Reading
Max DIMM Temperature	24.000

getssninfo

Table 56. Details of getssninfo

Description	Displays a list of users that are connected to iDRAC. The following information is displayed: • Session ID • Username • IP address (if applicable) • Session type • Login date and time in MM/DD/YYYY HH:MM:SS format

Table 56. Details of getssninfo (continued)

	NOTE: Based on the Session ID (SSNID) or the user name (User), the iDRAC administrator can close the respective sessions or all the sessions using the `closessn` subcommand. For more information, see closessn.
Synopsis	`racadm getssninfo [-u <username>] [-A]`
Input	• `-u` — displays only sessions associated with a specific user. • `-A` — does not display headers or labels.

Example

```
racadm getssninfo
```

Table 57. racadm getssninfo

SSNID	Type	User	IP Address	Login Date/Time
58999	SSH	root	192.168.0.10	04/07/2016 12:00:34

Display the details of sessions without header

```
racadm getssninfo -A
```

```
"43584" "SSH" "root" "192.168.0.10" "04/07/2016 12:00:34"
```

getsvctag

Table 58. Details of getsvctag

Description	Displays the service tag of the host system.
Synopsis	`racadm getsvctag`
Output	Any system tag as applicable.
Example	• Display the service tag of the host system. `racadm getsvctag`

getsysinfo

Table 59. Details of getsysinfo

Description	Displays information related to iDRAC, managed system, and watchdog configuration. **NOTE:** The hostname and OS Name fields in the `getsysinfo` output display accurate information only if the **OpenManage Server Administrator (OMSA)** is installed on the managed system. If OMSA is not installed these fields may be blank or inaccurate. An exception to this are the VMware and Windows operating system names, which are displayed even if OMSA is not installed on the managed system.
Synopsis	`racadm getsysinfo [-d] [-A] [-c] [-4] [-6]`
Input	• `–4`—Displays IPv4 settings • `–6`—Displays IPv6 settings • `–c`—Displays common settings

Table 59. Details of getsysinfo (continued)

	• –d—Displays iDRAC information • –A—Eliminates the printing of headers or labels

Output

```
RAC Information:
RAC Date/Time           = Tue Aug  2 14:22:36 2022

Firmware Version        = 6.00.30.00
Firmware Build          = 20
Last Firmware Update    = 06/28/2022 11:47:02
Hardware Version        = 0.01
MAC Address             = 90:8d:6e:fa:f6:4e
SVC Tag                 = 7894561

Common settings:
Register DNS RAC Name   = 0
DNS RAC Name            = idrac-7894561
Current DNS Domain      =
Domain Name from DHCP   = Disabled

IPv4 settings:
Enabled                 = 1
Current IP Address      = 100.101.21.94
Current IP Gateway      = 100.101.21.1
Current IP Netmask      = 255.255.255.0
DHCP Enabled            = 1
Current DNS Server 1    = 100.101.0.5
Current DNS Server 2    = 10.8.8.8
DNS Servers from DHCP   = Enabled

IPv6 settings:
Enabled                 = 1
Current IP Address 1    = 2607:f2b1:f088:21::1e3/128
Current IP Gateway      = fe80::de11:bdc:21:1
Autoconfig              = 1
Link Local IP Address   = fe80::607c:4042:56e2:871b/128
Current IP Address 2    = 2607:f2b1:f088:21:3e9d:c9a7:2afe:8f65/128KN
Current IP Address 3    = ::
Current IP Address 4    = ::
Current IP Address 5    = ::
Current IP Address 6    = ::
Current IP Address 7    = ::
Current IP Address 8    = ::
Current IP Address 9    = ::
Current IP Address 10   = ::
Current IP Address 11   = ::
Current IP Address 12   = ::
Current IP Address 13   = ::
Current IP Address 14   = ::
Current IP Address 15   = ::
DNS Servers from DHCPv6 = Disabled
Current DNS Server 1    = ::
Current DNS Server 2    = ::

System Information:
System Model            = PowerEdge XR4510c
System Revision         = I
System BIOS Version     = 0.3.8
Service Tag             = 7894561
Express Svc Code        = 15736515625
Host Name               = WIN-JG3S2H0KE9V
OS Name                 =
OS Version              =
Power Status            = ON
Fresh Air Capable       = No
RollupStatus            = Error

Watchdog Information:
Recovery Action         = None
```

```
Present countdown value =  seconds
Initial countdown value =  seconds

Chassis Information:
Chassis Service Tag     =
Chassis Manager Version = 0.17.0.0.0.0

System Thermal Information:
EstimatedSystemAirflow  =  NA
EstimatedExhaustTemperature =  NA

Embedded NIC MAC Addresses:
NIC.Embedded.1-1-1      Ethernet                = 00:00:00:00:01:00
NIC.Embedded.2-1-1      Ethernet                = 00:00:00:00:01:01
NIC.Embedded.3-1-1      Ethernet                = 00:00:00:00:01:02
NIC.Embedded.4-1-1      Ethernet                = 00:00:00:00:01:03
```

Example

- Display system information

```
racadm getsysinfo -c
```

- Display iDRAC information

```
racadm getsysinfo -d
```

- Display IPv4 details without header

```
racadm getsysinfo -A
```

```
"RAC IPv4 Information:"
"1"
"10.94.195.33"
"10.94.195.1"
"255.255.255.0"
"1"
"10.94.192.67"
"0.0.0.0"
"1"
```

- Display svctag information

```
racadm -r 10.94.95.96 getsysinfo -d
```

gettracelog

Table 60. Details of gettracelog

Description	Lists all the trace login entries of iDRAC.
Synopsis	• `racadm gettracelog [-i]` • `racadm gettracelog [-s <start>] [-c <count>]`
Input	• `–i` — Displays the number of entries in iDRAC trace log. • `-c` — Specifies the number of records to display. • `-s` — Specifies the starting record to display.
Output	The default output display shows the record number, timestamp, source and description. The timestamp begins at midnight, January 1 and increases until the system starts. After the system starts, the system's timestamp is used.

Table 60. Details of gettracelog (continued)

Example	• Display entire log
	`racadm gettracelog`
	• Display number of records in log
	`racadm gettracelog -i`
	`Total Records: 228`

getversion

Table 61. Details of getversion

Description	Displays the current software version, model and generation information, and whether the target device can be updated.
Synopsis	• `racadm getversion` • `racadm getversion [-b | -c | —i]` • `racadm getversion [-f <filter>]`

Input	• `-c` — Displays the server's current CPLD version.
	• `-b` — Displays the server's current BIOS version.
	• `-i` — Displays the server's current IDSDM version.
	• `-f <filter>` — Filters the components and must be one of the following values:
	  ○ `bios`: BIOS
	  ○ `idrac`: iDRAC
	  ○ `lc`: Lifecycle Controller
	  ○ `idsdm`: SD card

```
racadm getversion -c
```

Table 62. Details of `racadm getversion -c`

<Server>	*<CPLD Version>*	*<Blade Type>*
server-1	1.0.5	PowerEdgeM520
server-2	1.0.3	PowerEdgeM610x
server-4	1.0.0	PowerEdgeM710HD
server-5	1.0.3	PowerEdgeM710
server-7	1.0.6	PowerEdgeM620
server-9	1.0.5	PowerEdgeM520

```
racadm getversion
Bios Version = 2.0.18
```

```
iDRAC Version = 2.00.00.00
Lifecycle Controller Version = 2.00.00.00
```

```
racadm getversion -b
```

Table 63. Details of `racadm getversion -b`

<Server>	*<BIOS Version>*	*<Blade Type>*
server-1	1.6.0	PowerEdgeM520
server-2	6.3.0	PowerEdgeM610x
server-4	7.0.0	PowerEdgeM710HD
server-5	6.3.0	PowerEdgeM710
server-7	1.7.1	PowerEdgeM620
server-9	1.7.1	PowerEdgeM520

Table 64. Details

<Switch>	*<Model Name>*	*<HW Version>*	*<FW Version>*
switch-1	MXL 10/40GbE	X01	9-2(0-296)
switch-2	M8024-k 10GbE SW	A00	5.0.1.3
switch-3	Dell PowerConnect M8024	X00	
switch-4	Dell PowerConnect M8024	X00	
switch-5	Dell PowerConnect M6348	X02	
switch-6	Dell PowerConnect M6220	A01	

groupmanager

Table 65. Details of groupmanager

Description	Allows you to: • Delete the group from the group manager. • Remove the iDRAC from group by itself by using admin privileges. • Join the group using administrator privileges. **NOTE:** This subcommand is supported only on iDRAC9.

Synopsis	• To delete the group from the group manager.
	`groupmanager delete -g <groupname>`
	• To remove the iDRAC from group by itself by using administrator privileges.
	`groupmanager removeself -g <groupname>`
	• To join the group using administrator privileges.
	`groupmanager joingroup -g <groupname> -uid <uuid> -pcode < grouppasscode>`

Input	• `-g`— Specifies the name of the iDRAC member group • `-uid` — Specifies the group user id • `-pcode`— Specifies the group passcode

Example	• To delete the group from the groupmanager:
	`racadm groupmanager delete -g <groupname>`
	• To remove the iDRAC from the group by itself:
	`racadm groupmanager removeself -g <groupname>`
	• To join server to the local iDRAC group:
	`racadm groupmanager joingroup -g <mygrpxyz> -uid <uid1234> -pcode <12345>`

httpsbootcert

Table 66. Details of httpsbootcert

Description	Allows you to manage BIOS https Boot Certificate Management operations.

Synopsis	• To import the bios https Boot Certificate from a remote share or local system
	`racadm httpsbootcert help import`
	• To export the bios https boot Certificate to a remote share or local system
	`racadm httpsbootcert help export`
	• To delete the bios https boot certificate
	`racadm httpsbootcert help delete`

Input	• `-i`—Index of the boot device 1 to 4 • `-f`—Filename of the bios https Boot Device Certificate • `-l`—Network share location <CIFS/NFS/HTTP/HTTPS share> • `-u`—Username for the remote share

Table 66. Details of httpsbootcert (continued)

	• -p—Password for the remote share **NOTE:** The supported file formats are .cer,.der,.crt,.pem and .txt. **NOTE:** This command supports both IPV4 and IPV6 formats. IPV6 is applicable for CIFS and NFS type remote shares.

Example	• To import the boot device cert with index 1 from a remote CIFS share:
	`racadm httpsbootcert import -i 1 -f httpsboot_cert.txt -l // 10.94.161.103/share -u admin -p mypass`
	• To import the boot device cert with index 2 from a remote NFS share:
	`racadm httpsbootcert import -i 2 -f httpsboot_cert.cer -l 192.168.2.14:/share`
	• To import the boot device cert with index 2 from a remote HTTP share:
	`racadm httpsbootcert import -i 2 -f httpsboot_cert.der -l http:// 192.168.10.24/share -u myuser -p mypass`
	• To import the boot device cert with index 2 from a remote HTTPS share:
	`racadm httpsbootcert import -i 2 -f httpsboot_cert.pem -l https:// 192.168.10.24/share -u myuser -p mypass`
	• To ilmport the boot device cert with index 3 from a local share using local racadm:
	`racadm httpsbootcert import -f httpsboot_cert.crt`
	• To import the boot device cert with index 4 from a local share using remote racadm:
	`racadm -r 10.94.161.119 -u root -p calvin httpsbootcert import -f httpsboot_cert.txt`
	• To export the boot device cert with index 1 to a remote CIFS share:
	`racadm httpsbootcert export -i 1 -f httpsboot_cert.txt -l // 10.94.161.103/share -u admin -p mypass`
	• To export the boot device cert with index 2 to a remote NFS share:
	`racadm httpsbootcert export -i 2 -f httpsboot_cert.cer -l 192.168.2.14:/share`
	• To export the boot device cert with index 2 to a remote HTTP share:
	`racadm httpsbootcert export -i 2 -f httpsboot_cert.der -l http:// 192.168.10.24/share -u myuser -p mypass`
	• To export the boot device cert with index 2 to a remote HTTPS share:
	`racadm httpsbootcert export -i 2 -f httpsboot_cert.crt -l https:// 192.168.10.24/share -u myuser -p mypass`
	• To export the boot device cert with index 3 to local share using local racadm:
	`racadm httpsbootcert export -f httpsboot_cert.pem`

Table 66. Details of httpsbootcert (continued)

	• To export the boot device cert with index 4 to a local share using remote racadm:
	`racadm -r 10.94.161.119 -u root -p calvin httpsbootcert export -f httpsboot_cert.txt`
	NOTE: These commands do not support setting the proxy parameters if the share location is HTTP/HTTPS. To perform the operation with HTTP or HTTPS via a proxy, the proxy parameters must be first configured using the `lifecyclecontroller.lcattributes` group. Once these proxy parameters are configured, they become the part of default configuration. The proxy attributes should be cleared to end use of the HTTP/HTTPS proxy. The valid `lifecyclecontroller.lcattributes` HTTP/HTTPS proxy parameters are:
	UserProxyUserName
	UserProxyPassword
	UserProxyServer
	UserProxyPort
	UserProxyType
	To view the list of proxy attributes, use `racadm get lifecycleController.lcAttributes`.
	• To delete the boot device cert with index 1:
	`racadm httpsbootcert delete -i 1`
	• To delete the boot device cert with index 2:
	`racadm httpsbootcert delete -i 2`

hwinventory

Table 67. Details of hwinventory

Description	Allows you to display or export current internal hardware inventory or shipped hardware inventory by device. **NOTE:** iDRAC supports a maximum of 12 parallel sessions of hardware inventory.
Synopsis	• `racadm hwinventory` • `racadm hwinventory networktransceiver` • `racadm hwinventory NIC|FC|Infiniband` • `racadm hwinventory <FQDD>` • `racadm hwinventory export -f <filename> -u <username> -p <password> -l <CIFS, NFS, HTTP, or HTTPS share>`
Input	• `<FQDD>` — Specifies the FQDD of the target device. o `FQDD` — NIC.Slot.1–2 **NOTE:** The hwinventory subcommand supports NIC, Infiniband and FC FQDDs only. • `-f` — Exported Hardware Inventory filename. • `-u` — Username of the remote share to where the file must be exported. Specify user name in a domain as **domain/username** • `-p` — Password for the remote share to where the file must be exported. • `-l` — Network share location to where the Hardware Inventory must be exported.

Examples

- To get the hwinventory, run the following command:

```
racadm hwinventory
------------------------HARDWARE INVENTORY-----------------------

[InstanceID: CPU.Socket.1]
Device Type = CPU
CPUFamily = Intel(R) Xeon(TM)
CPUStatus = CPU Enabled
Cache1Associativity = 12-way Set-Associative
Cache1ErrorMethodology = Parity
Cache1InstalledSize = 1280 KB
Cache1Level = L1
Cache1Location = Internal
Cache1PrimaryStatus = OK
Cache1SRAMType = Unknown
Cache1Size = 1280 KB
Cache1Type = Unified
Cache1WritePolicy = Write Back
Cache2Associativity = 20-way Set-Associative
Cache2ErrorMethodology = Single-bit ECC
Cache2InstalledSize = 20480 KB
Cache2Level = L2
Cache2Location = Internal
Cache2PrimaryStatus = OK
Cache2SRAMType = Unknown
Cache2Size = 20480 KB
Cache2Type = Unified
Cache2WritePolicy = Write Back
Cache3Associativity = 20-way Set-Associative
Cache3ErrorMethodology = Single-bit ECC
Cache3InstalledSize = 25600 KB
Cache3Level = L3
Cache3Location = Internal
Cache3PrimaryStatus = OK
Cache3SRAMType = Unknown
Cache3Size = 25600 KB
Cache3Type = Unified
Cache3WritePolicy = Write Back
Characteristics = 64-bit Capable
CurrentClockSpeed = 1600 MHz
DeviceDescription = CPU 1
ExecuteDisabledCapable = Yes
ExecuteDisabledEnabled = Yes
ExternalBusClockSpeed = 9600 MHz
FQDD = CPU.Socket.1
HyperThreadingCapable = Yes
HyperThreadingEnabled = Yes
InstanceID = CPU.Socket.1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2021-12-23T08:47:33
Manufacturer = Intel
MaxClockSpeed = 4000 MHz
Model =
NumberOfEnabledCores = 16
NumberOfEnabledThreads = 32
NumberOfProcessorCores = 16
PPIN = 98F81AE8C84926D9
PrimaryStatus = OK
TurboModeCapable = Yes
TurboModeEnabled = Yes
VirtualizationTechnologyCapable = Yes
VirtualizationTechnologyEnabled = Yes
Voltage = 1.6 V
-----------------------------------------------------------------

[InstanceID: Fan.Embedded.1A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 17640 RPM
DeviceDescription = Fan 1A
FQDD = Fan.Embedded.1A
```

```
FanType = Gold
InstanceID = Fan.Embedded.1A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
-------------------------------------------------------------------------

[InstanceID: Fan.Embedded.2A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 17640 RPM
DeviceDescription = Fan 2A
FQDD = Fan.Embedded.2A
FanType = Gold
InstanceID = Fan.Embedded.2A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
-------------------------------------------------------------------------

[InstanceID: Fan.Embedded.3A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 17520 RPM
DeviceDescription = Fan 3A
FQDD = Fan.Embedded.3A
FanType = Gold
InstanceID = Fan.Embedded.3A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
-------------------------------------------------------------------------

[InstanceID: Fan.Embedded.4A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 17640 RPM
DeviceDescription = Fan 4A
FQDD = Fan.Embedded.4A
FanType = Gold
InstanceID = Fan.Embedded.4A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
-------------------------------------------------------------------------

[InstanceID: Fan.Embedded.5A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
```

```
CurrentReading = 17880 RPM
DeviceDescription = Fan 5A
FQDD = Fan.Embedded.5A
FanType = Gold
InstanceID = Fan.Embedded.5A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.6A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 17760 RPM
DeviceDescription = Fan 6A
FQDD = Fan.Embedded.6A
FanType = Gold
InstanceID = Fan.Embedded.6A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.1B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15720 RPM
DeviceDescription = Fan 1B
FQDD = Fan.Embedded.1B
FanType = Gold
InstanceID = Fan.Embedded.1B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.2B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15360 RPM
DeviceDescription = Fan 2B
FQDD = Fan.Embedded.2B
FanType = Gold
InstanceID = Fan.Embedded.2B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.3B]
```

```
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15600 RPM
DeviceDescription = Fan 3B
FQDD = Fan.Embedded.3B
FanType = Gold
InstanceID = Fan.Embedded.3B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.4B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15960 RPM
DeviceDescription = Fan 4B
FQDD = Fan.Embedded.4B
FanType = Gold
InstanceID = Fan.Embedded.4B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.5B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15840 RPM
DeviceDescription = Fan 5B
FQDD = Fan.Embedded.5B
FanType = Gold
InstanceID = Fan.Embedded.5B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.6B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 15840 RPM
DeviceDescription = Fan 6B
FQDD = Fan.Embedded.6B
FanType = Gold
InstanceID = Fan.Embedded.6B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = 21 %
PrimaryStatus = OK
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
```

```
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.Witness A]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 0 RPM
DeviceDescription = Fan Witness A
FQDD = Fan.Embedded.Witness A
FanType = NA
InstanceID = Fan.Embedded.Witness A
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = Not Applicable
PrimaryStatus = Error
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: Fan.Embedded.Witness B]
Device Type = Fan
ActiveCooling = 1
BaseUnits = RPM
CurrentReading = 0 RPM
DeviceDescription = Fan Witness B
FQDD = Fan.Embedded.Witness B
FanType = NA
InstanceID = Fan.Embedded.Witness B
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
PWM = Not Applicable
PrimaryStatus = Error
RateUnits = None
RedundancyStatus = Not Applicable
UnitModifier = 0
VariableSpeed = 1
----------------------------------------------------------------------

[InstanceID: iDRAC.Embedded.1-1#IDRACinfo]
Device Type = iDRACCard
DNSDomainName = SSEFW.local
DNSRacName = idrac-OTXW1C7
DeviceDescription = iDRAC
FQDD = iDRAC.Embedded.1-1
FirmwareVersion = 6.00.30.00
GUID = 44454c4c-5400-1058-8057-cfc04f314337
IPMIVersion = 2.0
InstanceID = iDRAC.Embedded.1-1#IDRACinfo
LANEnabledState = Enabled
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:04
Model = Express
PermanentMACAddress = 30:d0:42:dc:ec:2c
ProductDescription = This system component provides a complete set of remote
management functions for PowerEdge servers
SOLEnabledState = Enabled
URLString = https://100.101.21.50:443
----------------------------------------------------------------------

[InstanceID: DIMM.Socket.A1]
Device Type = Memory
BankLabel = A
CPUAffinity = 1
CurrentOperatingSpeed = 2933 MT/s
DeviceDescription = DIMM A1
FQDD = DIMM.Socket.A1
InstanceID = DIMM.Socket.A1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2021-12-23T08:47:33
ManufactureDate = Mon May 17 07:00:00 2021 UTC
Manufacturer = Micron Technology
```

```
MemoryTechnology = DRAM
MemoryType = DDR-4
Model = DDR4 DIMM
PartNumber = 18ASF2G72PDZ-3G2J3
PrimaryStatus = OK
Rank = Double Rank
SerialNumber = 2EDF66AA
Size = 16384 MB
Speed = 3200 MHz
SystemEraseCapability = Not Supported
VolatileSize = 16384 MB
----------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-1]
Device Type = NIC
AutoNegotiation = Unknown
BusNumber = 137
CPUAffinity = 1
CurrentMACAddress = 00:00:00:00:01:00
DataBusWidth = Unknown
DeviceDescription = Embedded NIC 1 Port 1
DeviceNumber = 0
EFIVersion =
FCoEOffloadMode = Unknown
FQDD = NIC.Embedded.1-1
FamilyVersion =
FunctionNumber = 0
InstanceID = NIC.Embedded.1-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
LinkDuplex = Unknown
MaxBandwidth = 0
MediaType = Base T,KR,KX4
MinBandwidth = 0
NicMode = Unknown
PCIDeviceID = 188c
PCISubDeviceID = 0abd
PCISubVendorID = 1028
PCIVendorID = 8086
PermanentMACAddress = 00:00:00:00:01:00
PrimaryStatus = Unknown
ProductName = Intel(R) Ethernet Connection 25G 4P E823-C-st LOM - 00:00:00:00:01:00
Protocol = Unknown
ReceiveFlowControl = Unknown
SNAPIState = Disabled
SNAPISupport = Not Available
SlotLength = Unknown
SlotType = Unknown
TransmitFlowControl = Unknown
UpdateLockdownCapable = False
UpdateLockdownState = Disabled
VPISupport = Not Available
iScsiOffloadMode = Unknown
----------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-2]
Device Type = NIC
AutoNegotiation = Unknown
BusNumber = 137
CPUAffinity = 1
CurrentMACAddress = 00:00:00:00:01:01
DataBusWidth = Unknown
DeviceDescription = Embedded NIC 2 Port 1
DeviceNumber = 0
EFIVersion =
FCoEOffloadMode = Unknown
FQDD = NIC.Embedded.1-2
FamilyVersion =
FunctionNumber = 1
InstanceID = NIC.Embedded.1-2
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
LinkDuplex = Unknown
```

```
MaxBandwidth = 0
MediaType = Base T,KR,KX4
MinBandwidth = 0
NicMode = Unknown
PCIDeviceID = 188c
PCISubDeviceID = 0abd
PCISubVendorID = 1028
PCIVendorID = 8086
PermanentMACAddress = 00:00:00:00:01:01
PrimaryStatus = Unknown
ProductName = Intel(R) Ethernet Connection 25G 4P E823-C-st LOM - 00:00:00:00:01:01
Protocol = Unknown
ReceiveFlowControl = Unknown
SNAPIState = Disabled
SNAPISupport = Not Available
SlotLength = Unknown
SlotType = Unknown
TransmitFlowControl = Unknown
UpdateLockdownCapable = False
UpdateLockdownState = Disabled
VPISupport = Not Available
iScsiOffloadMode = Unknown
----------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-4]
Device Type = NIC
AutoNegotiation = Unknown
BusNumber = 137
CPUAffinity = 1
CurrentMACAddress = 00:00:00:00:01:03
DataBusWidth = Unknown
DeviceDescription = Embedded NIC 4 Port 1
DeviceNumber = 0
EFIVersion =
FCoEOffloadMode = Unknown
FQDD = NIC.Embedded.1-4
FamilyVersion =
FunctionNumber = 3
InstanceID = NIC.Embedded.1-4
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
LinkDuplex = Unknown
MaxBandwidth = 0
MediaType = Base T,KR,KX4
MinBandwidth = 0
NicMode = Unknown
PCIDeviceID = 188c
PCISubDeviceID = 0abd
PCISubVendorID = 1028
PCIVendorID = 8086
PermanentMACAddress = 00:00:00:00:01:03
PrimaryStatus = Unknown
ProductName = Intel(R) Ethernet Connection 25G 4P E823-C-st LOM - 00:00:00:00:01:03
Protocol = Unknown
ReceiveFlowControl = Unknown
SNAPIState = Disabled
SNAPISupport = Not Available
SlotLength = Unknown
SlotType = Unknown
TransmitFlowControl = Unknown
UpdateLockdownCapable = False
UpdateLockdownState = Disabled
VPISupport = Not Available
iScsiOffloadMode = Unknown
----------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-3]
Device Type = NIC
AutoNegotiation = Unknown
BusNumber = 137
CPUAffinity = 1
CurrentMACAddress = 00:00:00:00:01:02
DataBusWidth = Unknown
```

```
DeviceDescription = Embedded NIC 3 Port 1
DeviceNumber = 0
EFIVersion =
FCoEOffloadMode = Unknown
FQDD = NIC.Embedded.1-3
FamilyVersion =
FunctionNumber = 2
InstanceID = NIC.Embedded.1-3
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
LinkDuplex = Unknown
MaxBandwidth = 0
MediaType = Base T,KR,KX4
MinBandwidth = 0
NicMode = Unknown
PCIDeviceID = 188c
PCISubDeviceID = 0abd
PCISubVendorID = 1028
PCIVendorID = 8086
PermanentMACAddress = 00:00:00:00:01:02
PrimaryStatus = Unknown
ProductName = Intel(R) Ethernet Connection 25G 4P E823-C-st LOM - 00:00:00:00:01:02
Protocol = Unknown
ReceiveFlowControl = Unknown
SNAPIState = Disabled
SNAPISupport = Not Available
SlotLength = Unknown
SlotType = Unknown
TransmitFlowControl = Unknown
UpdateLockdownCapable = False
UpdateLockdownState = Disabled
VPISupport = Not Available
iScsiOffloadMode = Unknown
----------------------------------------------------------------------

[InstanceID: PCIeSSD.Slot.2-1]
Device Type = PCIDevice
BusNumber = 22
CPUAffinity = 1
DataBusWidth = 4x or x4
Description = PE8000 Series NVMe Solid State Drive
DeviceDescription = PCIe SSD in Slot 2 Index 1
DeviceNumber = 0
FQDD = PCIeSSD.Slot.2-1
FunctionNumber = 0
InstanceID = PCIeSSD.Slot.2-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = SK hynix
PCIDeviceID = 2839
PCISubDeviceID = 2153
PCISubVendorID = 1028
PCIVendorID = 1C5C
SlotLength = Other
SlotType = PCI Express Gen 4
----------------------------------------------------------------------

[InstanceID: SMBus.Embedded.3-1]
Device Type = PCIDevice
BusNumber = 0
CPUAffinity = Not Applicable
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded SM Bus 3
DeviceNumber = 31
FQDD = SMBus.Embedded.3-1
FunctionNumber = 4
InstanceID = SMBus.Embedded.3-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 18DF
PCISubDeviceID = 7270
```

```
PCISubVendorID = 8086
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-1]
Device Type = PCIDevice
BusNumber = 137
CPUAffinity = 1
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded NIC 1 Port 1
DeviceNumber = 0
FQDD = NIC.Embedded.1-1
FunctionNumber = 0
InstanceID = NIC.Embedded.1-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 188C
PCISubDeviceID = 0ABD
PCISubVendorID = 1028
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-2]
Device Type = PCIDevice
BusNumber = 137
CPUAffinity = 1
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded NIC 2 Port 1
DeviceNumber = 0
FQDD = NIC.Embedded.1-2
FunctionNumber = 1
InstanceID = NIC.Embedded.1-2
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 188C
PCISubDeviceID = 0ABD
PCISubVendorID = 1028
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-4]
Device Type = PCIDevice
BusNumber = 137
CPUAffinity = 1
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded NIC 4 Port 1
DeviceNumber = 0
FQDD = NIC.Embedded.1-4
FunctionNumber = 3
InstanceID = NIC.Embedded.1-4
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 188C
PCISubDeviceID = 0ABD
PCISubVendorID = 1028
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: ISABridge.Embedded.1-1]
```

```
Device Type = PCIDevice
BusNumber = 0
CPUAffinity = Not Applicable
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded ISA Bridge 1
DeviceNumber = 31
FQDD = ISABridge.Embedded.1-1
FunctionNumber = 0
InstanceID = ISABridge.Embedded.1-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 18DC
PCISubDeviceID = 7270
PCISubVendorID = 8086
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: NIC.Embedded.1-3]
Device Type = PCIDevice
BusNumber = 137
CPUAffinity = 1
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded NIC 3 Port 1
DeviceNumber = 0
FQDD = NIC.Embedded.1-3
FunctionNumber = 2
InstanceID = NIC.Embedded.1-3
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 188C
PCISubDeviceID = 0ABD
PCISubVendorID = 1028
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
-------------------------------------------------------------------------

[InstanceID: PCIeSSD.Integrated.1-1]
Device Type = PCIDevice
BusNumber = 1
CPUAffinity = Not Applicable
DataBusWidth = 4x or x4
Description = PE8000 Series NVMe Solid State Drive
DeviceDescription = Integrated PCIe SSD 1
DeviceNumber = 0
FQDD = PCIeSSD.Integrated.1-1
FunctionNumber = 0
InstanceID = PCIeSSD.Integrated.1-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = SK hynix
PCIDeviceID = 2839
PCISubDeviceID = 0100
PCISubVendorID = 1028
PCIVendorID = 1C5C
SlotLength = Other
SlotType = PCI Express Gen 3
-------------------------------------------------------------------------

[InstanceID: P2PBridge.Embedded.2-1]
Device Type = PCIDevice
BusNumber = 0
CPUAffinity = Not Applicable
DataBusWidth = Unknown
Description = Intel Corporation
DeviceDescription = Embedded P2P Bridge 2-1
DeviceNumber = 23
```

```
FQDD = P2PBridge.Embedded.2-1
FunctionNumber = 0
InstanceID = P2PBridge.Embedded.2-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-28T04:23:51
Manufacturer = Intel Corporation
PCIDeviceID = 18A2
PCISubDeviceID = 7270
PCISubVendorID = 8086
PCIVendorID = 8086
SlotLength = Unknown
SlotType = Unknown
----------------------------------------------------------------

[InstanceID: PCIeSSD.Slot.2-1]
Device Type = PCIeSSD
AvailableSpare = 255 %
Bus = 16
BusProtocol = PCIE
CPUAffinity = Not Applicable
Device = 0
DeviceDescription = PCIe SSD in Slot 2 Index 1
DeviceProtocol = NVMe 1.3
DeviceSidebandProtocol =
DriveFormFactor = Add-in card
EncryptionProtocol = None
ErrorRecoverable = NotApplicable
FQDD = PCIeSSD.Slot.2-1
FailurePredicted = Unknown
Function = 0
InstanceID = PCIeSSD.Slot.2-1
Manufacturer = SK hynix
MaximumCapableSpeed = 8 GT/s
MediaType = Solid State Drive
Model = Dell DC NVMe PE8010 RI M.2 480GB
NegotiatedSpeed = 8 GT/s
PCIeCapableLinkWidth = x4
PCIeNegotiatedLinkWidth = x4
PrimaryStatus = Unknown
ProductID = 2839
RAIDType = Unknown
RemainingRatedWriteEndurance = Unknown
Revision = 0.2.0
SerialNumber = NIA6Q0232I0206N1F
SizeInBytes = 479962595328
Slot = 0
State = Ready
SystemEraseCapability = CryptographicErasePD
UsedSizeInBytes = 0 Bytes
----------------------------------------------------------------

[InstanceID: PCIeSSD.Integrated.1-1]
Device Type = PCIeSSD
AvailableSpare = 100 %
Bus = 1
BusProtocol = PCIE
CPUAffinity = 1
Device = 0
DeviceDescription = Integrated PCIe SSD 1
DeviceProtocol = NVMe 1.3
DeviceSidebandProtocol = NVMe-MI1.1
DriveFormFactor = M.2
EncryptionProtocol = None
ErrorRecoverable = NotApplicable
FQDD = PCIeSSD.Integrated.1-1
FailurePredicted = NO
Function = 0
InstanceID = PCIeSSD.Integrated.1-1
Manufacturer = SK hynix
MaximumCapableSpeed = 8 GT/s
MediaType = Solid State Drive
Model = HFS480GDC8X099N
NegotiatedSpeed = 8 GT/s
```

```
PCIeCapableLinkWidth = x4
PCIeNegotiatedLinkWidth = x4
PrimaryStatus = OK
ProductID = 2839
RAIDType = Unknown
RemainingRatedWriteEndurance = 100 %
Revision = 0.1.0
SerialNumber = SKhynix512GB3I01P40
SizeInBytes = 480103981056
Slot = Not Applicable
State = Ready
SystemEraseCapability = CryptographicErasePD
UsedSizeInBytes = 0 Bytes
-------------------------------------------------------------------------

[InstanceID: PCIeSSD.Slot.2-2]
Device Type = PCIeSSD
AvailableSpare = 100 %
Bus = 0
BusProtocol = PCIE
CPUAffinity = 1
Device = 0
DeviceDescription = PCIe SSD in Slot 2 Index 2
DeviceProtocol = NVMe 1.3
DeviceSidebandProtocol = NVMe-MI1.1
DriveFormFactor = M.2
EncryptionProtocol = None
ErrorRecoverable = NotApplicable
FQDD = PCIeSSD.Slot.2-2
FailurePredicted = NO
Function = 0
InstanceID = PCIeSSD.Slot.2-2
Manufacturer = SK hynix
MaximumCapableSpeed = 8 GT/s
MediaType = Solid State Drive
Model = Dell DC NVMe PE8010 RI M.2 480GB
NegotiatedSpeed = 2.5 GT/s
PCIeCapableLinkWidth = x4
PCIeNegotiatedLinkWidth = x4
PrimaryStatus = OK
ProductID = 2839
RAIDType = Unknown
RemainingRatedWriteEndurance = 100 %
Revision = 0.2.0
SerialNumber = NIA6Q0232I0206N1G
SizeInBytes = 480103981056
Slot = Not Applicable
State = Ready
SystemEraseCapability = CryptographicErasePD
UsedSizeInBytes = 0 Bytes
-------------------------------------------------------------------------

[InstanceID: PCIeSSD.Slot.2-3]
Device Type = PCIeSSD
AvailableSpare = 100 %
Bus = 16
BusProtocol = PCIE
CPUAffinity = 1
Device = 0
DeviceDescription = PCIe SSD in Slot 2 Index 3
DeviceProtocol = NVMe 1.3
DeviceSidebandProtocol = NVMe-MI1.1
DriveFormFactor = M.2
EncryptionProtocol = None
ErrorRecoverable = NotApplicable
FQDD = PCIeSSD.Slot.2-3
FailurePredicted = NO
Function = 0
InstanceID = PCIeSSD.Slot.2-3
Manufacturer = SK hynix
MaximumCapableSpeed = 8 GT/s
MediaType = Solid State Drive
Model = Dell DC NVMe PE8010 RI M.2 480GB
```

```
NegotiatedSpeed = 8 GT/s
PCIeCapableLinkWidth = x4
PCIeNegotiatedLinkWidth = x4
PrimaryStatus = OK
ProductID = 2839
RAIDType = Unknown
RemainingRatedWriteEndurance = 100 %
Revision = 0.2.0
SerialNumber = NIA6Q0232I0206N1F
SizeInBytes = 480103981056
Slot = Not Applicable
State = Ready
SystemEraseCapability = CryptographicErasePD
UsedSizeInBytes = 0 Bytes
----------------------------------------------------------------------

[InstanceID: PSU.ChassisSlot.1-1-1]
Device Type = PowerSupply
DetailedState = Absent
DeviceDescription = PSU.ChassisSlot.1-1-1
EffectiveCapacity = 0
FQDD = PSU.ChassisSlot.1-1-1
FirmwareVersion =
InputVoltage = 0 Volts
InstanceID = PSU.ChassisSlot.1-1-1
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = Unknown
LineStatus = Unknown
PartNumber =
PrimaryStatus = Unknown
Range1MaxInputPower = 0 Watts
RedTypeOfSet =
TotalOutputPower = 0 Watts
Type = AC
----------------------------------------------------------------------

[InstanceID: PSU.ChassisSlot.2-2-2]
Device Type = PowerSupply
DetailedState = Presence Detected
DeviceDescription = PSU.ChassisSlot.2-2-2
EffectiveCapacity = 0
FQDD = PSU.ChassisSlot.2-2-2
FirmwareVersion = 00.18.31
InputVoltage = 228 Volts
InstanceID = PSU.ChassisSlot.2-2-2
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2020-10-11T09:56:03
LineStatus = High line
PartNumber = 0C6T8MA00
PrimaryStatus = OK
Range1MaxInputPower = 1568 Watts
RedTypeOfSet =
TotalOutputPower = 1400 Watts
Type = AC
----------------------------------------------------------------------

[InstanceID: System.Embedded.1]
Device Type = System
AssetTag =
BIOSReleaseDate = 01/19/2022
BIOSVersionString = 0.2.2
BaseBoardChassisSlot = NA
BatteryRollupStatus = OK
BladeGeometry = Not Applicable
BoardPartNumber = 034K8FX11
BoardSerialNumber = CNFCP0018R005Z
CPLDVersion = 0.1.5
CPURollupStatus = OK
ChassisModel = PowerEdge XR4000r
ChassisName = XR4000
ChassisServiceTag =
ChassisSystemHeight = 2 U
CurrentRollupStatus = OK
```

```
DeviceDescription = System
EstimatedExhaustTemperature = Not applicable
EstimatedSystemAirflow = Not applicable
ExpressServiceCode = 54053217223
FQDD = System.Embedded.1
FanRollupStatus = Error
HostName = WIN-JG3S2H0KE9V
InstanceID = System.Embedded.1
IsOEMBranded = False
LastSystemInventoryTime = 2022-02-28T04:23:52
LastUpdateTime = 2022-02-11T08:51:11
LicensingRollupStatus = Degraded
LifecycleControllerVersion = 6.00.30.00
ManagedSystemSize = 2 U
Manufacturer = Dell Inc.
MaxCPUSockets = 1
MaxDIMMSlots = 4
MaxPCIeSlots = 2
MemoryOperationMode = OptimizerMode
MemoryRollupStatus = OK
Model = XR4520c
NodeID = OTXW1C7
PSRollupStatus = OK
PlatformGUID = 3743314f-c0cf-5780-5810-00544c4c4544
PopulatedCPUSockets = 1
PopulatedDIMMSlots = 1
PopulatedPCIeSlots = 1
PowerCap = 32767 Watts
PowerCapEnabledState = Disabled
PowerState = On
PrimaryStatus = Error
RollupStatus = Error
SELRollupStatus = Error
ServerAllocation = 1273 Watts
ServiceTag = OTXW1C7
StorageRollupStatus = OK
SysMemErrorMethodology = Multi-bit ECC
SysMemFailOverState = NotInUse
SysMemLocation = System board or motherboard
SysMemMaxCapacitySize = 1048576 MB
SysMemPrimaryStatus = OK
SysMemTotalSize = 16384 MB
SystemGeneration = 15G DCS
SystemID = 2774
SystemRevision = I
TempRollupStatus = OK
TempStatisticsRollupStatus = OK
UUID = 4c4c4544-0054-5810-8057-cfc04f314337
VoltRollupStatus = OK
smbiosGUID = 44454c4c-5400-1058-8057-cfc04f314337
----------------------------------------------------------------------

[InstanceID: System.Integrated.1-1:System.Chassis.1-1]
Device Type = WitnessSled
DeviceDescription = System.Integrated.1-1:System.Chassis.1-1
EPPID =
FQDD = System.Integrated.1-1:System.Chassis.1-1
InstanceID = System.Integrated.1-1:System.Chassis.1-1
MACAddress1 =
MACAddress2 =
POSTCode = 0
PowerConsumption = 0
PowerState = OFF
ServiceTag =
SystemID =
WitnessSensorReading = Absent
----------------------------------------------------------------------
```

- To get the list of NIC FQDDs, run the following command:

```
racadm hwinventory nic
NIC.Slot.2-1-1:Emulex OCe14102-U1-D - 00:90:FA:4C:FE:C2
```

```
PartitionCapable :                              1

NIC.Slot.2-1-2:Emulex OCe14102-U1-D - 00:90:FA:4C:FE:C3
PartitionCapable :                              2

NIC.Slot.2-1-3:Emulex OCe14102-U1-D - 00:90:FA:4C:FE:C4
PartitionCapable :                              3

NIC.Slot.2-1-4:Emulex OCe14102-U1-D - 00:90:FA:4C:FE:C5
PartitionCapable :                              4
```

- To get the list of Infiniband FQDDs, run the following command:

```
racadm hwinventory InfiniBand
InfiniBand.Slot.3-1-1:Mellanox ConnectX-6 Single Port VPI HDR QSFP Adapter -
12:12:12:11:11:BB
PartitionCapable :                              1

InfiniBand.Slot.3-1-2:Mellanox ConnectX-6 Single Port VPI HDR QSFP Adapter -
12:12:12:11:11:BB
PartitionCapable :                              2
```

- To display the statistics for the NIC FQDD, type the following command:

```
$racadm hwinventory <NIC FQDD>
Total RDMA Packets Received:            0

Total RDMA Packets Transmitted:           0

Total RDMA Bytes Transmitted:           0

Total RDMA Bytes Received:            0

Total RDMA Transmitted ReadRequest Packets:    0

Total RDMA Transmitted Send Packets:        0

Total RDMA Transmitted Write Packets:        0

Total RDMA Protocol Errors:           0

Total RDMA Protection Errors:           0
```

- To get the complete details for NIC.Embedded.1-1-1, type the following command:

```
racadm hwinventory NIC.Embedded.1-1-1
Device Description:                             Embedded NIC 1 Port 1 Partition 1
status:                                         OK
PCI Vendor ID:                                  14e4
PCI Sub Vendor ID:                              1028
PCI Device ID:                                  165f
PCI Sub Device ID:                              08ff
Current MAC Address:                            F4:02:70:BF:95:BA
Permanent MAC Address:                          F4:02:70:BF:95:BA
Virtual iSCSI MAC Address:                      Unavailable
Permanent iSCSI MAC Address:                    Unavailable
Virtual FIP MAC Address:                        Unavailable
Permanent FIP MAC Address:                      Unavailable
Permanent FCoE MAC Address:                     Unavailable
Slot Type:                                      Not Applicable
Data Bus Width:                                 Unknown
Slot Length:                                    Not Applicable
Bus Number:                                     225
DeviceNumber:                                   0
Function Number:                                0
Last Update Time:                               2021-05-18T07:32:41
Last System Inventory Time:                     2021-11-08T09:54:31
ProductName:                                    Broadcom Gigabit Ethernet BCM5720 -
F4:02:70:BF:95:BA
```

```
WWN:                                        Unavailable
VirtWWN:                                    Unavailable
WWPN:                                       Unavailable
VirtWWPN:                                   Unavailable
Family Version:                             21.80.9
Controller BIOS Version:                    1.39
EFI Version:                                21.6.18
FCoE WWNN:                                  Unavailable
Vendor Name:                                Broadcom Corp
Number of PCI-e Functions
Supported per Port:                         1
Number of PCI-e Functions
Currently Enabled per Port:                 1
OS Driver Version:                          214.0.0.6
ISCSI OS Driver Version:                    Unavailable
FCOE OS Driver Version:                     Unavailable
FC OS Driver Version:                       Unavailable
RDMA OS Driver Version:                     Unavailable
Protocol:                                   NIC
Link Duplex:                                Not Applicable
Link Speed:                                 Not Applicable
Auto Negotiated:                            Disabled
Transmit Flow Control:                      Off
Receive Flow Control:                       Off
Media Type:                                 BASE-T
NIC Mode:                                   Not Applicable
FCoE Offload Mode:                          Not Applicable
iSCSI Offload Mode:                         Not Applicable
SNAPI Support:                              Not Available
SNAPI State:                                Disabled
VPI Support:                                Not Available
Update Lockdown Capable:                    True
Update Lockdown State:                      Disabled
CPU Affinity:                               Not Applicable
Max Bandwidth:                              Not Applicable
Min Bandwidth:                              Not Applicable
Max Number of IOs per session supported:    0
Number of Max LOGINs per port:              0
Max Number of exchanges:                    0
Max NPIV WWN per port:                      0
Number of Targets Supported:                0
Max Number of outstanding commands
supported across all sessions:              0
Virtual Addressing:                         Capable
UEFI:                                       Capable
iSCSI Offload:                              Not Capable
iSCSI Boot:                                 Not Capable
TCP OffloadEngine:                          Not Capable
FCoE:                                       Not Capable
FCoE Boot:                                  Not Capable
PXE Boot:                                   Capable
SRIOV:                                      Not Capable
Wake on LAN:                                Capable
Network Management Pass Through:            Capable
OS2BMC PassThrough:                         Capable
Energy Efficient Ethernet:                  Capable
On Chip Thermal Sensor:                     Capable
NPar:                                       Not Capable
Remote PHY:                                 Not Capable
Feature Licensing:                          Not Capable
IPSec Offload:                              Not Capable
MAC Sec:                                    Not Capable
RDMA:                                       Not Capable
Enhanced Transmission Selection:            Not Capable
Priority Flow Control:                      Not Capable
DCB Exchange Protocol:                      Not Capable
Congestion Notification:                    Not Capable
VEB-VEPA Single Channel:                    Not Capable
VEB:                                        Not Capable
VEB-VEPA Multi Channel:                     Not Capable
EVB:                                        Not Capable
BPE:                                        Not Capable
Open Flow:                                  Not Capable
```

```
Partition WOL Support:                          Not Capable
Virtual Link Control:                           Not Capable
Partition RX Flow Control:                      Not Capable
Partition TX Flow Control:                      Not Capable
TX Bandwidth Control Maximum:                   Not Capable
TX Bandwidth Control Minimum:                   Not Capable
Persistence Policy Capability:                  Capable
```

- To get the complete details for NIC.Embedded.2-1-1, type the following command:

```
racadm hwinventory NIC.Embedded.2-1-1
Device Description:                             Embedded NIC 1 Port 2 Partition 1
status:                                         OK
PCI Vendor ID:                                  14e4
PCI Sub Vendor ID:                              1028
PCI Device ID:                                  165f
PCI Sub Device ID:                              08ff
Current MAC Address:                            F4:02:70:BF:95:BB
Permanent MAC Address:                          F4:02:70:BF:95:BB
Virtual iSCSI MAC Address:                      Unavailable
Permanent iSCSI MAC Address:                    Unavailable
Virtual FIP MAC Address:                        Unavailable
Permanent FIP MAC Address:                      Unavailable
Permanent FCoE MAC Address:                     Unavailable
Slot Type:                                      Not Applicable
Data Bus Width:                                 Unknown
Slot Length:                                    Not Applicable
Bus Number:                                     225
DeviceNumber:                                   0
Function Number:                                1
Last Update Time:                               2021-05-18T07:32:41
Last System Inventory Time:                     2021-11-08T09:54:31
ProductName:                                    Broadcom Gigabit Ethernet BCM5720 -
F4:02:70:BF:95:BB
WWN:                                            Unavailable
VirtWWN:                                        Unavailable
WWPN:                                           Unavailable
VirtWWPN:                                       Unavailable
Family Version:                                 21.80.9
Controller BIOS Version:                        1.39
EFI Version:                                    21.6.18
FCoE WWNN:                                      Unavailable
Vendor Name:                                    Broadcom Corp
Number of PCI-e Functions
Supported per Port:                             1
Number of PCI-e Functions
Currently Enabled per Port:                     1
OS Driver Version:                              214.0.0.6
ISCSI OS Driver Version:                        Unavailable
FCOE OS Driver Version:                         Unavailable
FC OS Driver Version:                           Unavailable
RDMA OS Driver Version:                         Unavailable
Protocol:                                       NIC
Link Duplex:                                    Full Duplex
Link Speed:                                     1000 Mbps
Auto Negotiated:                                Enabled
Transmit Flow Control:                          On
Receive Flow Control:                           On
Media Type:                                     BASE-T
NIC Mode:                                       Not Applicable
FCoE Offload Mode:                              Not Applicable
iSCSI Offload Mode:                             Not Applicable
SNAPI Support:                                  Not Available
SNAPI State:                                    Disabled
VPI Support:                                    Not Available
Update Lockdown Capable:                        True
Update Lockdown State:                          Disabled
CPU Affinity:                                   Not Applicable
Max Bandwidth:                                  Not Applicable
Min Bandwidth:                                  Not Applicable
Max Number of IOs per session supported:        0
```

```
Number of Max LOGINs per port:                0
Max Number of exchanges:                      0
Max NPIV WWN per port:                        0
Number of Targets Supported:                  0
Max Number of outstanding commands
supported across all sessions:                0
Virtual Addressing:                           Capable
UEFI:                                         Capable
iSCSI Offload:                                Not Capable
iSCSI Boot:                                   Not Capable
TCP OffloadEngine:                            Not Capable
FCoE:                                         Not Capable
FCoE Boot:                                    Not Capable
PXE Boot:                                     Capable
SRIOV:                                        Not Capable
Wake on LAN:                                  Capable
Network Management Pass Through:              Capable
OS2BMC PassThrough:                           Capable
Energy Efficient Ethernet:                    Capable
On Chip Thermal Sensor:                       Capable
NPar:                                         Not Capable
Remote PHY:                                   Not Capable
Feature Licensing:                            Not Capable
IPSec Offload:                                Not Capable
MAC Sec:                                      Not Capable
RDMA:                                         Not Capable
Enhanced Transmission Selection:              Not Capable
Priority Flow Control:                        Not Capable
DCB Exchange Protocol:                        Not Capable
Congestion Notification:                      Not Capable
VEB-VEPA Single Channel:                      Not Capable
VEB:                                          Not Capable
VEB-VEPA Multi Channel:                       Not Capable
EVB:                                          Not Capable
BPE:                                          Not Capable
Open Flow:                                    Not Capable
Partition WOL Support:                        Not Capable
Virtual Link Control:                         Not Capable
Partition RX Flow Control:                    Not Capable
Partition TX Flow Control:                    Not Capable
TX Bandwidth Control Maximum:                 Not Capable
TX Bandwidth Control Minimum:                 Not Capable
Persistence Policy Capability:                Capable
```

- To get the complete details for InfiniBand.Slot.3-1-1, type the following command:

```
racadm hwinventory InfiniBand.Slot.3-1-1
Device Description:                           InfiniBand in Slot 3 Port 1 Partition 1
status:                                       Ok
PCI Vendor ID:                                15b3
PCI Sub Vendor ID:                            15b3
PCI Device ID:                                101b
PCI Sub Device ID:                            0022
Current (Virtual) MAC Address:                12:12:12:11:11:BB
Permanent MAC Address:                        98:03:9B:9F:53:12
Virtual iSCSI MAC Address:                    Not Available
Permanent iSCSI MAC Address:                  Not Available
Virtual Port GUID Address:                    Not Available
Permanent Port GUID Address:                  9803:9B03:009F:5312
Node GUID Address:                            9803:9B03:009F:5312
Virtual Node GUID Address:                    1234:1234:1111:2222
Permanent FCoE MAC Address:                   Not Available
Slot Type:                                    PCI Express Gen 4
Data Bus Width:                               8x or x8
Slot Length:                                  Long Length
Bus Number:                                   161
DeviceNumber:                                 0
Function Number:                              0
Last Update Time:                             20200620115358.000000+000
Last System Inventory Time:                   20200620120506.000000+000
ProductName:                                  Mellanox ConnectX-6 Single Port VPI HDR
```

```
QSFP Adapter - 12:12:12:11:11:BB
UEFI Device Path:                                PciRoot(0x5)/Pci(0x3,0x1)/Pci(0x0,0x0)/
MAC(1212121111BB,0x1)
Family Version:                                  20.27.40.52
Controller BIOS Version:                         Not Available
EFI Version:                                     14.20.25
Vendor Name:                                     Mellanox Technologies, Inc.
Number of PCI-e Functions
Supported per Port:                              2
Number of PCI-e Functions
Currently Enabled per Port:                      2
LAN Driver Version:                              Not Available
InfiniBand OS Driver Version:                    5.0-0
ISCSI OS Driver Version:                         Not Available
FCoEOS Driver Version:                           Not Available
FC OS Driver Version:                            Not Available
RDMA OS Driver Version:                          Not Available
Media Type:                                      SFFCAGE
Protocol:                                        InfiniBand
SNAPI Support:                                   Available
SNAPI State:                                     Enabled
VPI Support:                                     Available
Virtual(Flex) Addressing:                        Capable
UEFI:                                            Capable
iSCSI Offload:                                   Not Capable
iSCSI Boot:                                      Capable
TCP OffloadEngine:                               Not Capable
PXE Boot:                                        Capable
SRIOV:                                           Capable
Wake on LAN:                                     Not Capable
Network Management Pass Through:                 Capable
OS2BMC PassThrough:                              Capable
Energy Efficient Ethernet:                       Not Capable
On Chip Thermal Sensor:                          Capable
NPar:                                            Capable
Remote PHY:                                      Not Capable
Feature Licensing:                               Not Capable
IPSec Offload:                                   Not Capable
MAC Sec:                                         Not Capable
RDMA:                                            Capable
Enhanced Transmission Selection:                 Not Capable
Priority Flow Control:                           Not Capable
DCB Exchange Protocol:                           Not Capable
Congestion Notification:                         Not Capable
VEB-VEPA Single Channel:                         Not Capable
VEB-VEPA Multi Channel:                          Not Capable
EVB:                                             Not Capable
BPE:                                             Not Capable
Open Flow:                                       Not Capable
Partition WOL Support:                           Not Capable
Virtual Link Control:                            Capable
Partition RX Flow Control:                       Not Capable
Partition TX Flow Control:                       Not Capable
TX Bandwidth Control Maximum:                    Capable
TX Bandwidth Control Minimum:                    Capable
Persistence Policy Capability:                   Capable
Supported Link Width:                            1X,2X,4X
Supported Link Speed:                            SDR,DDR,QDR,FDR,EDR,HDR
```

- To get the list of network transceivers, type the following command:

```
racadm hwinventory networktransceiver
NIC.Slot.2-1-1
NIC.Slot.2-2-1
NIC.Slot.3-1-1
FC.Slot.6-2
```

- To display the network transceiver properties with FQDD, type the following command:

```
racadm hwinventory networktransceiver NIC.Slot.1-2-1
Vendor Name:                                     DELL
```

```
Part Number:                                    3YWG7
Serial Number:                                  CN0136039120031
Revision:                                       A0
Identifier Type:                                SFP/SFP+/SFP28
```

- To export the inventory to a remote CIFS share, type the following command:

```
racadm hwinventory export -f Myinventory.xml -u admin -p xxx
  -l //1.2.3.4/share
```

- To export the inventory to a remote NFS share, type the following command:

```
racadm hwinventory export -f Myinventory.xml -u admin -p xxx
  -l 1.2.3.4:/share
```

- To export the inventory to local file system using local Racadm, type the following command:

```
racadm hwinventory export -f Myinventory.xml
```

- To export the inventory to a remote HTTP share:

```
racadm hwinventory export -f Myinventory.xml -u httpuser -p httppass -l http://
test.com/share
```

- To export the inventory to a remote HTTPS share:

```
racadm hwinventory export -f Myinventory.xml -u httpuser -p httppass -l http://
test.com/share
```

- To display the information about pro-accelerators and its FQDD's:

```
racadm hwinventory accelerator
```

- To display the Standard hardware inventory verbose description for the ProcAccelerator.Slot.8-1, type the following command:

```
racadm hwinventory ProcAccelerator.Slot.8-1

Model:                                          Not Available
Board Part Number:                              Not Available
Serial Number:                                  Not Available
FPGA Part Number:                               Not Applicable
Firmware Version:                               Not Available
CPUAffinity:                                    1
```

- To display the information about InfiniBand Cards and its FQDD's:

```
racadm hwinventory InfiniBand
```

- To display the Standard hardware inventory verbose description for the FC.Slot.2–1, type the following command:

```
racadm hwinventory FC.Slot.2-1
PCI Vendor ID:                                  1077
PCI Sub Vendor ID:                              1077
PCI Device ID:                                  2532
PCI Sub Device ID:                              015c
PCI Bus:                                        67
PCI Device:                                     0
PCI Function:                                   0
Vendor Name:                                    Unavailable
Device Name:                                    QLogic QLE2560 8Gb Fibre Channel
Adapter - 21000024FF089D8A
WWN:                                            20:00:00:24:FF:08:9D:8A
VirtWWN:                                        20:00:00:24:FF:08:9D:8A
WWPN:                                           21:00:00:24:FF:08:9D:8A
```

```
VirtWWPN:                                       21:00:00:24:FF:08:9D:8A
Chip Type:                                      ISP2532
Family Version:                                 02.57.14
EFI Version:                                    2.34
OS Driver Version:                              Unavailable
First FC Target WWPN:                           50:06:01:60:44:60:28:8C
First FC Target LUN:                            0
Second FC Target WWPN:                          00:00:00:00:00:00:00:00
Second FC Target LUN:                           0
Hard Zone Address:                              0
Hard Zone Enable:                               Disabled
FC Tape Enable:                                 Disabled
Loop reset Delay:                               5
Frame Payload Size :                            2048
Fabric Login Retry Count:                       0
Fabric Login Timeout:                           0
Port Login Retry Count:                         8
Port Login Timeout:                             3000
Port Down Retry Count:                          45
Port Down Timeout:                              0
Link Down Timeout:                              45000
Port Number:                                    1
Port Speed:                                     0
No capabilities found for FQDD "FC.Slot.2-1"
racadm>> racadm hwinventory FC.Slot.3-1
PCI Vendor ID:                                  1077
PCI Sub Vendor ID:                              1077
PCI Device ID:                                  2031
PCI Sub Device ID:                              0256
PCI Bus:                                        4
PCI Device:                                     0
PCI Function:                                   0
Vendor Name:                                    QLogic
Device Name:                                    QLogic QLE2660 16Gb FC Adapter -
2001000E1E091075
WWN:                                            20:00:00:0E:1E:09:10:75
VirtWWN:                                        20:00:00:0E:1E:09:10:75
WWPN:                                           20:01:00:0E:1E:09:10:75
VirtWWPN:                                       20:01:00:0E:1E:09:10:75
Chip Type:                                      8324, Rev. 02
Family Version:                                 02.00.84
EFI Version:                                    5.30
OS Driver Version:                              9.1.10.27
First FC Target WWPN:                           00:00:00:00:00:00:00:00
First FC Target LUN:                            0
Second FC Target WWPN:                          00:00:00:00:00:00:00:00
Second FC Target LUN:                           0
Hard Zone Address:                              0
Hard Zone Enable:                               Disabled
FC Tape Enable:                                 Disabled
Loop reset Delay:                               5
Frame Payload Size :                            2048
Fabric Login Retry Count:                       0
Fabric Login Timeout:                           0
Port Login Retry Count:                         8
Port Login Timeout:                             3000
Port Down Retry Count:                          30
Port Down Timeout:                              0
Link Down Timeout:                              30000
Port Number:                                    1
Port Speed:                                     0
Max Number of IOs per connection supported:     9
Maximum number of Logins per port:              8
Maximum number of exchanges:                    9
Maximum NPIV per port:                          1
Maximum number of FC Targets supported:         8
Maximum number of outstanding commands across all connections: 9
Flex Addressing:                                Capable
UEFI:                                           Capable
FC Start:                                        Capable
```

```
On Chip Thermal Sensor:                         Capable
Feature Licensing:                              Not Capable
```

ifconfig

Table 68. Details of ifconfig

Description	Displays the contents of the network interface table. To use this subcommand, you must have the Execute Diagnostic Commands permission.
Synopsis	`racadm ifconfig`
Input	N/A

Table 69. Example

`eth0`	`Link encap:Ethernet  HWaddr 00:1D:09:FF:DA:23`
	`inet addr:192.168.0.0 Bcast:192.168.0.255 Mask:255.255.255.0`
	`UP BROADCAST RUNNING MULTICAST  MTU:1500 Metric:1`
	`RX packets:2550665 errors:0 dropped:0 overruns:0 frame:0`
	`TX packets:0 errors:0 dropped:0 overruns:0 carrier:0`
	`collisions:0 txqueuelen:1000`
	`RX bytes:272532097 (259.9 MiB)  TX bytes:0 (0.0 B)`

iLKM

Table 70. Details of iLKM

Description	The iLKM subcommand allows you to enable or disable iLKM support for a server, and rekey iLKM-supported devices on a server. To run this subcommand, you must have the following privileges: • **Enable**—server control and configure iDRAC privileges • **Disable**—server control and configure iDRAC privileges • **Rekey**—server control and configure iDRAC privileges • **Getstatus**—login privileges

Synopsis	**NOTE:** To run enable or disable subcommands, the target server must have SEKM license.
	To get iLKM status.
	`racadm ilkm getstatus`
	To enable iLKM feature.
	`racadm ilkm enable -keyid <keyID> -passphrase <password>`
	To disable iLKM feature.
	`racadm ilkm disable`
	To request iDRAC to rekey all iLKM devices.
	`racadm ilkm rekey -oldpassphrase <password> -newkeyid <keyID> -newpassphrase <password>`

Input	• `-keyid`—Key Identifier

Table 70. Details of iLKM (continued)

	• `-passphrase`—Password • `-oldpassphrase`—Old Password • `-newkeyid`—New Key ID • `-newpassphrase`—New Password

Example	To get iLKM status.
	`racadm ilkm getstatus`
	To enable iLKM feature.
	`racadm ilkm enable -keyid keyID -passphrase password`
	To disable iLKM feature.
	`racadm ilkm disable`
	To request iDRAC to rekey all iLKM devices.
	`racadm ilkm rekey -oldpassphrase password -newkeyid keyID -newpassphrase pasword`

infinibandstatistics

Table 71. Details of infinibandstatistics

Description	Displays the list of InfiniBand devices managed by the server for which statistics are available.
Synopsis	• `racadm infinibandstatistics <Infiniband FQDD>` •
Input	• `<Infiniband FQDD>` — The fully qualified device descriptor of the device. **NOTE:** `Partition Driver State` and `Partition OS Driver State` properties are the same for infinibandstatistics.

Example	• Display the statistics of all InfiniBand devices managed by the server.
	`racadm infinibandstatistics`
	• Display the statistics of the InfiniBand specified by InfiniBand.Slot.3-1.
	`racadm infinibandstatistics InfiniBand.Slot.3-1`
	`Device Description: InfiniBand in Slot 3 Port 1 Partition 1`
	`Port Transmit Data: 0`
	`Port Receive Data: 0`
	`Port Transmit Packets: 0`
	`Port Receive Packets: 0`
	`Port Transmit Wait: 0`
	`Port Transmit Discard: 0`
	`Symbol Error Count: 0`
	`Link Error Recovery Count: 0`
	`Link Downed Count: 0`
	`Port Receive Errors: 0`
	`Port Receive Remote Physical Errors: 0`
	`Port Receive Switch Relay Errors: 0`
	`Local Link Integrity Errors: 0`
	`Excessive Buffer Overrun: 0`
	`VL15 Dropped: 0`
	`Total Bytes Received: Not Applicable`
	`Total Bytes Transmitted: Not Applicable`

Table 71. Details of infinibandstatistics (continued)

```
Total Unicast Bytes Received:                    Not Applicable
Total Multicast Bytes Received:                  Not Applicable
Total Broadcast Bytes Received:                  Not Applicable
Total Unicast Bytes Transmitted:                 Not Applicable
Total Multicast Bytes Transmitted:               Not Applicable
Total Broadcast Bytes Transmitted:               Not Applicable
FCS Error Packets Received:                      Not Applicable
Alignment Error Packets Received:                Not Applicable
False Carrier Error Packets Received:            Not Applicable
Runt Frames Received:                            Not Applicable
Jabber Error Frames Received:                    Not Applicable
Total Pause XON Frames Received:                 Not Applicable
Total Pause XOFF Frames Received:                Not Applicable
Discarded Packets:                               0
Total Pause XON Frames Transmitted:              Not Applicable
Total Pause XOFF Frames Transmitted:             Not Applicable
Single Collision Frames Transmitted:             Not Applicable
Multiple Collision Frames Transmitted:           Not Applicable
Late Collision Frames Transmitted:               Not Applicable
Excessive Collision Frames Transmitted:          Not Applicable
Link Status:                                     Down
Link Width:                                      Not Available
Link Speed:                                      Not Available
Partition Link Status:                           Up
Partition Driver State:                          Operational
```

NOTE: When Port, Partition or RDMA statistics are not available, the output displays `No Port/Partition/RDMA Statistics found for FQDD <Infiniband FQDD>.`

inlettemphistory

Table 72. Details of inlettemphistory

Description	Displays the average and the peak temperatures during the last hour, day, week, month, or year. Also Exports the inlet temperature history data file. The file can be exported to a remote file share, local file system, or the management station. **NOTE:** For FM120x4 systems, this subcommand provides the historical data for system board temperature.

Synopsis	• `racadm inlettemphistory get`
	`racadm inlettemphistory export -f <Filename> -u <username> -p <password>\`
	`-l <location> -t <export file type>`
	`racadm -r <idrac ip> -u <idrac username> -p <idrac password> inlettemphistory\`
	`export -f <Filename> -u <username> -p <password> -l <location> -t <export file type>`
	•
	This command does not support setting the proxy parameters if the share location (-l) is HTTP/HTTPS. To perform the operation with HTTP or HTTPS through a proxy, the proxy parameters must be first configured using the lifecyclecontroller.lcattributes. Once these proxy parameters are configured, they become the part of default configuration; the proxy attributes should be cleared to end use of the HTTP/HTTPS proxy.
	The valid lifecyclecontroller.lcattributes HTTP/HTTPS proxy parameters are:
	• `UserProxyUserName`
	• `UserProxyPassword`

Table 72. Details of inlettemphistory (continued)

	• `UserProxyServer` • `UserProxyPort` • `UserProxyType` To view the list of proxy attributes, use `racadm get lifecycleController.lcAttributes`.
Input	• `-f` — Exports inlet temperature history filename. The maximum length of this parameter is 64 characters. **NOTE:** If a file with the specified filename exists, then the older file is replaced with the new history file. • `-u` — User name of the remote share to export the file. Specify user name in a domain as domain or username. • `-p` — Password for the remote share to where the file must be exported. • `-l` — Network share location to where the inlet temperature history must be exported. The maximum length of this parameter is 256 characters. **NOTE:** The supported network locations are CIFS, NFS, HTTP, and HTTPS. • `-t` — Specifies the exported file type. Valid values are `xml` and `csv`. These values are case-insensitive. **NOTE:** From firmware RACADM, only export to a remote share is supported. The behavior of remote share is not defined when the path specified (`-l`) contains special characters. **NOTE:** This command supports both IPV4 and IPV6 formats. IPV6 is applicable for CIFS and NFS type remote shares.

Example	• Export the log to a remote CIFS share.
	`racadm inlettemphistory export -f Mylog.xml -u admin -p xxx -l // 1.2.3.4/share -t xml`
	• Export the log to a remote HTTP share.
	`racadm inlettemphistory export -f Mylog.xml -u httpuser -p httppwd\n -l http://test.com -t xml`
	• Export the log to a remote HTTPS share.
	`racadm inlettemphistory export -f Mylog.xml -u httpsuser -p httpspwd\n -l https://test.com -t xml`
	• Export the log to a remote NFS share.
	`racadm inlettemphistory export -f Mylog.csv -l 1.2.3.4:/home/user -t csv`
	• Export the log to a remote FTP share.
	`racadm inlettemphistory export -f Mylog.csv -u ftpuser -p ftppwd -l ftp://test.com/share -t csv`
	• Export the log to a remote TFTP share.
	`racadm inlettemphistory export -f Mylog.csv -l tftp://test.com/share -t csv`
	• Export the log to local file system using Local RACADM.
	`racadm inlettemphistory export -f Mylog.xml -t xml`
	• Export the log to management station using Remote RACADM.
	`racadm -r 1.2.3.4 -u user -p xxx inlettemphistory export -f Mylog.csv -t csv`

Table 72. Details of inlettemphistory (continued)

	• View the inlet temperature history.
	`racadm inlettemphistory get`
	`Duration Above Warning Threshold as Percentage = 0.0%`
	`Duration Above Critical Threshold as Percentage = 0.0%`
	`Average Temperatures`
	`Last Hour = 23C ( 73.4F )`
	`Last Day = 24C ( 75.2F )`
	`Last Week = 24C ( 77.0F )`
	`Last Month = 25C ( 77.0F )`
	`Last Year = 23C ( 73.4F )`
	`Peak Temperatures`
	`Last Hour = 23C ( 73.4F ) [At Wed, 21 May 2017 11:00:57]`
	`Last Day = 25C ( 77.0F ) [At Tue, 21 May 2017 15:37:23]`
	`Last Week = 27C ( 80.6F ) [At Fri, 20 May 2017 10:38:20]`
	`Last Month = 29C ( 84.2F ) [At Wed, 16 May 2017 15:34:13]`
	`Last Year = 29C ( 84.2F ) [At Wed, 16 May 2017 15:34:13]`
	• Configure the proxy parameter.
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername admin1`
	• Remove the the proxy parameter.
	`racadm set lifecyclecontroller.lcattributes.UserProxyUsername`
	• View the list of proxy attributes.
	`racadm get lifecycleController.lcAttributes`

jobqueue

Table 73. Details of jobqueue

Description	Enables you to view and delete a job or jobs in the current Job Queue. **NOTE:** • To run this subcommand, you must have the **Server control** privilege. • If an unexpected error message is displayed for any operation, ensure you delete some jobs in the jobqueue and retry the operation. • Use jobqueue create command after applying a pending device configuration. Else, you may see a job creation and deletion in the lclog. • Multi-object Set commands using XML, or JSON files do NOT require a jobqueue create command; jobs will be automatically created by the Set command.

Synopsis	`racadm jobqueue view -i<jobid>`
	`racadm jobqueue delete [-i<jobid>][--all]`
	where valid options are `-i` and `--all`.
	`racadm jobqueue create <fqdd> [-r <reboot type> ] [-s <start time> ] [-e <expiry time>]`
	`racadm jobqueue create <fqdd> [-r <reboot type>] [-s <start time>] [-e <expiration time>] [--realtime]`

Table 73. Details of jobqueue (continued)

Input	• `-i` — Specifies a job ID that is displayed or deleted.
	NOTE: The value `JID_CLEARALL` will force delete all the possible jobs in the queue.
	• `--all` — The job IDs that are not applicable are deleted.
	• `-fqdd` — Specifies an FQDD for which a job should be created.
	• `–r <reboot type>` — Specifies a reboot type.
	  ○ `none` — No Reboot Job. This option is the default value.
	  ○ `pwrcycle` — Power cycle.
	  ○ `graceful` — Graceful Reboot without forced shut down.
	  ○ `forced` — Graceful Reboot with forced shut down.
	• `start time` — Specifies a start time for job scheduled in the yyyymmddhhmmss format. TIME_NOW means immediate. Next Reboot means job is in scheduled state until the next manual restart.
	• `expiry time` — Specifies expiry time for the job execution in the yyyymmddhhmmss format. The job must start by this time. TIME_NA means expiry time is not applicable.
	• `--realtime` — Specifies the real time job.
	NOTE:
	  ○ `--realtime` is applicable for storage configuration commands run on PowerEdge servers with PERC 9 or newer storage controllers. To check if the controller supports realtime capability, run `storage get controllers -o -p RealtimeConfigurationCapability` command.
	  ○ `-r` option is not valid for real time configuration.

Example	• View jobs in the current job queue.
	`racadm jobqueue view`
	• View status of a specific job ID.
	`racadm jobqueue view -i <JobID>`
	• Issue configuration changes for a PowerEdge RAID controller then start a real time job to execute the changes.
	`racadm set RAID.Slot.3-1.RAIDdefaultWritePolicy WriteBack`
	`racadm set RAID.Slot.3-1.Name "Prod Workload"`
	`racadm jobqueue create RAID.Slot.3-1 -realtime`
	• Delete all possible jobs from the current job queue.
	`racadm jobqueue delete --all`
	• Delete a specific job from the current job queue.
	`racadm jobqueue delete -i <JobID>`
	• To clear all the jobs in the job queue.
	`racadm jobqueue delete -i JID_CLEARALL`
	• Create a Job for the provided FQDD and add to the job queue.
	`racadm jobqueue create NIC.Integrated.1-1 -r pwrcycle -s TIME_NOW -e 20120501100000`
	NOTE: As RACADM does not support warm boot job creation, you will not observe any LCL messages.
	• Create a real time configuration job for the specified RAID controller.
	`racadm jobqueue create RAID.Integrated.1-1 -s TIME_NOW --realTime`

Table 73. Details of jobqueue (continued)

	RAC1024: Successfully scheduled a job. Verify the job status using "racadm jobqueue view -i JID_xxxxx" command. Commit JID = JID_927008261880 • Create a commit job for InfiniBand objects. racadm jobqueue create <InfiniBand FQDD>

krbkeytabupload

Table 74. details of krbkeytabupload

Description	Uploads a Kerberos keytab file to iDRAC. To run this subcommand, you must have the Server Control privilege.
Synopsis	racadm krbkeytabupload [-f <filename>] <filename> is the name of the file including the path.
Input	-f — Specifies the filename of the keytab uploaded. If the file is not specified, the keytab file in the current directory is selected.
Output	When successful Kerberos Keytab successfully uploaded to the RAC message is displayed. If unsuccessful, appropriate error message is displayed.
Example	racadm krbkeytabupload -f c:\keytab\krbkeytab.tab

lclog

Table 75. Details of lclog

Description	Allows you to: • Export the lifecycle log history. The log exports to remote or local share location. • View the lifecycle log for a particular device or category • Add comment to a record in lifecycle log • Add a work note (an entry) in the lifecycle log • View the status of a configuration job. **NOTE:** • When you run this command on Local RACADM, the data is available to RACADM as a USB partition and may display a pop-up message. • While Lifecycle Controller is running for racadm commands, you cannot perform other operation which needs Lifecycle Controller Partition. If the Lifecycle Controller Partition is unreleased (because of improper closure of racadm command in the partition), then you must wait 20-35 minutes to clear the Lifecycle Controller Partition

Table 75. Details of lclog (continued)

Synopsis	`racadm lclog comment edit -q <sequence number> -m <Text to be added>`
	
	`racadm lclog view -i <number of records> -a <agent id>  -c <category> -s <severity> -b <sub-category> -q <sequence no> -n <number of records> -r <start timestamp> -e <end timestamp>`
	
	`racadm lclog export -f <filename> -u <username> -p <password> -l <CIFS or NFS or HTTP or HTTPS or TFTP or FTP share>`
	
	`racadm lclog export -f <filename> -u <username> -p <password> -l <CIFS or NFS or HTTP or HTTPS or TFTP or FTP share> --complete`
	
	`racadm -r <idracip> -u <idrac username> -p <idrac password> lclog export\ -f <filename> -u <username> -p <password> -l <CIFS or NFS or HTTP or HTTPS or TFTP or FTP share>`
	
	`racadm -r <idracip> -u <idrac username> -p <idrac password> lclog export\ -f <filename> -u <username> -p <password> -l <CIFS or NFS or HTTP or HTTPS or TFTP or FTP share> -- complete`
	
	`racadm lclog viewconfigresult -j <job ID>`
	
	`racadm lclog worknote add -m <text to be added>`

Input	• `-i`—Displays the number of records present in the active log.
	• `-a`—The agent ID used to filter the records. Only one agent ID is accepted. The value is case-insensitive. Valid Agent-ID values:
	  ○ `UEFI_SS_USC`
	  ○ `CusOsUp`
	  ○ `UEFI_Inventory`
	  ○ `iDRAC`
	  ○ `UEFI_DCS`
	  ○ `SEL`
	  ○ `RACLOG`
	  ○ `DE`
	  ○ `WSMAN`
	  ○ `RACADM`
	  ○ `iDRAC_GUI`
	• `-k`—Filters the records based on the filter string provided in **racadm lclog view** command.
	• `-c` — The category used to filter the records. Provides multiple categories using a "," as the delimiter. The value is case-insensitive. Valid category values:
	  ○ `System`
	  ○ `Storage`
	  ○ `Worknotes`
	  ○ `Config`
	  ○ `Updates`
	  ○ `Audit`
	• `-b` —The subcategory used to filter the records. Provides multiple subcategories using a "," as the delimiter.
	• `-q`—The sequence number from which the records must be displayed. Records older than this sequence number is displayed.
	  NOTE: This parameter input is an integer. If an alphanumeric input is provided, then invalid subcommand syntax error is displayed.

Table 75. Details of lclog (continued)

	• -n—Specifies the n number of records that must be displayed. On Local RACADM, if this parameter is not specified, by default 100 logs are retrieved.
	• -r—Displays events that have occurred after this time. The time format is yyyy-mm-dd HH:MM:SS. The time stamp must be provided within double quotation marks.
	• -e—Displays events that have occurred before this time. The time format is yyyy-mm-dd HH:MM:SS. The time stamp must be provided within double quotation marks.
	• -f <filename>—Specifies the file location and name where lifecycle log is exported.
	• -a <name>—Specifies the FTP Server IP address or FQDN, user name, and password.
	• -l <location>—Specifies the location of the network share or area on file system where lifecycle log is exported. Two types of network shares are supported:
	  ○ SMB-mounted path: //<ipaddress or domain name>/<share_name>/<path to image>
	  ○ NFS-mounted path: <ipaddress>:/<path to image>.
	• -u <user>—Specifies the user name for accessing the FTP server, or Domain and user name for accessing network share location.
	• -p <password>—Specifies the password for accessing the FTP server or share location.
	• -s—The severity used to filter the records. Provide multiple severities using a "," as the delimiter. The value is case-insensitive. Valid Severity values:
	  ○ Warning
	  ○ Critical
	  ○ Info
	• —m <Comment> —User comment string for a record that must be inserted in the Lifecycle Controller log. This comment string must be less than 128 characters. The text must be specified within double quotation mark.
	NOTE: HTML-specific characters may appear as escaped text.
	• -m <Worknote>—Adds a worknote (an entry) in the Lifecycle log. This worknote must be less than 256 characters. The text must be specified within double quotation mark.
	NOTE: HTML-specific characters may appear as escaped text.
	NOTE: For -m <worknote> and —m <comment> options, you need **test alert** privilege.
	• --complete—Export the complete Lifecycle log as a compressed file. The exported file is of the type .xml.gz.
	• -j<Job ID>—Specifies the Job ID.

Example	• Display the number of records present in the Lifecycle log.
	`racadm lclog view -i`
	• Display the records containing the string session
	`racadm lclog view -k session`
	• Display the iDRAC agent idrac records, under the storage category and storage physical disk drive subcategory, with severity set to warning.
	`racadm lclog view -a idrac -c storage -b pdr -s warning`
	• Display the records under storage and system categories with severities set to warning or critical.
	`racadm lclog view -c storage,system -s warning,critical`
	• Display the records having severities set to warning or critical, starting from sequence number 4.
	`racadm lclog view -s warning,critical -q 4`
	• Display 5 records starting from sequence number 20.
	`racadm lclog view -q 20 -n 5`

Table 75. Details of lclog (continued)

- Display all records of events that have occurred between 2011-01-02 23:33:40 and 2011-01-03 00:32:15.

```
racadm lclog view -r "2011-01-02 23:33:40" -e "2011-01-03 00:32:15"
```

- Display all the available records from the active Lifecycle log.

```
racadm lclog view
```

NOTE: If output is not returned when this command is used remotely, then retry increasing the remote RACADM timeout value. To increase the timeout value, run the command `racadm set iDRAC.Racadm.Timeout <value>`. Alternatively, you can retrieve few records.

- Add a comment to record number 5 in the Lifecycle log.

```
racadm lclog comment edit -q 5 -m "This is a test comment."
```

- Add a worknote to the Lifecycle log.

```
racadm lclog worknote add -m "This is a test worknote."
```

- Export the complete Lifecycle log in gzip format to a remote FTP share

```
racadm lclog export -f log.xml.gz -u ftppuser -p ftppwd -l ftp://
192.168.0/share
```

- Export the complete Lifecycle log in gzip format to a remote TFTP share

```
racadm lclog export -f log.xml.gz tftp://192.168.0.1/
```

- Export the Lifecycle log to a remote FTP share

```
racadm lclog export -f Mylog.xml -u ftppuser -p ftppwd -l ftp://
192.168.0/share
```

- Export the Lifecycle log to a remote TFTP share

```
racadm lclog export -f Mylog.xml tftp://192.168.0.1/
```

- Export the Lifecycle log to a remote CIFS share.

```
racadm lclog export -f Mylog.xml -u admin -p xxx -l //192.168.0/share
```

- Export the complete Lifecycle log in gzip format to a remote CIFS share.

```
racadm lclog export -f log.xml.gz -u admin -p xxx -l //192.168.0/share
--complete
```

- Export the Lifecycle log to a remote NFS share.

```
racadm lclog export -f Mylog.xml -l 192.168.0:/home/lclog_user
```

- Export the Lifecycle log to a local share using Local RACADM.

```
racadm lclog export -f Mylog.xml
```

- Export the complete Lifecycle log in gzip format to a local share using Local RACADM.

```
racadm lclog export -f log.xml.gz --complete
```

- Export the Lifecycle log `lclog` to a local share using Remote RACADM.

```
racadm -r 192.168.0 -u admin -p xxx lclog export -f Mylog.xml
```

- Display the status of the specified Job ID with Lifecycle Controller.

```
racadm lclog viewconfigresult -j JID_123456789012
```

Table 75. Details of lclog (continued)

	• Export the complete Lifecycle Log in gzip format to a remote HTTP share:
	`racadm lclog export -f log.xml.gz -u httpuser -p httppwd -l http://test.com`
	• Export the complete Lifecycle Log in gzip format to a remote HTTPS share
	`racadm lclog export -f log.xml.gz -u httpsuser -p httpspwd -l https://test.com`
	• Export the Life Cycle Log to a remote HTTP share
	`racadm lclog export -f Mylog.xml -u httpuser -p httppwd -l http://test.com`
	• Export the Life Cycle Log to a remote HTTPS share
	`racadm lclog export -f Mylog.xml -u httpsuser -p httpspwd -l https://test.com`

license

Table 76. license

Description	Manages the hardware licenses.
Synopsis	• `racadm license view [-c <component>]` • `racadm license import [-f <licensefile>] -l <location> -u <username> -p <password> -c <component> [-o]` • `racadm license import -u <username> -p <password> -f <license file name>\ -l <location> -c <FQDD> [-o]` • `racadm license export -f <license file> [-l <location>] [-u <username>] [-p <password>] -e <ID> -c  <component>` • `racadm license export -u <username> -p <password> -f <license file name>\ -l <location> -t <transaction ID>` • `racadm license export -u <username> -p <password> -f <license file name>\ -l <locaton> -e <entitlement ID>` • `racadm license export -u <username> -p <password> -f <license file name>\ -l <location> -c <FQDD>` • `racadm license delete -t <transaction ID> [-o]` • `racadm license delete -e <entitlement ID> [-o]` • `racadm license delete -c <component> [-o]`
Input	• `view` — View license information. • `import` — Installs a new license. • `export` — Exports a license file. • `delete` — Deletes a license from the system. • `-l <remote share location>` — Network share location from where the license file must be imported. Possible locations are NFS, CIFS, HTTP, HTTPS, FTP, TFTP.

Table 76. license (continued)

	If the file is on a shared location, then `-u <share user>` and `-p <share password>` must be used. **NOTE:** Using an invalid or unreachable IP for remote share (HTTP, HTTPS, FTP, TFTP) may not return an error message. • `-f` — Filename or path to the license file • `-e <ID>` — Specifies the entitlement ID of the license file that must be exported • `-t <ID>` — Specifies the transaction ID. • `-c <component>` — Specifies the component name on which the license is installed. • `-o` — Overrides the End User License Agreement (EULA) warning and imports, replaces or deletes the license. • `-u` — Username of the system where the file will be exported. • `-p` — Password of the user on the system where the file will be exported. **NOTE:** Only a user with **Server Control** and **Configure iDRAC** privilege can run the `import`, `delete`, and `replace` commands. **NOTE:** For export license, you need **Login** and **Configure iDRAC** privilege. **NOTE:** This command supports both IPV4 and IPV6 formats. IPV6 is applicable for CIFS and NFS type remote shares.

Examples

- View all License Information on System.

```
$racadm license view
```

```
iDRAC.Embedded.1
        Status               = OK
        Device               = iDRAC.Embedded.1
        Device Description   = iDRAC
        Unique Identifier    = H1VGF2S
                License #1
                        Status               = OK
                        Transaction ID       = 5
                        License Description  = iDRAC Enterprise License
                        License Type         = PERPETUAL
                        Entitlement ID       = Q3XJmvoxZdJVSuZemDehlcrd
                        License Bound        = H1VGF2S
                        Expiration           = Not Applicable
```

- Import a new license to a specific device in a known location.

```
$racadm license import -f license.xml -l //shareip/sharename
-u <share user> -p <share user password> -c idrac.embedded.1
```

- Import a license from a CIFS share to a device, in this case Embedded iDRAC.

```
 racadm license import -u admin -p xxx -f License.xml -l //192.168.0/licshare -c
idrac.embedded.1
```

- Import a license from an NFS share to a device, in this case Embedded iDRAC.

```
 racadm license import -f Licen.xml -l 192.168.0:/share -c idrac.embedded.1
```

- Import a license from an HTTP share to a device, in this case Embedded iDRAC.

```
 racadm license import -f Licen.xml -u httpuser -p httppswd -l http://test.com -c
idrac.embedded.1
```

- Import a license from an HTTPS share to a device, in this case Embedded iDRAC.

```
 racadm license import -f Licen.xml -u httpsuser -p httpspswd -l https://test.com -c
idrac.embedded.1
```

- Import a license from an FTP share to a device, in this case Embedded iDRAC.

```
 racadm license import -f Licen.xml -u ftpuser -p ftppwd -l ftp://test.com/share -c
idrac.embedded.1
```

- Import a license from an TFTP share to a device, in this case Embedded iDRAC.

```
 racadm license import -f Licen.xml -l tftp://test.com/share -c idrac.embedded.1
```

- Import a license by overriding the EULA warning.

```
racadm license import -u admin -p passwd -f License.xml -l //192.168.0/licshare -c
idrac.embedded.1 -o
```

```
-Import a license from the local filesystem using local racadm: racadm license import
-f License.xml -c idrac.embedded.1
```

```
-Import a license from the local filesystem using remote racadm: racadm license
import -f C:\Mylicdir\License.xml -c idrac.embedded.1
```

- Import a license from the local file system using Local RACADM.

```
 racadm license import -f License.xml -c idrac.embedded.1
```

- Import a license from the local file system using Remote RACADM.

```
 racadm -r 192.168.0.1 -u admin -p xxx license import -f C:\Mylicdir\License.xml -c
idrac.embedded.1
```

- Export a license file.

```
racadm license export -f license.xml -l 192.168.0:/share -u uname -p xxx -c
iDRAC.Embedded.1
```

  Instead of `-c`, you can use `-e <ID>` or `-t <ID>`

  For Remote RACADM, if filename is not specified, the files are exported to the directory where RACADM is running.

- Export license to an NFS share using transaction ID, in this case transaction 27.

```
racadm license export -f License.xml -l 192.168.0:/licshare
-t 27
```

- Export license to a CIFS share specifying the entitlement ID, in this case abcdxyz.

```
racadm license export -u admin -p passwd -f License.xml -l //192.168.0/licshare -e
abcdxyz
```

```
racadm license export -u httpuser -p httppwd -f License.xml -l http://test.com -e
abcdxyz
```

```
racadm license export -u httpsuser -p httpspwd -f License.xml -l https://test.com -e
abcdxyz
```

```
racadm license export -f License.xml -l tftp://test.com/share -e abcdxyz
```

```
racadm license export -u ftpuser -p ftppwd -f License.xml -l ftp://test.com/share -e
abcdxyz
```

- Export license to a CIFS share specifying the FQDD. While using the `-c` option and exporting a license from a device, more than one license file may be exported. Therefore if a filename is given, an index is appended to the end of the filename such as`LicenseFile0.xml`, `LicenseFile1.xml`. In this case, the device is Embedded iDRAC.

```
racadm license export -u admin -p xxx -f LicenseFile.xml -l //192.168.0/licshare -c
idrac.embedded.1
```

```
racadm license export -u httpuser -p httppswd -f LicenseFile.xml -l http://test.com
-c idrac.embedded.1
```

```
racadm license export -u httpsuser -p httpspswd -f LicenseFile.xml -l https://
test.com -c idrac.embedded.1
```

```
racadm license export -f LicenseFile.xml -l tftp://test.com/share -c idrac.embedded.1
```

```
racadm license export -u ftpuser -p ftppwd -f LicenseFile.xml -l ftp://test.com/share
-c idrac.embedded.1
```

- Delete licenses on a particular device, in this case Embedded iDRAC.

```
racadm license delete -c idrac.embedded.1
```

- Delete a license using entitlement ID, in this case xYZabcdefg.

```
racadm license delete -e xYZabcdefg
```

- Delete a license using transaction ID, in this case 2.

```
racadm license delete -t 2
```

netstat

Table 77. Details of netstat

Description	Display the routing table and network statistics.
Synopsis	`racadm netstat`
Privilege Required	Debug

Examples

- To display the routing table and network statistics, type the following command:

```
$ racadm netstat
```

networktransceiverstatistics

Table 78. Details of networktransceiverstatistics

Description	Displays the statistics for the list of NIC transceivers.
Synopsis	**NOTE:** The target server must have iDRAC Datacenter license to run this command. • `racadm networktransceiverstatistics` • `racadm networktransceiverstatistics <PORT FQDD>`

Table 78. Details of networktransceiverstatistics (continued)

	• `racadm networktransceiverstatistics -all`
Input	• `<PORT FQDD>`—fully qualified device descriptor of the NIC • `-all`—for all the available network transceivers

Example	• To display the available network transceivers managed by the server for statistics:
	`racadm networktransceiverstatistics`
	• To display the statistics of the network transceiver specified by NIC.Integrated.1-1-1:
	`racadm networktransceiverstatistics NIC.Integrated.1-1-1`
	• To display the statistics of all the network transceivers managed by the server:
	`racadm networktransceiverstatistics -all`

nicstatistics

Table 79. Details of nicstatistics

Description	Displays the statistics for the NIC FQDD.
Synopsis	• `racadm nicstatistics` • `racadm nicstatistics <NIC FQDD>` • `racadm hwinventory NIC.Integrated.1-1` **NOTE:** `Partition Driver State` and `Partition OS Driver State` properties are the same for nicstatistics.

Examples

- To display the statistics for the integrated NIC, type the following command:

```
racadm nicstatistics NIC.Integrated.1-1-1
Device Description:                          Integrated NIC 1 Port 1 Partition 1
Total Bytes Received:                        0
Total Bytes Transmitted:                     0
Total Unicast Bytes Received:                0
Total Multicast Bytes Received:              0
Total Broadcast Bytes Received:              0
Total Unicast Bytes Transmitted:             0
Total Multicast Bytes Transmitted:           0
Total Broadcast Bytes Transmitted:           0
FCS error packets Received:                  0
Alignment error packets Received:            Not Applicable
False Carrier error packets Received:        Not Applicable
Runt frames Received:                        0
Jabber error frames Received:                0
Total Pause XON frames Received:             Not Applicable
Total Pause XOFF frames Received:            Not Applicable
Discarded packets:                           0
Single Collision frames Transmitted:         Not Applicable
Multiple Collision frames Transmitted:       Not Applicable
Late Collision frames Transmitted:           Not Applicable
Excessive Collision frames Transmitted:      Not Applicable
Link Status:                                 Down
OS Driver State:                             Operational
FCoE Packets Received:                       Not Applicable
FCoE Packets Transmitted:                    Not Applicable
FC CRC Error Count:                          Not Applicable
FCoE Packets Dropped:                        Not Applicable
```

```
FCoE Link Failures:                          Not Applicable
Lan Unicast Packets Received:                0
Lan Unicast Packets Transmitted:             0
Lan FCS Receive Errors:                      Not Applicable
Partition Link Status:                       Down
Partition Driver State:                      Operational
Total RDMA Packets Received:                 0
Total RDMA Packets Transmitted:              0
Total RDMA Bytes Transmitted:                0
Total RDMA Bytes Received:                   0
Total RDMA Transmitted ReadRequest Packets:  Not Applicable
Total RDMA Transmitted Send Packets:         Not Applicable
Total RDMA Transmitted Write Packets:        Not Applicable
Total RDMA Protocol Errors:                  Not Applicable
Total RDMA Protection Errors:                Not Applicable
```

NOTE: When Port, Partition or RDMA statistics are not available, the output displays `No Port/Partition/RDMA Statistics found for FQDD <NIC FQDD>`.

- To get the network statistics, type the following command:

```
racadm nicstatistics

NIC.Integrated.1-1-1:QLogic 2x25GE QL41232HQCU NIC - 34:80:0D:2A:D9:E0
PartitionCapable :                           1

NIC.Integrated.1-1-2:QLogic 2x25GE QL41232HQCU NIC - 34:80:0D:2A:D9:E2
PartitionCapable :                           2

NIC.Integrated.1-1-3:QLogic 2x25GE QL41232HQCU NIC - 34:80:0D:2A:D9:E4
PartitionCapable :                           3

NIC.Integrated.1-1-4:QLogic 2x25GE QL41232HQCU NIC - 34:80:0D:2A:D9:E6
PartitionCapable :                           4
```

pcieslotview

Table 80. Details of pcieslotview

Description	The pcieslotview subcommand is used to display PCIe slot details.
Synopsis	racadm pcieslotview racadm pcieslotview --all racadm pcieslotview <slot>
Input	• `<slot>` — PCIe slot key. • `--all` — view details of all the PCIe Slots.

Examples

- To display available PCIe slot keys, run the following command:

```
racadm>>pcieslotview
PCIe.Slot.3#SysSlot
PCIe.Mezzanine.1#SysSlot
PCIeSSD.BaySlot.7:1#SysSlot
PCIeSSD.BaySlot.6:1#SysSlot
PCIeSSD.BaySlot.9:1#SysSlot
PCIeSSD.BaySlot.8:1#SysSlot
PCIeSSD.BaySlot.0:1#SysSlot
PCIeSSD.BaySlot.1:1#SysSlot
PCIeSSD.BaySlot.3:1#SysSlot
PCIeSSD.BaySlot.2:1#SysSlot
PCIeSSD.BaySlot.5:1#SysSlot
PCIeSSD.BaySlot.4:1#SysSlot
```

- To display details of all the PCIe Slots, run the following command:

```
racadm>>pcieslotview --all
Slot                : PCIe.Slot.3#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : False
Slot Type           : FullLength
PCIe Type           : Gen4
Lanes               : 16
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIe.Mezzanine.1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : False
Slot Type           : FullLength
PCIe Type           : Gen3
Lanes               : 8
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.7:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.6:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.9:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.8:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.0:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
----------------------------------------------------------
Slot                : PCIeSSD.BaySlot.1:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
```

```
CPU Affinity        : Not Applicable
-------------------------------------------------------------
Slot                : PCIeSSD.BaySlot.3:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
-------------------------------------------------------------
Slot                : PCIeSSD.BaySlot.2:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
-------------------------------------------------------------
Slot                : PCIeSSD.BaySlot.5:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
-------------------------------------------------------------
Slot                : PCIeSSD.BaySlot.4:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
-------------------------------------------------------------
```

- To display details of specific PCIe slot, run the following command:

```
racadm>>pcieslotview PCIeSSD.BaySlot.4:1#SysSlot
Slot                : PCIeSSD.BaySlot.4:1#SysSlot
Populated           : No
State               : Enabled
Hot Pluggable       : True
Slot Type           : U2
PCIe Type           : Gen3
Lanes               : 4
CPU Affinity        : Not Applicable
-------------------------------------------------------------
```

ping

Table 81. Details of ping

Description	Verifies if the destination IP address is reachable from iDRAC with the current routing-table contents. A destination IP address is required. Based on the current routing-table contents, an ICMP echo packet is sent to the destination IP address. To run this subcommand, you must have the **Debug** privilege.
Synopsis	`racadm ping <ipaddress>`
Input	`<ipaddress>` — The IP address of the remote endpoint to ping.

Table 81. Details of ping (continued)

Output	`PING 192.168.0 (192.168.0): 56 data bytes64 bytes from 192.168.0: seq=0 ttl=64 time=4.121 ms`
	`192.168.0 ping statistics`
	`1 packets transmitted, 1 packets received, 0 percent packet lossround-trip min/avg/max = 4.121/4.121/4.121 ms`

ping6

Table 82. Details of ping6

Description	Verifies if the destination IPv6 address is reachable from iDRAC or with the current routing-table contents. A destination IPv6 address is required. Based on the current routing-table contents, an ICMP echo packet is sent to the destination IPv6 address. To run this subcommand, you must have **Debug** privilege.
Synopsis	`racadm ping6 <ipv6address>`
Input	`<ipv6address>` — the IPv6 address of the remote endpoint to ping.

Example	`Pinging 2011:de11:bdc:194::31 from 2011:de11:bdc:194::101 with 32 bytes of data:`
	`Reply from 2011:de11:bdc:194::31: time<1ms`
	`Reply from 2011:de11:bdc:194::31: time<1ms`
	`Reply from 2011:de11:bdc:194::31: time<1ms`
	`Reply from 2011:de11:bdc:194::31: time<1ms`
	
	`Ping statistics for 2011:de11:bdc:194::31:`
	`Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),`
	`Approximate round trip times in milli-seconds:`
	`Minimum = 0ms, Maximum = 0ms, Average = 0ms`

plugin

Table 83. Details of RACADM Plugin

Description	The plugin subcommand allows you to perform operations on various plugins.
Synopsis	racadm plugin view racadm plugin view --all racadm plugin view <FQDD> racadm plugin enable <FQDD> racadm plugin disable <FQDD> racadm plugin restart <FQDD> racadm plugin uninstall <FQDD>
Input	• <FQDD>—Specifies the fully qualified device descriptor of the plugin. • `--all` —Specifies details of all plugins.
Example	To restart the plugin by FQDD: `racadm plugin restart Plugin.Integrated.INT.000`

Table 83. Details of RACADM Plugin (continued)

	To enable the plugin by FQDD
	`racadm plugin enable Plugin.Integrated.INT.000`
	To disable the plugin by FQDD
	`racadm plugin disable Plugin.Integrated.INT.000`
	To uninstall the plugin by FQDD
	`racadm plugin uninstall Plugin.Integrated.INT.000`
	To view the available plugins
	`racadm plugin view`
	To view the specific plugin details by FQDD
	`racadm plugin view Plugin.Integrated.INT.000`
	To display details of all the plugins
	`racadm plugin view --all`

racadm proxy

Table 84. Details of RACADM Proxy

Description	On the PowerEdge FX2/FX2s systems, you can manage the compute sleds and CMC using the iDRAC's RACADM Proxy feature that redirects commands from iDRAC to CMC. You can return the CMC response to local or remote RACADM.to access the CMC configuration and reporting features without placing the CMC on the management network. The CMC configuration commands are supported through local proxy when local configuration is enabled on iDRAC. **NOTE:** Local racadm and local racadm proxy runs with root user privilege.

Synopsis	Local RACADM proxy usage
	`racadm <CMC racadm subcommand> --proxy`
	Remote RACADM proxy usage
	`racadm <CMC racadm subcommand> -u <username> -p <password> -r <idrac-ip connected to cmc> --proxy`
	NOTE:
	• The attribute `racadm get -g cfgractuning -o cfgRacTuneChassisMgmtAtServer` must be set as non-zero in CMC.
	• The attribute `racadm get system.ChassisControl.ChassisManagementMonitoring` attribute must be enabled in iDRAC.
	• `--proxy` must be entered at the end of the command.
	• The root privilege is the default privilege for Local RACADM proxy.
	• The user privilege in the Remote RACADM proxy for CMC maps to iDRAC privilege.

Table 85. Details of CMC and iDRAC privilege for an operation

Required CMC Privilege for an operation	Required iDRAC Privilege for proxy operation

Table 84. Details of RACADM Proxy

Table 85. Details of CMC and iDRAC privilege for an operation (continued)

CMC Login User	Login
Chassis Configuration Administrator	Configure
User Configuration Administrator	Configure User
Clear Logs Administrator	Logs
Chassis Control Administrator	System Control
Server Administrator	System Control
Test Alert User	System Operations
Debug Command Administrator	Debug
Fabric x Administrator (where x is A, B, or C)	System Control

- When CMC is not placed on the network, the import, export, and file operation commands to CIFS, NFS, or FTP will fail.
- When the Remote or Local RACADM Proxy operation is in progress, if the iDRAC is reset, then the Proxy operation fails and the output is not displayed in Remote or Local RACADM.
- When racadm `getsystem.ChassisControl.ChassisManagementMonitoring` attribute is set to `monitor`, all the users including root users can only view the attribute.

  To configure, set the attribute to `monitor and manage` in CMC.

Input	• `-u` — Specifies the user name of the remote share that stores the catalog file. • `-p` — Specifies the password of the remote share that stores the catalog file. • `-r` — Specifies the iDRAC IP address connected to CMC.

Example	Local RACADM
	`racadm getractime --proxy`
	Remote RACADM
	`racadm getractime -u root -p xxx -r 192.168.0 getractime --proxy`

racdump

Table 86. Details of racdump

Description	Provides a single command to get dump, status, and general iDRAC board information. To run this subcommand, you must have the Debug permission. • General System/RAC Information • Coredump Information • Network Interface Statistics • Session Information • Process Information

Table 86. Details of racdump (continued)

	• RAC Firmware Build Log **NOTE:** The RAC debug logs are not part of Local and Remote RACADM. It is available only on Firmware RACADM
Synopsis	`racadm racdump`
Input	N/A

Example

```
==============================================================================
General System/RAC Information
============================================================================== RAC
Information: RAC Date/Time = Thu May 18 13:35:32 2017 Firmware Version = 3.00.00.00
Firmware Build = 12 Last Firmware Update = 04/04/2017 19:41:38 Hardware Version = 0.01
MAC Address = 18:03:73:F7:B7:CA Common settings: Register DNS RAC Name = 0 DNS RAC Name
= idrac Current DNS Domain = Domain Name from DHCP = Disabled IPv4 settings: Enabled =
1 Current IP Address = 192.168.0.1 Current IP Gateway = 192.168.0.1 Current IP Netmask
= 192.168.0.1 DHCP Enabled = 0 Current DNS Server 1 = 0.0.0.0 Current DNS Server 2 =
0.0.0.0 DNS Servers from DHCP = Disabled IPv6 settings: Enabled = 0 Current IP Address
1 = :: Current IP Gateway = :: Autoconfig = 1 Link Local IP Address = :: Current
IP Address 2 = :: Current IP Address 3 = :: Current IP Address 4 = :: Current IP
Address 5 = :: Current IP Address 6 = :: Current IP Address 7 = :: Current IP Address
8 = :: Current IP Address 9 = :: Current IP Address 10 = :: Current IP Address 11
= :: Current IP Address 12 = :: Current IP Address 13 = :: Current IP Address 14 = ::
Current IP Address 15 = :: DNS Servers from DHCPv6 = Disabled Current DNS Server 1
= :: Current DNS Server 2 = :: System Information: System Model = PowerEdge R720 System
Revision = I System BIOS Version = 3.0.00 Service Tag = Express Svc Code = Host Name
= localhost.localdomain OS Name = OS Version = Power Status = ON Fresh Air Capable =
No Watchdog Information: Recovery Action = None Present countdown value = 478 seconds
Initial countdown value = 480 seconds Embedded NIC MAC Addresses: NIC.Integrated.1-3-1
Ethernet = 78:2B:CB:4B:C2:ED NIC.Integrated.1-1-1 Ethernet = 78:2B:CB:4B:C2:EB
============================================================================== Coredump
Information ================================================================================
There is no coredump currently
available. ================================================================================
Network Interface Statistics
============================================================================== Kernel IPv6
routing table Destination Next Hop Flags Metric Ref Use Iface ::1/128 :: U 0 1 1
lo ::1/128 :: U 256 0 0 lo fe80::1a03:73ff:fef7:b7ca/128 :: U 0 0 1 lo fe80::/64 ::
U 256 0 0 eth1 ff00::/8 :: U 256 0 0 eth1 Kernel IP routing table Destination Gateway
Genmask Flags MSS Window irtt Iface 0.0.0.0 192.168.0.1 0.0.0.0 UG 0 0 0 bond0 192.168.0.1
0.0.0.0 192.168.0.1 U 0 0 0 bond0 Active Internet connections (w/o servers) Proto Recv-
Q Send-Q Local Address Foreign Address State tcp 0 0 192.168.0.1:53986 192.168.0.1:199
ESTABLISHED tcp 0 0 192.168.0.1:53985 192.168.0.1:199 ESTABLISHED tcp 0 0 192.168.0.1:199
192.168.0.1:53986 ESTABLISHED tcp 0 0 192.168.0.1:199 192.168.0.1:53985 ESTABLISHED
============================================================================== Session
Information ================================================================================
No active sessions currently exist.
============================================================================== Process
Information ================================================================================
PID USER VSZ STAT COMMAND 1 root 5236 S {systemd} /sbin/init 2 root 0 SW [kthreadd]
3 root 0 SW [ksoftirqd/0] 6 root 0 SW [watchdog/0] 7 root 0 SW< [khelper] 8 root 0
SW [kdevtmpfs] 9 root 0 SW< [netns] 153 root 0 SW [sync_supers] 155 root 0 SW [bdi-
default] 157 root 0 SW< [kblockd] 166 root 0 SW [khubd] 16233 root 40916 S racadm racdump
16246 root 3824 S sh -c /bin/ps 16247 root 3828 R /bin/ps 26851 root 0 SW [kworker/
u:3] ================================================================================
RAC Firmware Build Log
==============================================================================
BLD_TAG=idracfw_bldtag_3.00.00.00_691231_1800_00 BLD_VERSION=3.00.00.00 BLD_NUMBER=69.12.31
BLD_DATE=2.00.00.00.733 BLD_TYPE=idrac BLD_KERNEL=ZIMAGE
```

racreset

Table 87. Details of racreset

Description	Resets iDRAC. The reset event is logged in the iDRAC log. To run this subcommand, you must have the Configure iDRAC permission and configure user privilege. **NOTE:** After you run the `racreset` subcommand, iDRAC may require up to two minutes to return to a usable state.

Synopsis	`racadm racreset soft`
	`racadm racreset hard`
	`racadm racreset soft -f`
	`racadm recreset hard -f`

Input	• `-f` — This option is used to force the reset.
Output	`racadm racreset` `RAC reset operation initiated successfully. It may take up to a minute for the RAC to come online again.`
Example	• iDRAC reset `racadm racreset`

racresetcfg

Table 88. Details of racresetcfg

Description	Deletes your current iDRAC configuration and resets iDRAC to the factory default settings based on the options provided. If you run `racresetcfg` from a network client for example, a supported web browser, SSH, or Remote RACADM), use the default IP address which is 192.168.0.120. The `racresetcfg` subcommand does not reset the **cfgDNSRacName** object. To run this subcommand, you must have the `Configure iDRAC` privilege and `Configure User` privilege. **NOTE:** Certain firmware processes must be stopped and restarted to complete the reset to defaults. iDRAC becomes unresponsive for about 30 seconds while this operation completes.
Synopsis	• RAC reset operation initiated successfully. It may take several minutes for the RAC to come online again. `racadm racresetcfg` • `racadm racresetcfg -f` • `racadm racresetcfg [-all]` • `racadm racresetcfg [-rc]`

Table 88. Details of racresetcfg (continued)

Input	• `-f`—Force `racresetcfg`. If any vFlash partition creation or formatting is in progress, iDRAC returns a warning message. You can perform a force reset using this option. • `-all`—Discard all settings and reset user to shipping value. • `-rc`—Discard all settings and reset user to default user name and password. **NOTE:** When you perform `racresetcfg -rc` on Stomp and Noble/VRTX servers, by default, the DHCP is disabled.

Example	• Reset the configuration on iDRAC.
	`racadm racresetcfg`
	The RAC configuration has initiated restoration to factory defaults.
	Wait up to a minute for this process to complete before accessing the RAC again.
	• Reset when vFlash partition creation is in progress.
	`racadm racresetcfg`
	A vFlash SD card partition operation is in progress. Resetting the iDRAC may corrupt the vFlash SD card. To force `racresetcfg`, use the `-f` flag.
	• Reset all iDRAC's configurations to default, and preserve the user and network settings.
	`racadm racresetcfg -f`
	• Reset all iDRAC's configurations to default, and reset the user to shipping value.
	`racadm racresetcfg -all`
	• Reset all iDRAC's configurations to default, and reset the user to root/calvin.
	`racadm racresetcfg -rc`

recover

Table 89. Details of Recover sub-command

Description	Allows you to recover the previous version of the firmware. **NOTE:** To run this subcommand, you must have the Server Control privilege.
Synopsis	• To recover the BIOS firmware: `racadm recover <FQDD>` **NOTE:** BIOS.Setup.1-1 is the supported FQDD
Input	• ○ `FQDD`— Specify the FQDD of the device for which the recovery is required.
Examples	• To recover the BIOS firmware: `racadm recover BIOS.Setup.1-1` RAC1234: Recovery operation initiated successfully. Check the Lifecycle logs for the status of the operation by running RACADM command "racadm lclog view".

remoteimage

Table 90. Details of remoteimage

Description	Connects, disconnects, or deploys a media file on a remote server. To run this subcommand, you must log in with virtual media privilege for iDRAC.
Synopsis	• `racadm remoteimage -d` • `racadm remoteimage -s` • `racadm remoteimage -c [-u <username> -p <password> -l <image_path>]`
Input	• `-c`—Connect the image. • `-d`—Disconnect image. • `-u`—User name to access shared folder. • `-p`—Password to access shared folder. • `-l` —Image location on the network share; use single quotation marks around the location. • `-s` —Display current status. **NOTE:** Use a forward slash (/) when providing the image location. If backward slash (\) is used, override the backward slash for the command to run successfully. For example: `racadm remoteimage -c -u user -p xxx -l /\/\192.168.0.2/\CommonShare/\diskette` **NOTE:** The following options only apply to connect and deploy actions • `-u` —Username. User name to access the network share. For domain users, you can use the following formats: ○ domain/user ○ domain\user ○ user@domain • `-p` —Password to access the network share.

Example	• Disable Remote File Sharing.
	`racadm remoteimage -d`
	`Disable Remote File Started. Please check status using -s option to know Remote File Share is ENABLED or DISABLED.`
	• Check Remote File Share status.
	`racadm remoteimage -s`
	`Remote File Share is Enabled`
	`UserName`
	`Password`
	`ShareName //192.168.0/xxxx/dtk_3.3_73_Linux.iso`
	• Deploy a remote image on iDRAC CIFS Share.
	`racadm remoteimage -c -u admin -p xxx -l //192.168.0.32/dev/OM840.iso`
	• Deploy a remote image on iDRAC NFS Share.
	`racadm remoteimage -c -u root -p password -l '192.168.1.113:/opt/nfs/OM840.iso`

Table 90. Details of remoteimage (continued)

	• Deploy a remote image on iDRAC HTTP Share.
	`racadm remoteimage -c -u "user" -p "xxx" -l http://shrloc/foo.iso`
	• Deploy a remote image on iDRAC HTTPS Share.
	`racadm remoteimage -c -u "user" -p "xxx" -l https://shrloc/foo.iso`
	NOTE: -p and -u options are not mandatory in case of HTTP/HTTPS based **remoteimage** commands.

remoteimage2

Table 91. Details of remoteimage2

Description	Connects, disconnects, or deploys a media file on a remote server. To run this subcommand, you must log in with virtual media privilege for iDRAC. **NOTE:** Use this command to attach second remote image simultaneously.
Synopsis	• `racadm remoteimage2 -d` • `racadm remoteimage2 -s` • `racadm remoteimage2 -c [-u <username> -p <password> -l <image_path>]`
Input	• `-c`—Connect the image. • `-d`—Disconnect image. • `-u`—User name to access shared folder. • `-p`—Password to access shared folder. • `-l` —Image location on the network share; use single quotation marks around the location. • `-s` —Display current status. **NOTE:** Use a forward slash (`/`) when providing the image location. If backward slash (`\`) is used, override the backward slash for the command to run successfully. For example: `racadm remoteimage2 -c -u user -p xxx -l /\/\192.168.0.2/\CommonShare/\diskette` **NOTE:** The following options only apply to connect and deploy actions • `-u` —Username. User name to access the network share. For domain users, you can use the following formats: ○ domain/user ○ domain\user ○ user@domain • `-p` —Password to access the network share.

Example	• Disable Remote File Sharing.
	`racadm remoteimage2 -d`
	`Disable Remote File Started. Please check status using -s option to know Remote File Share is ENABLED or DISABLED.`

Table 91. Details of remoteimage2 (continued)

	• Check Remote File Share status.
	`racadm remoteimage2 -s`
	`Remote File Share is Enabled`
	`UserName`
	`Password`
	`ShareName //192.168.0/xxxx/dtk_3.3_73_Linux.iso`
	• Deploy a remote image on iDRAC CIFS Share.
	`racadm remoteimage2 -c -u admin -p xxx -l //192.168.0.32/dev/OM840.iso`
	• Deploy a remote image on iDRAC NFS Share.
	`racadm remoteimage2 -c -u root -p password -l '192.168.1.113:/opt/nfs/OM840.iso`
	• Deploy a remote image on iDRAC HTTP Share.
	`racadm remoteimage2 -c -u "user" -p "xxx" -l http://shrloc/foo.iso`
	• Deploy a remote image on iDRAC HTTPS Share.
	`racadm remoteimage2 -c -u "user" -p "xxx" -l https://shrloc/foo.iso`
	NOTE: -p and -u options are not mandatory in case of HTTP/HTTPS based **remoteimage2** commands.

rollback

Table 92. Details of rollback

Description	Allows you to roll back the firmware to an earlier version.
Synopsis	`racadm rollback <FQDD> [--reboot]` **NOTE:** To get the list of available rollback versions and FQDDs, run the `racadm swinventory` command.
Input	• `<FQDD>`: Specify the FQDD of the device for which the rollback is required. • `--reboot`: Performs a graceful system reboot after the BIOS firmware rollback.

Example	• To perform BIOS firmware rollback:
	`racadm rollback iDRAC.Embedded.1-1`
	`RAC1056: Rollback operation initiated successfully.`
	• To perform a graceful system reboot after BIOS firmware rollback:
	`racadm rollback BIOS.Setup.1-1 --reboot`

SEKM

Table 93. Details of SEKM

Description	The SEKM subcommand is used to enable and disable SEKM support for a server, rekey SEKM-supported devices on a server, and test the SSL connection to a given SEKM server. To run this subcommand, you must have the following privileges: • **Enable**—server control and configure iDRAC privileges

Table 93. Details of SEKM (continued)

	• **Disable**—server control and configure iDRAC privileges • **Rekey**—server control and configure iDRAC privileges • **Testserverconnection**—server control and configure iDRAC privileges • **Getstatus**—login privileges

Synopsis	**NOTE:** To run enable, disable, and testserverconnection commands, the target server must have SEKM license.
	To get SEKM status.
	`racadm sekm getstatus`
	To enable SEKM feature.
	`racadm sekm enable`
	NOTE: When you execute `racadm sekm enable`, a job ID is returned, query this job id to see the status of SEKM. If the query reports failure, check the job ID config results or Lifecycle Controller(LC) logs to find the reason for failure.
	To disable SEKM feature.
	`racadm sekm disable`
	To disable SEKM feature and purge KMS keys:
	`racadm sekm disable -purgeKMSKeys`
	To request iDRAC to rekey all the devices.
	`racadm sekm rekey <IDRAC FQDD>`
	To test primary SEKM server connection.
	`racadm sekm testserverconnection -p -i <index of the sekm server>`
	To test the secondary SEKM server connection.
	`racadm sekm testserverconnection -s -i <index of the sekm server>`
	To change security mode to SEKM from iLKM:
	`racadm sekm enable -passphrase <password>`

Input	• `-i`—Index of the SEKM server to test • `-p`—Indicates primary SEKM server • `-s`—Indicates secondary SEKM server • `-purgeKMSKeys`—Purge the Key Management Server keys • `-passphrase`—To enter a passphrase when updating encryption mode from iLKM to SEKM.

Example	To get SEKM status:
	`racadm sekm getstatus`
	To enable SEKM feature:
	`racadm sekm enable`
	To disable SEKM feature:
	`racadm sekm disable`

Table 93. Details of SEKM (continued)

	To disable SEKM feature and purge KMS keys:
	`racadm sekm disable -purgeKMSKeys`
	To request iDRAC to rekey all the devices:
	`racadm sekm rekey iDRAC.Embedded.1`
	To test primary SEKM server connection:
	`racadm sekm testserverconnection -p -i 1`
	To test the secondary SEKM server connection:
	`racadm sekm testserverconnection -s -i 1`
	To change security mode to SEKM from iLKM:
	`racadm sekm enable -passphrase password`
	NOTE: Only one primary server is supported. Option -i should be 1.
	NOTE: For **sekm getstatus**, the returned values and their meaning are as follows:
	• **Disabled**—SEKM functionality has been disabled on iDRAC and no SEKM functions are available.
	• **Enabled**—SEKM functionality has been enabled on iDRAC and all SEKM functions are available.
	• **Failed**—iDRAC is unable to communicate with the SEKM server.
	• **Unverified Changes Exist**—Changes have been made to the SEKM configuration but not yet enabled using the `racadm sekm enable` command.

serialcapture

Table 94. Details of serialcapture

Description	The serialcapture subcommand is used to is used to export and clear serial data captured from the system. To run this subcommand, you must have the following privileges:

Synopsis	**NOTE:** To run clear and export commands, the target server must have iDRAC Datacenter license.
	To clear serial data.
	`racadm serialcapture clear`
	To export serial data.
	`racadm serialcapture export -u <shareuser> -p <sharepassword> -l <NFS/CIFS/HTTP/HTTPS share> -f <FileName>`

Input	• `-f`—Filename of the exported serial data. • `-u`—Username of the remote share to where the file must be exported. The username must be specified as domain/username. • `-p`—Password for the remote share to where the file must be exported. • `-l`—Network share location to where the serial data captured must be exported. For more information on NFS or CIFS or HTTP or HTTPS share, see section on Usage examples.
Example	To clear serial data buffer. `racadm serialcapture clear`

Table 94. Details of serialcapture (continued)

	To export serial data to CIFS share.
	`racadm serialcapture export -u cifsuser -p cifspassword -l //1.2.3.4/cifsshare -f datafile`
	To export serial data to NFS share.
	`racadm serialcapture export -u nfssuser -p nfspassword -l 1.2.3.4:/nfsshare -f datafile`
	To export serial data to HTTP share.
	`racadm serialcapture export -u httpuser -p httppassword -l http:/1.2.3.4/httpshare -f datafile`
	To export serial data to HTTPS share.
	`racadm serialcapture export -u httpsuser -p httpspassword -l https:/1.2.3.4/cifsshare -f datafile`

sensorsettings

Table 95. sensorsettings

Description	Allows you to perform threshold settings of the sensor. To run this subcommand, you must have **Configure iDRAC** privilege. **NOTE:** An error message is displayed when the following is performed: • A set operation is performed on an unsupported FQDD. • Out of range settings is entered. • Invalid sensor FQDD is entered. • Invalid threshold level filter is entered.
Synopsis	`racadm sensorsettings set <FQDD> -level Min <value>`
Input	• `<FQDD>` — Sensor or corresponding sensor FQDD which needs a threshold configuration. Run the command, `racadm getsensorinfo` to view the sensor FQDD. The `R/W` field in the output getsensorinfo indicates if the sensor thresholds can be configured. Replace the `<FQDD>` field with the corresponding sensor FQDD that needs a threshold configuration. • `-level` — threshold level for the sensor setting. Values are `Max` or `Min`.
Examples	To set the minimum noncritical threshold level for a power sensor type. `racadm sensorsettings set iDRAC.Embedded.1#SystemBoardCPUUsage -level Max 95` **NOTE:** The entered value must be lesser or higher than the sensor critical threshold limit.

serveraction

Table 96. serveraction

Description	Enables you to perform power management operations on the blade system.

Table 96. serveraction (continued)

	To run this subcommand, you must have the Execute Server Control Commands permission.
Synopsis	`racadm serveraction <action> -f`
Input	`<action>` — Specifies the power management operation to perform. The options are: • `hardreset` — Performs a force reset (reboot) operation on the managed system. • `powercycle` — Performs a power-cycle operation on the managed system. This action is similar to pressing the power button on the system's front panel to turn off and then turn on the system. • `powerdown` — Powers down the managed system. • `powerup` — Powers up the managed system. • `powerstatus` — Displays the current power status of the server (ON or OFF). • `graceshutdown` — Performs a graceful shutdown of the server. If the operating system on the server cannot shut down completely, then this operation is not performed. • `nmi` — Generates the Non-masking interrupt (NMI) to halt the system operation. The NMI sends a high-level interrupt to the operating system, which causes the system to halt the operation to allow critical diagnostic or troubleshooting activities. **NOTE:** The halt system operation does not occur on systems running the Linux operating system. • `-f` — Force the server power management operation. This option is applicable only for the PowerEdge-VRTX platform. It is used with `powerdown`,`powercycle`, and `hardreset` options. **NOTE:** The action`powerstatus` is not allowed with `-a` option.
Output	Displays an error message if the requested operation is not completed, or a success message if the operation is completed.

Example	Get Power Status on iDRAC
	`racadm serveraction powerstatus`
	`Server Power Status: ON`
	`racadm serveraction powercycle`
	`Server power operation successful`

setled

Table 97. Details of setled

Description	Sets the state (blinking or not blinking) of the LED on the specified module. To run this subcommand, you must have the Configure iDRAC permission.
Synopsis	`racadm setled -l <ledState>`
Input	• `-l <ledState>` — Specifies the LED state. The values are: ○ 0 — No Blinking ○ 1 — Blinking

Table 97. Details of setled (continued)

Example	• From iDRAC stop LED from blinking.
	`racadm setled -l 0`
	`RAC0908: System ID LED blink off.`
	• From iDRAC start LED to blink.
	`racadm setled -l 1`
	`RAC0907: System ID LED blink on.`

setniccfg

Table 98. Details of setniccfg

Description	Sets the iDRAC IP address for static and DHCP modes. To run this subcommand, you must have the **Configure iDRAC** privilege. **NOTE:** The terms NIC and Ethernet management port may be used interchangeably.
Synopsis	• `racadm setniccfg -d` • `racadm setniccfg -d6` • `racadm setniccfg -s <IPv4Address> <netmask> <IPv4 gateway>` • `racadm setniccfg -s6 <IPv6 Address> <IPv6 Prefix Length> <IPv6 Gateway>` • `racadm setniccfg -o`
Input	• `-d` — Enables DHCP for the NIC. It is enabled by default. • `-d6` — Enables AutoConfig for the NIC (default is disabled). • `-s` — Enables static IP settings. The IPv4 address, netmask, and gateway must be specified. Otherwise, the existing static settings are used. `<ipaddress>`, `<netmask>`, and `<gateway>` must be typed as dot-separated strings. `racadm setniccfg -s 192.168.0 255.255.255.0 192.168.0` • `-s6` — Enables static IPv6 settings. The IPv6 address, Prefix Length, and the IPv6 Gateway can be specified. • `-o` — Enable or disable NIC.

Example	• To Configure static IPv4 address for iDRAC NIC
	`racadm setniccfg -s 192.168.0 255.255.255.0 192.168.0`
	`Static IP configuration enabled and modified successfully`
	• Configure DHCP mode for iDRAC IPv4
	`racadm setniccfg -d`
	`DHCP is now ENABLED`
	• Configure DHCP mode for iDRAC IPv6
	`racadm setniccfg -d6`
	`DHCP6 is now ENABLED`

sshpkauth

Table 99. Details of sshpkauth

Description	Enables you to upload and manage up to 4 different SSH public keys for each user. You can upload a key file or key text, view keys, or delete keys. This command has three mutually exclusive modes determined by the options — `upload`, `view`, and `delete`. To run this subcommand, you must have Configure user privilege.
Synopsis	• `racadm sshpkauth -i svcacct -k <key_index> -t <PK_key_text>` • `racadm sshpkauth -i svcacct -k <key_index> -f <PK_key_text>` • `racadm sshpkauth -v -i svcacct -k all|<key_index>` • `racadm sshpkauth -d -i svcacct -k all|<key_index>`
Input	• `-i <user_index>` — Index for the user. • `-k [<key_index> | all]` — Index to assign the PK key being uploaded. *all* only works with the `-v` or `-d` options. `<key_index>` must be between 1 to 4 or `all` on iDRAC. • `-t <PK_Key_Text>` — Key text for the SSH Public key. • `-f <filename>` — File containing the key text to upload. **NOTE:** The `-f` option is not supported on SSH or serial RACADM. • `-v` — View the key text for the index provided. • `-d` — Delete the key for the index provided.

Example

- Upload an invalid key to iDRAC User 2 in the first key space using a string.

```
$ racadm sshpkauth -i 2 -k 1 -t "This is invalid key
Text"
```

```
ERROR: Key text appears to be corrupt
```

- Upload a valid key to iDRAC User 2 in the first key space using a file.

```
$ racadm sshpkauth -i 2 -k 1 -f pkkey.key
```

```
Key file successfully uploaded.
```

- Get all keys for User 2 on iDRAC.

```
$ racadm sshpkauth -v -i 2 -k all
```

```
******************** User ID 2 ******************
```

```
Key ID 1:
```

```
ssh-rsa    AAAAB3NzaC1yc2EAAAABIwAAAIEAzzy+k2npnKqVEXGXIzo0sbR6JgA5YNbWs3ekoxXV
               fe3yJVpVc/
5zrrr7XrwKbJAJTqSw8Dg3iR4n3vUaP+lPHmUv5Mn55Ea6LHUslAXFqXmOdlThd
```

```
                wilU2VLw/iRH1ZymUFnut8ggbPQgqV2L8bsUaMqb5PooIIvV6hy4isCNJU=
1024-bit RSA, converted from OpenSSH by xx_xx@xx.xx
```

```
Key ID 2:
```

```
Key ID 3:
```

```
Key ID 4:
```

sslcertdelete

Table 100. Details of sslcertdelete

Description	Command to delete a custom signing certificate from iDRAC. To run this subcommand for web server certificates, you must have **Login to iDRAC** and **Configure iDRAC** privileges and for others only **Configure iDRAC** privilege is required.
Synopsis	• `racadm sslcertdelete -t <type>` • `racadm sslcertdelete -t 8 -i <instance(1 or 2)>`

Input	• `-t`—Specifies the type of certificate to delete. The type of certificate is:
	  ○ `3`—Custom signing certificate
	  ○ `4`—Client trust certificate for SSL
	  ○ `6`—SEKM SSL certificate
	  ○ `7`—KMS CA certificate
	  ○ `8`—Rsyslog Server CA
	  ○ `12`—Rsyslog Server CA cert
	  ○ `13`—Rsyslog Client trust cert
	  ○ `16`—Custom certificate
	• `-i`—Instance value should be 1 or 2. This is applicable only for Rsyslog Server CA certificate(-t 8).

Output	The following information is displayed: • The custom signing certificate was deleted. • The iDRAC resets and may be offline temporarily. • Telemetry certificate deleted successfully.

Example	• Use Remote RACADM to delete the custom signing certificate.
	`$ racadm -r 192.168.0 -u root -p xxx sslcertdelete -t 3`
	• Use Remote RACADM to delete the Client Trust certificate for SSL.
	`$ racadm -r 192.168.0 -u root -p xxx sslcertdelete -t 4`
	• Use Remote RACADM to delete the telemetry certificate.
	`racadm -r 192.168.0 -u root -p xxx sslcertdelete -t 8 -i 1`

sslcertdownload

Table 101. Details of sslcertdownload

Description	Downloads an SSL certificate from iDRAC to the client's file system. To run this subcommand for web server certificates, you must have **Login to iDRAC** and **Configure iDRAC** privileges and for others only **Control and Configure System** privilege is required.

Table 101. Details of sslcertdownload (continued)

	NOTE: This subcommand is only supported on the remote interface(s).
Synopsis	• `racadm sslcertdownload -f <filename> -t <type>` • `racadm sslcertupload -t 8 -i <instance(1 or 2)>`
Input	• `-f`—Specifies the target filename on local file system to download the certificate. • `-t <type>`—Specifies the type of certificate to download, either the CA certificate for Directory Service or the server certificate. ○ `1`—Server Certificate ○ `2`—Active Directory ○ `3`—Custom Signing Certificate ○ `4`—Client Trust Certificate for SSL ○ `6`—SEKM SSL certificate ○ `7`—KMS CA certificate ○ `8`—Rsyslog Server CA ○ `9`—RSA CA certificate ○ `10`—SCEP CA certificate ○ `11`—SCV Signed Certificate **NOTE:** This input is available for local RACADM only. ○ `12`—Rsyslog Server CA Cert ○ `13`—Rsyslog Client trust Cert ○ `16`—Custom certificate • `-i`—Instance value should be 1 or 2. This is only applicable for Rsyslog Server CA Certificate(`-t 8`).
Output	• Returns 0 when successful and non-zero number when unsuccessful. • `racadm sslcertdownload -t 8 -i 1` Telemetry certificate downloaded successfully.

Example	• Download server certificate:
	`racadm -r 192.168.0 -u root -p xxx sslcertdownload -t 1 -f cert.txt`
	• Download Active Directory certificate:
	`racadm -r 192.168.0 -u root -p xxx sslcertdownload -t 2 -f ad_cert.txt`
	• Download telemetry certificate:
	`racadm -r 192.168.0 -u root -p xxx sslcertdownload -t 8 -i 1`

NOTE: This command is not supported in the firmware RACADM interface as it is not a file system.

sslcertupload

Table 102. Details of sslcertupload

Description	Uploads a custom SSL server or CA certificate for Directory Service from the client to iDRAC. To run this subcommand, you must have the following privilege: • Active Directory certificate - **Configure iDRAC** and **Configure Users**. • Public Key Cryptography Standards (PKCS) format - **Configure iDRAC**. • Client Trust certificate for SSL format - **Configure iDRAC** • Web server certificate- **Login to iDRAC** and **Configure iDRAC** **NOTE:** For this command, files without extension or no extension are allowed.
Synopsis	• `racadm sslcertupload -t <type> -f <filename> -p <passphrase>` • `racadm sslcertupload -t 8 -i <instance(1 or 2)>`

Table 102. Details of sslcertupload (continued)

Input	• `-f`—Specifies the source filename in the local file system of the certificate uploaded.
	• `-p`—Pass phrase for the Public Key Cryptography Standards file.
	• `-t`—Specifies the type of certificate to upload. The type of certificate must be:
	  ○ `1`—Server certificate
	  ○ `2`—CA certificate for Directory Service
	  ○ `3`—Public Key Cryptography Standards (PKCS) format
	  ○ `4`—Client Trust certificate for SSL format
	  ○ `6`—SEKM SSL certificate
	  ○ `7`—KMS CA certificate
	  ○ `8`—Rsyslog Server CA
	  ○ `9`—RSA CA certificate
	  ○ `10`—SCEP CA certificate
	  ○ `12`—Rsyslog Server CA Cert
	  ○ `13`— Rsyslog Client trust Cert
	  ○ `16`—Custom certificate
	• `-i`—Instance value should be 1 or 2. This is applicable only for Rsyslog Server CA certificate(`-t 8`).

Output	• `racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 2 -f cert.txt` Certificate that is successfully uploaded to the RAC. • `racadm sslcertupload -t 8 -i 1` Telemetry certificate uploaded successfully.

Example	• Uploading a server certificate:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 1 -f cert.txt`
	• Uploading web server certificate and key:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 6 -f cert.txt -k key.txt`
	• Uploading Active Directory certificate:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 2 -f ad_cert.txt`
	• Uploading Client Trust certificate for SSL:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 4 -f https_cert.cer`
	• Uploading a telemetry certificate:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertupload -t 8 -i 1`

sslcertview

Table 103. Details of sslcertview

Description	Displays the SSL server or CA certificate that exists on iDRAC.
Synopsis	• `racadm sslcertview -t <type> [-A]` • `racadm sslcertview -t <type> -i <instance>`

Input	• `-t`—Specifies the type of certificate to view:
	  ○ `1`—Server Certificate
	  ○ `2`—Active Directory
	  ○ `4`—Client Trust certificate for SSL

Table 103. Details of sslcertview (continued)

	○ 6—SEKM SSL certificate ○ 7—KMS CA certificate ○ 8—Rsyslog CA certificate ○ 9—RSA CA certificate ○ 10—SCEP CA certificate ○ 12—Rsyslog Server CA cert ○ 13—Rsyslog Client trust cert ● -A—Prevents printing headers or labels. ● -i—Instance value should be 1 or 2. This is applicable only for Rsyslog Server CA certificate (-t 8) **NOTE:** If a certificate is generated using a comma ',' as one of the parameters, command displays the partial name in the following fields only until the comma: ● Organization Name ● Common Name ● Location Name ● State Name The rest of the string is not displayed.

Output	● `racadm sslcertview -t 1`
	
	`Serial Number 01`
	Subject Information:
	`Country Code (CC) US`
	`State (S) Texas`
	`Locality (L) Round Rock`
	`Organization (O) Dell Inc.`
	`Organizational Unit (OU) Remote Access Group`
	`Common Name (CN) iDRAC Default certificate`
	Issuer Information:
	`Country Code (CC) US`
	`State (S) Texas`
	`Locality (L) Round Rock`
	`Organization (O) Dell Inc.`
	`Organizational Unit (OU) Remote Access Group`
	`Common Name (CN) iDRAC Default certificate`
	`Valid From May 15 23:54:19 2017 GMT`
	`Valid To May 12 23:54:19 2027 GMT`

Table 103. Details of sslcertview (continued)

	• `racadm sslcertview -t 1 -A`
	`00`
	`US`
	`Texas`
	`Round Rock`
	`Dell Inc.`
	`Remote Access Group`
	`iDRAC default certificate`
	`US`
	`Texas`
	`Round Rock`
	`Dell Inc.`
	`Remote Access Group`
	`iDRAC default certificate`
	`May 15 23:54:19 2017 GMT`
	`May 12 23:54:19 2027 GMT`

Example	• To view the server certificate:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertview -t 1`
	`racadm -r 192.168.0.2 -u root -p xxx sslcertview -t 8 -i 1`
	• To view the server certificate with headers and labels omitted:
	`racadm -r 192.168.0.2 -u root -p xxx sslcertview -t 1 -A`
	`racadm -r 192.168.0.2 -u root -p xxx sslcertview -t 8 -i 1 -A`

sslcsrgen

Table 104. Details of sslcsrgen

Description	Generates and downloads a certificate signing request (CSR) file to the client's local file system. The CSR can be used for creating a custom SSL certificate that can be used for SSL transactions on iDRAC. To run this subcommand, you must have the Configure iDRAC privilege.

Table 104. Details of sslcsrgen (continued)

Synopsis	• `racadm sslcsrgen -g` • `racadm sslcsrgen [-g] [-f <filename>]` • `racadm sslcsrgen -s` • `racadm sslcsrgen -g -t <csr_type>` • `racadm sslcsrgen -g -f <filename> -t <csr_type>` • `racadm sslcsrgen -s -t <csr_type>`
Input	• `-g`—Generates a new CSR. • `-s`—Returns the status of a CSR generation process (generation in progress, active, or none). • `-f`—Specifies the filename of the location, `<filename>`, where the CSR is downloaded. **NOTE:** The `-f` option is only supported on the remote interfaces. • `-t` —Specifies the type of CSR to be generated. The options are: ○ 1—SSL cert ○ 2—Factory Identity Cert ○ 3—SEKM SSL Cert ○ 4—Rsyslog SSL Cert
Output	If no options are specified, a CSR is generated and downloaded to the local file system as `sslcsr` by default. The `-g` option cannot be used with the `-s` option, and the `-f` option can only be used with the `-g` option. The `sslcsrgen -s` subcommand returns one of the following status codes: • CSR was generated successfully. • CSR does not exist.

Example	• Display the status of CSR operation:
	`racadm sslcsrgen -s`
	• Generate and download a CSR to local file system using remote RACADM
	`racadm -r 192.168.0.120 -u <username> -p <password> sslcsrgen -g -f csrtest.txt`
	• Generate and download a CSR to local file system using local RACADM
	`racadm sslcsrgen -g -f c:\csr\csrtest.txt`
	• Generate a new certificate signing request for SSL type
	`racadm sslcsrgen -g -t 1`
	• Display the status of the current CSR operation for SSL type
	`racadm sslcsrgen -s -t 1`
	• Generate a new certificate signing request for Rsyslog SSL Cert
	`racadm sslcsrgen -g -t 4`
	• Display the status of the current CSR operation for Rsyslog SSL Cert
	`racadm sslcsrgen -s -t 4`

NOTE: Before a CSR can be generated, the CSR fields must be configured in the RACADM `iDRAC.Security` group. For example:

```
racadm set iDRAC.security.commonname MyCompany
```

NOTE: In or SSH console, you can only generate and not download the CSR file.

sslkeyupload

Table 105. Details of sslkeyupload

Description	Uploads SSL key from the client to iDRAC. To run this subcommand, you must have the **Login and Configure iDRAC** privileges.
Synopsis	`racadm sslkeyupload -t <type> -f <filename>`
Input	• `-t` — Specifies the key to upload. The value is: o `1` — SSL key used to generate the server certificate. • `-f` — Specifies the filename of the SSL key that must be uploaded.
Output	If upload is successful, the message `SSL key successfully uploaded to the RAC` is displayed. if upload is unsuccessful, error message is displayed.
Example	`racadm sslkeyupload -t 1 -f c:\sslkey.txt`

sslresetcfg

Table 106. Details sslresetcfg

Description	Restores the web-server certificate to factory default and restarts web-server. The certificate takes effect 30 seconds after the command is entered. To run this subcommand, you must have the Configure iDRAC privilege.
Synopsis	`racadm sslresetcfg`
Input	N/A
Example	`racadm sslresetcfg` `Web server is restarting to complete the certificate update. Please wait for a few minutes for this process to complete.`

storage

Table 107. Details of storage

Description	Allows you to run the commands to control storage arrays. To run this subcommand for configuring the storage properties, you must have the server control permission.
Synopsis	**Inventory** **NOTE:** You can also run the command using `raid` in place of the `storage` command.

Table 107. Details of storage (continued)

- To view the help details for get command, run the following command:

```
racadm storage help get
```

- To generate and view information about the inventory of storage root node, run the following command:

```
racadm storage get status
```

- To generate and view information about the inventory of controllers, run the following command:

```
racadm storage get controllers -o
```

```
racadm storage get controllers -o -p <property names separated by comma>
```

- To get the list of controllers, run the following command:

```
racadm storage get controllers
```

- To get the properties of a controller, run the following command:

```
racadm storage get controllers:<Controller FQDD>
```

NOTE: HBA, BOSS and PERC controllers connected through slimline cable will have FQDDs starting with `SL`. Example - `NonRaid.SL.5-1`, `AHCI.SL.5-1`, `RAID.SL.5-1` and so on.

- To generate and view information about the inventory of batteries, run the following command:

```
racadm storage get batteries -o
```

```
racadm storage get batteries --refkey <Controller FQDDs separated by
comma>
```

```
racadm storage get batteries --refkey <Controller FQDDs separated by
comma> -o
```

```
racadm storage get batteries --refkey <Controller FQDDs separated by
comma> -o -p <property names separated by comma>
```

- To generate and view information about the inventory of virtual disks, run the following command:

```
racadm storage get vdisks
```

```
racadm storage get vdisks --refkey <Controller FQDDs separated by
comma>
```

```
racadm storage get vdisks --refkey <Controller FQDDs separated by
comma> -o
```

```
racadm storage get vdisks --refkey <Controller FQDDs separated by
comma> -o -p <property names separated by comma>
```

- To generate and view information about the inventory of enclosures, run the following command:

Table 107. Details of storage (continued)

NOTE: FQDD of certain Backplanes may not be the same in Software Inventory and Hardware Inventory.

```
racadm storage get enclosures -o
```

```
racadm storage get enclosures --refkey <Connector FQDDs separated by
comma>
```

```
racadm storage get enclosures --refkey <Connector FQDDs separated by
comma> -o -p <property names separated by comma>
```

- To get the list of enclosures, run the following command:

```
racadm storage get enclosures
```

- To get the properties of an enclosure, run the following command:

```
racadm storage get enclosures:<Enclosure FQDD>
```

- To generate and view information about the inventory of physical disk drives, run the following command:

```
racadm storage get pdisks
```

```
racadm storage get pdisks -o
```

```
racadm storage get pdisks -o -p <property names separated by comma>
```

```
racadm storage get pdisks --refkey <Enclosure/Backplanes FQDDs
separated by comma>
```

```
racadm storage get pdisks --refkey <Enclosure/Backplanes FQDDs
separated by comma> -o
```

```
racadm storage get pdisks --refkey <Enclosure/Backplanes FQDDs
separated by comma> -o -p <property names separated by comma>
```

- To get the list of physical disks, run the following command:

```
racadm storage get pdisks
```

- To get the properties of a physical disk, run the following command:

```
racadm storage get pdisks:<PD FQDD>
```

- To get a list of physical disks in a virtual disk, run the following command:

```
racadm storage get pdisks -vdkey:<VD FQDD>
```

- To generate and view information about the inventory of fans, run the following command:

```
racadm storage get fans --refkey <Enclosure FQDDs separated by comma>
```

```
racadm storage get fans --refkey <Enclosure FQDDs separated by comma >
-o
```

```
racadm storage get fans --refkey <Enclosure FQDDs separated by comma>
-o -p <property names separated by comma>
```

Table 107. Details of storage (continued)

- To generate and view information about the inventory of EMMs, run the following command:

```
racadm storage get emms -refkey <Enclosure FQDDs separated by comma>
```

```
racadm storage get emms --refkey <Enclosure FQDDs separated by comma> -o
```

```
racadm storage get emms --refkey <Enclosure FQDDs separated by comma>
-o -p <property names separated by comma>
```

- To generate and view information about the inventory of PSU, run the following command:

```
racadm storage get psus -refkey <Enclosure FQDDs separated by comma>
```

```
racadm storage get psus --refkey <Enclosure FQDDs separated by comma> -o
```

```
racadm storage get psus --refkey <Enclosure FQDDs separated by comma>
-o -p <property names separated by comma>
```

Configuration

NOTE: For any storage operation executed, creating a configuration job is needed for the operation to be applied. Only storage operations that don't need a configuration job to apply the changes are blink/unblink. Also supported is the ability to stack multiple storage operations for one configuration job. Examples are `execute reset config`, `create VD`, `assign hotspare` and `create configuration job`. For more details on creating configuration job, refer to `jobqueue help create` command.

Below are the supported input options for storage operations:

- `--refkey`—Specifies the controller or enclosure FQDDs.
- `-name`—Specifies the new name for the virtual disk.

  NOTE: You can use alphanumeric characters, spaces, dashes, and underscores in the disk name. Any other special character that you enter is removed and replaced by a space while creating a virtual disk.
- `-size`—Specifies the new size for the virtual disk. It should be more than the current size.
  - `b`—Specifies the size in bytes
  - `k`—Specifies the size in kilobytes
  - `m`—Specifies the size in megabytes
  - `g`—Specifies the size in gigabytes
  - `t`—Specifies the size in terabytes
- `-rl`—Sets the storage level.
  - `r0`—storage 0-Striping
  - `r1`—storage 1-Mirroring
  - `r5`—storage 5-Striping with Parity
  - `r6`—storage 6-Striping with Extra Parity
  - `r10`—storage 10-Spanned Striping with Mirroring
  - `r50`—storage 50-Spanned Striping with Parity
  - `r60`—storage 60-Spanned Striping with Extra Parity
- `-new_rl`—Specifies the new possible raid level for the virtual disk
  - `r0`—RAID0
  - `r1`—RAID1
  - `r5`—RAID5
  - `r6`—RAID6

  NOTE: This is a mandatory option must provide with RLM operation. Possible raid migrations with disk addition are R0-R1, R0-R5/R6,R1-R0/R5/R6, R5-R0/R6, R6-R0/R5. Possible raid migrations without disk addition are R1-R0, R5-R0, R6-R0/R5.

Table 107. Details of storage (continued)

	• -wp{wt|wb|wbf}—Sets the write policy to Write Through, Write Back, or Write Back Force
	• -rp {nra|ra|ara}—Sets the read policy to No Read Ahead, Read Ahead, Adaptive Read Ahead
	• -ss—Specifies the stripe size to use.
	• -pdkey:<PD FQDD list>—Specifies the physical disk drive to use in the virtual disk.
	• -dcp—Sets the Disk Cache Policy in the Virtual Disk.
	  ○ enabled—Allows the virtual disk to use the cache.
	  ○ disabled—Does not allow the virtual disk to use the cache.
	  ○ default—Uses the default cache policy. For SAS drives, use the disabled option and for SATA drives, use the enabled option by default.
	• -name <VD name>—Specifies the name of the virtual disk.
	• -size <VD size>—Specifies the size of each virtual disk.
	  ○ b—Specifies the size in bytes
	  ○ k—Specifies the size in kilobytes
	  ○ m—Specifies the size in megabytes
	  ○ g—Specifies the size in gigabytes
	  ○ t—Specifies the size in terabytes
	• -sc—Number of spans in a virtual disk (required for multi-span RAID level)
	NOTE:
	  ○ From PERC9 storage controller onwards, if the value of controller.SupportRAID10UnevenSpans is supported, you can enter only 0 for this option while creating RAID level 10. The created RAID10 virtual disk displays the spandepth as 1 (default).
	  ○ For other controllers:
	  ▪ The default value for multi-span RAID levels is 2 and for basic RAID level is 1.
	  ▪ For hybrid RAID levels such as RAID10, RAID50, and RAID60, this option is mandatory.
	  ▪ The value for-sc option can be 0 only for RAID10.
	• -T10PIEnable—Creates a virtual disk with protection information.
	• -sd <SecureDisk>—Set the secure disk to encrypt the VD.
	  ○ enabled—Enable the encryption in VD.
	  ○ disabled—Disable the encryption in VD.
	• -key <Key id>—Specifies the key id.
	• -passwd <passphrase>—Specifies the passphrase.
	• -newpasswd <passphrase>—Specifies the new passphrase.
	• -assign {yes | no}—Assigns or unassigns the disk as a hotspare.
	• -type { ghs | dhs}—Assigns a global or dedicated hotspare.
	• -vdkey:<VD FQDD>—Assigns the dedicated hotspare to the specified virtual disk. This option is required for dedicated hotspare.
	• -state <start|stop>—start value starts a patrol read operation. stop value stops a running patrol read operation.
	NOTE:
	  ○ To start the operation, the Controller.PatrolReadMode must be in Manual mode.
	  ○ The values displayed for properties such as Patrol Read, Check Consistency Rate, Rebuild Rate, BGI Rate, and Reconstruction Rate are displayed in percentage.
	• -speed—Specifies the initialization of the Virtual disk.
	  ○ fast—Performs fast initialization.
	  ○ full—Performs slow initialization.
	• blink: <FQDD> or unblink: <FQDD>—<FQDD> can be physical disk drives, virtual disks, or PCIeSSD.
	• <PCIeSSD FQDD>—Specifies the PCIeSSD FQDD.
	• <PCIeSSD controller|enclosure FQDD>—Specifies the PCIeSSD controller or enclosure FQDD.

Table 107. Details of storage (continued)

- `preparetoremove`—Specifies the PCIeSSD drive to prepare for removal.

  NOTE: Ensure that ISM is installed and running to perform the `preparetoremove` operation.
- `cryptographicerase`—Specifies the PCIeSSD, SED (Self encrypting drive) or ISE device to perform the cryptographic erase operation.

  NOTE: If running this operation on an ISE or SED device, it must not be a part of a RAID volume. If the device is part of a RAID volume, delete the volume first and then run `cryptographicerase`.
- `-mdtype { windows | linux}`—Specifies the metadata type for the physical disk conversion to RAID

  NOTE: SWRAID only supports mdtype.
- `-mode`—Specifies the PERC key management type.
- To view the help details for a configuration command, run the following command:

```
racadm storage help <command>
```

```
where command can take below values
converttoraid, converttononraid, controllers, clearconfig,
createsecuritykey, createvd, deletesecuritykey,
 deletevd, encryptvd, enclosures, emms, fans, hotspare,
importconfig, ccheck, cryptographicerase, preparetoremove, blink,
unblink, cancelcheck, renamevd, cancelbgi, rebuild, cancelrebuild,
capacityexpanon, raidlevelmigrationinit, modifysecuritykey, psus,
pdisks, resetconfig, tempprobes, vdisks, patrolread, forceonline,
forceoffline,replacephysicaldisk,unlock,and setbootvd.
```

NOTE: iSM must be running on the operating system to run the preparetoremove method:

- To create, delete, and secure the virtual disks, to start or stop the consistency check on the specified virtual disk, run the following command:

```
racadm storage createvd:<Controller FQDD> -rl {r0|r1|r5|r6|r10|r50|r60}
[-wp {wt|wb|wbf}] [-rp {nra|ra|ara}] [-ss {1k|2k|4k|8k|16k|32k|64k|
128k|256k|512k|1M|2M|4M|8M|16M}]-pdkey:<comma separated PD FQDD> [-dcp
{enabled|disabled|default}] [-name <VD name>] [-size <VD size>{b|k|m|g|
t}] [-T10PIEnable] [-sd <secureDisk>]
```

NOTE:

- T10PI is no longer supported on PERC controllers.
- If the `<VD name>` exceeds 15 characters when running the `createvd` command, it gets corrected to a length of 15 characters once the command is completed successfully.

```
racadm storage init:<VD FQDD> -speed {fast|full}
```

```
racadm storage deletevd:<VD FQDD>
```

```
racadm storage encryptvd:<VD FQDD>
```

```
racadm storage createsecuritykey:<Controller FQDD> -key <Key id> -xxx
<passphrase>
```

```
racadm storage modifysecuritykey:<Controller FQDD> -key <Key id>-xxx
<old passphrase> -xxx <new passphrase>
```

```
racadm storage deletesecuritykey:<Controller FQDD>
```

```
racadm storage ccheck:<VD FQDD>
```

```
racadm storage cancelcheck:<VD FQDD>
```

Table 107. Details of storage (continued)

- To set virtual disk as bootvd and replace physical disk in virtual disk:

```
racadm storage setbootvd:<Controller FQDD> -vd <VD FQDD >
```

```
racadm storage replacephysicaldisk:<Source PD FQDD > -dstpd
<Destination PD FQDD>
```

- To rename, expansion and raid level migration of the virtual disks and, to rebuild, cancel rebuild and cancel the back-ground initialization, run the following command:

```
racadm storage renamevd:<VD FQDD > -name <new_vd_name>
```

```
racadm storage capacityexpansion:<VD FQDD > -size <new size VD> -pdkey
<PD FQDDs>
```

```
racadm storage capacityexpansion:<VD FQDD> -size <new size>.
```

```
racadm storage discardcache:<Controller FQDD>
```

```
racadm storage raidlevelmigration:<VD FQDD > -new_rl <raid_level>
-pdkey:<PD FQDD separated by commas>
```

```
racadm storage rebuild:<PD FQDD>
```

```
racadm storage cancelrebuild:<PD FQDD>
```

```
racadm storage cancelbgi:<VD FQDD>
```

- To convert the physical disk drives and assign or delete a hotspare. To scan physical disks that are connected to a controller and detect problem, run the following command:

```
racadm storage converttononraid:<PD FQDD>
```

```
racadm storage converttoraid:<PD FQDD>
```

```
-mdtype <metadataType>
```

NOTE: Convert to RAID or Non RAID is not supported on PERC 10 (RAID mode) and BOSS controller cards. PERC10 in eHBA mode supports convert to RAID or Non-RAID.

NOTE: `-mdtype` is only supported for SWRAID controllers.

```
racadm storage hotspare:<PD FQDD> -assign yes -type dhs -vdkey: <VD
FQDD>
```

```
racadm storage hotspare:<PD FQDD> -assign yes -type ghs
```

```
racadm storage hotspare:<PD FQDD> -assign no
```

```
racadm storage patrolread:<Controller FQDD> -state start|stop
```

NOTE: If the `-assign` option is `no`, you cannot add other options. If the `-assign` option is `yes` and if the `-type` option is not present, the global hotspare (ghs) is created by default.

Table 107. Details of storage (continued)

- To reset, clear, and import the storage configuration to the controller, run the following command:

```
racadm storage importconfig:<Controller FQDD>
```

```
racadm storage resetconfig:<Controller FQDD>
```

```
racadm storage clearconfig:<Controller FQDD>
```

- To unlock foreign configuration:

```
racadm storage unlock:<Controller FQDD> -key <Key id> -passwd
<passphrase>
```

- To start or stop a blink or identify operation on the specified storage device, run the following command:

```
racadm storage blink:<FQDD>
```

```
racadm storage blink:<PCIeSSD FQDD>
```

```
racadm storage unblink:<FQDD>
```

```
racadm storage unblink:<PCIeSSD FQDD>
```

NOTE:
  - The start or stop a blink feature is not supported for HHHL PCIe SSD devices.
  - BOSS-S2 controllers support blink and unblink feature on M.2 drives.

- To force a physical disk online, offline

```
racadm storage forceonline:<PD FQDD>
```

```
racadm storage forceoffline:<PD FQDD>
```

NOTE: Forcing a physical drive offline or online may result in loss of data. For more information, see the latest *PERC User's Guide*.

- To prepare the PCIeSSD drive for removal:

```
racadm storage preparetoremove <PCIeSSD FQDD>
```

NOTE: The Prepare to Remove task is not supported for HHHL PCIe SSD devices.

- To perform a cryptographic erase operation on PCIeSSD device, run the following command:

```
racadm storage cryptographicerase:<PCIeSSD FQDD>
```

- To perform a cryptographic erase operation on PCIeSSD device using PSID, run the following command:

```
racadm storage cryptographicerase:<SED FQDD> -psid <PSID>
```

- To set the encryption mode to Secure Enterprise Key Manager (SEKM) for the PERC controller or migrate from Local Key Manager (LKM) to SEKM mode:

```
racadm storage setencryptionmode:<Controller FQDD> -mode <KEY
Management Mode> -passphrase <Dell@123>
```

NOTE: Ensure that you enable SEKM on iDRAC before enabling SEKM on the PERC controller or while migrating the PERC controller from LKM to SEKM security mode.

- To request iDRAC to rekey all devices:

```
racadm storage rekey:<Controller FQDD>
```

Table 107. Details of storage (continued)

Input	• -o—Specifies the optimized version. • -p—Specifies the property name.

Example

Inventory

- To view the help details for get command, run the following command:

```
racadm>>storage help get
racadm storage help get
Storage monitoring and inventory of hardware RAID connected to the system.

Usage :
racadm storage get status
racadm storage help <Object type I/II>
racadm storage get <Object type I>
racadm storage get <Object type I> -current
racadm storage get <Object type I> -pending
racadm storage get <Object type I> -o
racadm storage get <Object type I> -o -p <property names separated by comma>
racadm storage get <Object type I>:<FQDDs of Object type I separated by comma> -p
<property names separated by comma>
racadm storage get <Object type I>:<FQDDs of Object type I separated by comma>
racadm storage get <Object type II> --refkey <reference keys separated by comma>
racadm storage get <Object type II> --refkey <reference keys separated by comma> -o
racadm storage get <Object type II> --refkey <reference keys separated by comma> -o
-p <property names separated by comma>
-------------------------------------------------------------------------------

Valid Options:
Object type I      : controllers, batteries, vdisks, pdisks, fans, emms, tempprobes,
psus, enclosures.
Object type II     : batteries, vdisks, pdisks, fans, emms, psus, tempprobes,
enclosures.
-current <optional>: Displays only the current Raid objects from storage.If -pending
not mentioned it will consider as the default option
-pending           : Displays only the Pending Raid Objects from Storage.
-o                 : Displays all the properties of the selected Key or Object.
-p                 : Displays the property names with filter.
FQDD's             : Displays all the properties of the FQDD's Key.
--refkey           : Displays all the reference key of Object type.
help               : Displays each object type help.
NOTE: Maximum Property names can be specified in -p option is = 10.
NOTE: Maximum FQDD's or refkey can be specified is = 3.
-------------------------------------------------------------------------------

Usage Examples :
racadm storage get controllers
racadm storage get psus
racadm storage get controllers -o
racadm storage get controllers -o -current
racadm storage get controllers -o -pending
racadm storage get enclosures -o
racadm storage get controllers -o -p name,status
racadm storage get vdisks -o -p layout,status
racadm storage get controllers:RAID.INTEGRATED.0
racadm storage get emms:EMM.Slot.0:ENCLOSURE.EXTERNAL.0-0:RAID.INTEGRATED.0
racadm storage get controllers:RAID.INTEGRATED.0 -p status
racadm storage get emms:EMM.Slot.0:ENCLOSURE.EXTERNAL.0-0:RAID.INTEGRATED.0 -p status
racadm storage get batteries --refkey RAID.INTEGRATED.0
racadm storage get pdisks --refkey ENCLOSURE.EXTERNAL.0-0:RAID.INTEGRATED.0
racadm storage get batteries --refkey RAID.INTEGRATED.0 -o -p status,state,name
racadm storage get fans --refkey RAID.INTEGRATED.0 -o -p status,speed,name
```

- To generate and view information about the inventory of controllers, virtual disks, storage enclosures, and physical disk drives.
  - To generate and view information about the inventory of storage root node.

This command retrieves the status of the inventory for storage root node.

```
racadm storage get status
raid Root Node Status : Ok
```

- To generate and view information about the inventory of controllers connected to the server.

  NOTE: If you set the NVMe mode to Non-Raid, then SWRAID RollupStatus is displayed as Unknown.

  ```
  racadm storage get controllers
  RAID.Integrated.1-1
  ```

  The following command is an optimized version and displays the full controller objects along with their keys:

  ```
  racadm storage get controllers -o
  RAID.Slot.4-1
     Status                              = Ok
     DeviceDescription                   = RAID Controller in Slot 4
     RollupStatus                        = Ok
     Name                                = PERC H740P Adapter  (PCI Slot 4)
     PciSlot                             = 4
     FirmwareVersion                     = 50.5.1-1733
     RebuildRate                         = 30
     BgiRate                             = 30
     CheckConsistencyRate                = 30
     ReconstructRate                     = 30
     PatrolReadRate                      = 30
     PatrolReadMode                      = Automatic
     PatrolReadState                     = Stopped
     CheckConsistencyMode                = Normal
     LoadBalanceSetting                  = Auto
     CopybackMode                        = ON
     PreservedCache                      = Not Present
     CacheMemorySize                     = 8192 MB
     PersistHotspare                     = Disabled
     KeyID                               = null
     SpindownUnconfiguredDrives          = Disabled
     SpindownHotspare                    = Disabled
     Timeintervalforspindown             = 30 (Minutes)
     SecurityStatus                      = Security Key Assigned
     EncryptionMode                      = Security Enterprise Key Manager
     SasAddress                          = 0x5D09466073045100
     PciDeviceId                         = 0x16
     PciSubdeviceId                      = 0x1fcb
     PciVendorId                         = 0x1000
     PciSubvendorId                      = 0x1028
     PciBus                              = 0x0
     PciDevice                           = 0x0
     PciFunction                         = 0x0
     BusWidth                            = Other
     SlotLength                          = Other
     SlotType                            = Other
     MaxCapableSpeed                     = 12.0 Gb/s
     LearnMode                           = Not supported
     T10PICapability                     = Not Capable
     SupportRAID10UnevenSpans            = Supported
     SupportEnhancedAutoForeignImport    = Supported
     EnhancedAutoImportForeignConfig     = Disabled
     SupportControllerBootMode           = Supported
     ControllerBootMode                  = Continue Boot On Error
     RealtimeConfigurationCapability     = Capable
     RaidMode                            = None
     SharedSlotAssignmentAllowed         = Not Applicable
     bootVD                              = Disk.Virtual.0:RAID.Slot.4-1
     CurrentControllerMode               = RAID
     SupportEnhancedHBA                  = Supported
  ```

The following command displays the filtered property values for all returned controller objects:

```
storage get controllers -o -p Name
RAID.Slot.2-1
Name              = PERC H345 Adapter (PCI Slot 2)
```

The following examples show the pending operation when used with `storage get <object>` commands:

To list storage objects without displaying the properties:

- This operation displays `vdisk`, which has pending operation:

  ```
  racadm storage get vdisks -pending
  DISK.Virtual.267386880:RAID.Slot.5-1
  ```

- This operation displays controllers, which have pending operations:

  ```
  racadm storage get controllers -pending
  RAID.Integrated.1-1
  ```

- This operation displays `pdisk`, which has pending operation:

  ```
  racadm storage get pdisks -pending
  Disk.Bay.20:Enclosure.Internal.0-1:RAID.Integrated.1-1
  ```

- This operation displays enclosures, which have pending operations:

  ```
  racadm storage get enclosures -pending
  Enclosure.Internal.0-1:RAID.Integrated.1-1
  ```

  Changing the attribute by using `racadm set storage` or storage configuration command displays the storage object in the `-pending` command output. If there are no pending objects, the following error message is displayed:

  ```
  racadm storage get pdisks -pending
  ERROR: STOR0103 : No physical disks are displayed.
  Check if the server has power, physical disks are available, and physical
  disks are connected to the enclosure or backplane.
  ```

The following examples show the pending operation while listing the properties:

By default, if there is no change in properties, the `-pending` command displays the current value. If the property has any pending objects, the `-pending` command displays the pending value.

- This operation displays the current state of `pdisk`, which is in `Ready` state:

  ```
  racadm>> racadm storage get pdisks -o -p state
  Disk.Bay.4:Enclosure.Internal.0-1:RAID.Integrated.1-1
     State                          = Ready
  ```

- This operation displays state of a `pdisk` on which `createvd` operation is pending:

  ```
  racadm>> racadm storage get pdisks -o -p state -pending
  Disk.Bay.4:Enclosure.Internal.0-1:RAID.Integrated.1-1
  ```

The following command displays the output for H755N adapter controller objects along with their keys:

```
racadm storage get controllers -o
   RAID.SL.8-1
   Status                          = Ok
   DeviceDescription               = RAID Controller in SL 8
   RollupStatus                    = Ok
   Name                            = PERC H755N Front (Embedded)
   FirmwareVersion                 = 52.13.0-3396
   DriverVersion                   = 7.713.12.00
   RebuildRate                     = 30
   BgiRate                         = 30
   CheckConsistencyRate            = 30
   ReconstructRate                 = 30
   PatrolReadRate                  = 30
```

```
   PatrolReadMode                    = Automatic
   PatrolReadState                   = Stopped
   CheckConsistencyMode              = Normal
   LoadBalanceSetting                = Auto
   CopybackMode                      = ON
   PreservedCache                    = Not Present
   CacheMemorySize                   = 8192 MB
   PersistHotspare                   = Enabled
   KeyID                             = null
   SpindownUnconfiguredDrives        = Disabled
   SpindownHotspare                  = Disabled
   Timeintervalforspindown           = 30 (Minutes)
   SecurityStatus                    = Encryption Capable
   EncryptionMode                    = None
   EncryptionCapability              = Local Key Management and Secure Enterprise
Key Manager Capable
   SasAddress                        = 0x54CD98F0BC453D00
   PciDeviceId                       = 0x10e2
   PciSubdeviceId                    = 0x1ae2
   PciVendorId                       = 0x1000
   PciSubvendorId                    = 0x1028
   PciBus                            = 0x1
   PciDevice                         = 0x0
   PciFunction                       = 0x0
   BusWidth                          = Unknown
   SlotLength                        = Unknown
   SlotType                          = Unknown
   MaxCapableSpeed                   = 16 GT/s
   LearnMode                         = Not supported
   T10PICapability                   = Not Capable
   SupportRAID10UnevenSpans          = Supported
   SupportEnhancedAutoForeignImport  = Supported
   EnhancedAutoImportForeignConfig   = Disabled
   SupportControllerBootMode         = Not Supported
   RealtimeConfigurationCapability   = Capable
   RaidMode                          = None
   SharedSlotAssignmentAllowed       = Not Applicable
   bootVD                            = None
   CurrentControllerMode             = RAID
   SupportEnhancedHBA                = Not Supported
   AutoConfigBehavior                = Off
```

The following command provides the properties of the specified SATA/SAS physical disk as a member of HW controller:

NOTE: PDISK property RaidType is not applicable for HWRAID and will be displayed/populated with the value Unknown.

```
storage get pdisks:Disk.Bay.0:Enclosure.Internal.0-1:RAID.Slot.1-1
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Slot.1-1
   Status                            = Ok
   DeviceDescription                 = Disk 0 in Backplane 1 of RAID Controller
in Slot 1
   RollupStatus                      = Ok
   Name                              = Solid State Disk 0:1:0
   State                             = Ready
   OperationState                    = Not Applicable
   PowerStatus                       = On
   Size                              = 3576.375 GB
   FailurePredicted                  = NO
   RemainingRatedWriteEndurance      = 100 %
   SecurityStatus                    = Not Capable
   BusProtocol                       = SAS
   MediaType                         = SSD
   AvailableSpare                    = 100 %
   DeviceSidebandProtocol            = NVMe-M11.0
   UsedRaidDiskSpace                 = 0.001 GB
   AvailableRaidDiskSpace            = 3576.375 GB
   Hotspare                          = NO
   Manufacturer                      = HGST
   ProductId                         = HUSTR7638ASS200
   Revision                          = S524
   SerialNumber                      = 4LV04PNX
```

```
   PartNumber                          = MY0C4DFRSN2007BK0007A00
   NegotiatedSpeed                     = 12.0 Gb/s
   ManufacturedDay                     = 2
   ManufacturedWeek                    = 47
   ManufacturedYear                    = 2017
   ForeignKeyIdentifier                = null
   SasAddress                          = 0x5000CCA08700468D
   WWN                                 = 0x5000CCA08700468D
   FormFactor                          = 2.5 Inch
   RaidNominalMediumRotationRate       = 1
   T10PICapability                     = Not Capable
   BlockSizeInBytes                    = 512
   MaxCapableSpeed                     = 12 Gb/s
   RaidType                            = Unknown
   SystemEraseCapability               = CryptographicErasePD
   SelfEncryptingDriveCapability       = Not Capable
   EncryptionCapability                = Not Capable
   CryptographicEraseCapability        = Capable
   Certified                           = Yes
   NonRAIDDiskCachePolicy              = Not Applicable
   EncryptionProtocol                  = None
```

- The following command displays the output for Backplane 1 objects along with their properties:

```
racadm storage get enclosures:Enclosure.Internal.0-1:NonRAID.Integrated.1-1
   Enclosure.Internal.0-1:NonRAID.Integrated.1-1
   State                               = Ready
   Status                              = Ok
   DeviceDescription                   = Backplane 1 on Connector 0 of Integrated
Storage Controller 1
   RollupStatus                        = Ok
   Name                                = BP15G+ 0:1
   BayId                               = 1
   FirmwareVersion                     = 1.04
   SasAddress                          = 0x34CC98F03FF22300
   SlotCount                           = 8
   PCI Express Generation              = Not Applicable
```

- To generate and view information about the inventory of batteries that are connected to the controller, run the following command:

```
racadm storage get batteries
```

The following command is an optimized version and displays the batteries along with their keys:

```
racadm storage get batteries -o
Battery.Integrated.1:RAID.Integrated.1-1
Name                              = Battery
DeviceDescription                 = Battery on Integrated raid Controller 1
Status                            = Ok
State                             = Ready
```

The following command displays the filtered property values for all battery objects:

```
racadm storage get batteries -o -p Name
Battery.Integrated.1:RAID.Integrated.1-1
Name  = Battery
```

The following command displays all battery keys that are connected to the controllers:

```
racadm storage get batteries --refkey RAID.Integrated.1-1
Battery.Integrated.1:RAID.Integrated.1-1
```

The following command is an optimized and filtered version:

```
racadm storage get batteries --refkey RAID.Integrated.1-1 -o -p Name
Battery.Integrated.1:RAID.Integrated.1-1
Name                            = Battery
```

- To generate and view information about the inventory of virtual disks that are connected to the controller, run the following command:

```
racadm storage get vdisks
Disk.Virtual.0:RAID.Integrated.1-1
```

The following command displays all virtual disk keys that are connected to the controllers:

```
racadm storage get vdisks --refkey RAID.Integrated.1-1
Disk.Virtual.0:RAID.Integrated.1-1
```

The following command is an optimized and filtered version:

```
racadm storage get vdisks -o -p DeviceDescription,OperationalState
Disk.Virtual.0:RAID.Integrated.1-1
DeviceDescription        = Virtual Disk 0 on Integrated raid Controller 1
OperationalState         = Not applicable
```

- To generate and view information about the inventory of virtual disks, run the following command:

```
racadm storage get vdisks -o
Disk.Virtual.2:RAID.Integrated.1-1
Status                                                                          Ok
DeviceDescription        Virtual Disk 2 on Integrated RAID Controller 1
Name                     OS
RollupStatus             Ok
State                    Online
OperationalState         Not applicable
Layout                   Raid-0
Size                     278.88 GB
SpanDepth                1
AvailableProtocols       SAS
MediaType                HDD
ReadPolicy               Read Ahead
WritePolicy              Write Back
StripeSize               64K
DiskCachePolicy          Default
BadBlocksFound           NO
Secured                  NO
RemainingRedundancy      0
EnhancedCache            Not Applicable
T10PIStatus              Disabled
BlockSizeInBytes         512
```

- To generate and view information about the inventory of storage enclosures that are connected to the connector.

This command displays all enclosure objects for the connector FQDD.

```
racadm storage get enclosures -o
Enclosure.Internal.0-1:RAID.Integrated.1-1
Status                                                                          Ok
State                    Ready
DeviceDescription        Backplane 1 on Connector 0 of Integrated RAID Controller 1
RollupStatus             Ok
Name                     BP13G+EXP 0:1
BayId                    1
FirmwareVersion          0.23
SasAddress               0x500056B31234ABFD
SlotCount                24
```

The following command displays all enclosure keys that are connected to the connectors:

```
racadm storage get enclosures --refkey RAID.Integrated.1-1
Enclosure.Internal.0-1:RAID.Integrated.1-1
```

The following command is an optimized and filtered version:

```
racadm storage get enclosures --refkey RAID.Integrated.1-1 -o -p Name
Enclosure.Internal.0-1:RAID.Integrated.1-1
Name = BP12G+EXP 0:1
```

- To generate and view information about the inventory of physical disk drives connected to the enclosure or backplanes, run the following command:

```
racadm storage get pdisks
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Integrated.1-1
```

The following command is an optimized version and displays the full controller objects along with their keys:

```
racadm storage get pdisks -o
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Slot.4-1
   Status                          = Ok
   DeviceDescription               = Disk 0 in Backplane 1 of RAID Controller in
Slot 4
   RollupStatus                    = Ok
   Name                            = Physical Disk 0:1:0
   State                           = Online
   OperationState                  = Not Applicable
   PowerStatus                     = Spun-Up
   Size                            = 1117.250 GB
   FailurePredicted                = NO
   RemainingRatedWriteEndurance    = Not Applicable
   SecurityStatus                  = Not Capable
   BusProtocol                     = SAS
   MediaType                       = HDD
   UsedRaidDiskSpace               = 200.001 GB
   AvailableRaidDiskSpace          = 917.250 GB
   Hotspare                        = NO
   Manufacturer                    = SEAGATE
   ProductId                       = ST1200MM0099
   Revision                        = ST31
   SerialNumber                    = WFK1BNX3
   PartNumber                      = CN0G2G54SGW0087A01RHA00
   NegotiatedSpeed                 = 12.0 Gb/s
   ManufacturedDay                 = 5
   ManufacturedWeek                = 28
   ManufacturedYear                = 2018
   ForeignKeyIdentifier            = null
   SasAddress                      = 0x5000C500B8ED7081
   FormFactor                      = 2.5 Inch
   RaidNominalMediumRotationRate   = 10000
   T10PICapability                 = Not Capable
   BlockSizeInBytes                = 512
   MaxCapableSpeed                 = 12 Gb/s
   RaidType                        = None
   SystemEraseCapability           = SecureErasePD
   SelfEncryptingDriveCapability   = Not Capable
   EncryptionCapability            = Not Capable
   CryptographicEraseCapability    = Capable
```

The following command displays the filtered property values for all returned controller objects:

```
racadm storage get pdisks -o -p State
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Integrated.1-1
State = Online
```

The following command displays all physical disk drive keys that are connected to the enclosures:

```
racadm storage get pdisks --refkey RAID.Integrated.1-1
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Integrated.1-1
```

The following command is an optimized version and displays all disk objects for the enclosure FQDD:

```
racadm storage get pdisks -o
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Slot.4-1
   Status                          = Ok
```

```
   DeviceDescription                = Disk 0 in Backplane 1 of RAID Controller in
Slot 4
   RollupStatus                     = Ok
   Name                             = Physical Disk 0:1:0
   State                            = Online
   OperationState                   = Not Applicable
   PowerStatus                      = Spun-Up
   Size                             = 1117.250 GB
   FailurePredicted                 = NO
   RemainingRatedWriteEndurance     = Not Applicable
   SecurityStatus                   = Not Capable
   BusProtocol                      = SAS
   MediaType                        = HDD
   UsedRaidDiskSpace                = 200.001 GB
   AvailableRaidDiskSpace           = 917.250 GB
   Hotspare                         = NO
   Manufacturer                     = SEAGATE
   ProductId                        = ST1200MM0099
   Revision                         = ST31
   SerialNumber                     = WFK1BNX3
   PartNumber                       = CN0G2G54SGW0087A01RHA00
   NegotiatedSpeed                  = 12.0 Gb/s
   ManufacturedDay                  = 5
   ManufacturedWeek                 = 28
   ManufacturedYear                 = 2018
   ForeignKeyIdentifier             = null
   SasAddress                       = 0x5000C500B8ED7081
   FormFactor                       = 2.5 Inch
   RaidNominalMediumRotationRate    = 10000
   T10PICapability                  = Not Capable
   BlockSizeInBytes                 = 512
   MaxCapableSpeed                  = 12 Gb/s
   RaidType                         = None
   SystemEraseCapability            = SecureErasePD
   SelfEncryptingDriveCapability    = Not Capable
   EncryptionCapability             = Not Capable
   CryptographicEraseCapability     = Capable
```

The following command is an optimized and filtered version:

```
racadm storage get pdisks --refkey Enclosure.Internal.0-1:RAID.Integrated.1-1 -o -p
State
Disk.Bay.0:Enclosure.Internal.0-1:RAID.Integrated.1-1
State = Online
```

- To generate and view information about the inventory of fans that are connected to the enclosure.

  The following command displays all the fan keys that are connected to the enclosures:

  ```
  racadm storage get fans --refkey <Enclosure FQDDs separated
  by comma>
  ```

  The following command displays all the fan objects for the enclosure FQDD:

  ```
  racadm storage get fans --refkey <Enclosure FQDDs separated
  by comma > -o
  ```

  ```
  racadm storage get fans --refkey <Enclosure FQDDs separated
  by comma> -o -p <property names separated by comma>
  ```

- To generate and view information about the inventory of EMMs connected to the enclosure.

  The following command returns all the EMM keys that are connected to the enclosures:

  ```
  racadm storage get emms -refkey <Enclosure FQDDs separated
  by comma>
  ```

  The following command is an optimized version and displays all the EMM objects for the enclosure FQDD:

  ```
  racadm storage get emms --refkey <Enclosure FQDDs separated
  by comma> -o
  ```

The following command is an optimized and filtered version:

```
racadm storage get emms --refkey <Enclosure FQDDs separated
by comma > -o -p <property names separated by comma>
```

- To generate and view information about the inventory of PSU connected to the enclosure.

  The following command displays all the PSUs connected to the enclosures:

  ```
  racadm storage get psus --refkey <Enclosure FQDDs separated
  by comma>
  ```

  The following command is an optimized version and displays all the PSUs objects for the enclosure FQDD:

  ```
  racadm storage get psus --refkey <Enclosure FQDDs separated
  by comma > -o
  ```

  The following command is an optimized and filtered version:

  ```
  racadm storage get psus --refkey <Enclosure FQDDs separated
  by comma> -o -p <property names separated by comma>
  ```

- To get the list of enclosures and properties of the PCIeSSD enclosure.
  - The following command provides the list of enclosures:

    ```
    racadm storage get enclosures
    Enclosure.Internal.0-1:RAID.Integrated.1-1\
    Enclosure.Internal.0-1:PCIeExtender.Slot.3
    ```

  - The following command provides the properties of the specified PCIeSSD enclosure:

    ```
    racadm storage get enclosures:Enclosure.Internal.0-1:PCIeExtender.Slot.3
    Enclosure.Internal.0-1:PCIeExtender.Slot.3
    RollupStatus = Ok
    DeviceDescription = Enclosure.Internal.0-1:PCIeExtender.Slot.3
    Name = PCIe SSD BP 1
    SlotCount = 4
    FirmwareVersion = 0.80
    PcieSSDBusId = 182
    PcieSSDDeviceId = 0
    PcieSSDFunctionId = 0
    ```

  - To get the list of physical disks and properties of the specified PCIeSSD physical disk.

    The following command provides the list of physical disks:

    ```
    racadm storage get pdisks
    Disk.Bay.0:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.1:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.2:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.3:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.4:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.5:Enclosure.Internal.0-1:RAID.Integrated.1-1
    Disk.Bay.8:Enclosure.Internal.0-1:PCIeExtender.Slot.3
    Disk.Bay.6:Enclosure.Internal.0-1:PCIeExtender.Slot.3
    Disk.Bay.7:Enclosure.Internal.0-1:PCIeExtender.Slot.3
    Disk.Bay.9:Enclosure.Internal.0-1:PCIeExtender.Slot.3
    ```

    The following command provides the properties of the specified PCIe SSD physical disk as a member of SW RAID:

    ```
    racadm storage get pdisks:Disk.Bay.0:Enclosure.Internal.0-1
    Disk.Bay.0:Enclosure.Internal.0-1
       Status                          = Ok
       DeviceDescription               = PCIe SSD in Slot 0 in Bay 1
       Name                            = PCIe SSD in Slot 0 in Bay 1
       State                           = Ready
       Size                            = 931.250 GB
       BusProtocol                     = NVMe
       MediaType                       = SSD
       AvailableSpare                  = 100 %
       Model                           = Dell Express Flash NVMe P4510 1TB SFF
    ```

```
   ProductId                         = a54
   SerialNumber                      = PHLJ9106019V1P0FGN
   DeviceProtocol                    = NVMe-MI1.0
   DeviceSidebandProtocol            = NVMe-M11.0
   Manufacturer                      = Intel
   PCIeNegotiatedLinkWidth           = x2
   PCIeCapableLinkWidth              = x4
   MaxCapableSpeed                   = 8 GT/s
   NegotiatedSpeed                   = 8 GT/s
   FormFactor                        = 2.5 Inch
   Revision                          = VDV1DP23
   RemainingRatedWriteEndurance      = 100 %
   FailurePredicted                  = NO
   PcieSSDBusId                      = 101
   PcieSSDDeviceId                   = 0
   PcieSSDFunctionId                 = 0
   RAIDStatus                        = Ready
   HotSpareStatus                    = No
   AvailableRaidDiskSpace            = 930.750 GB
   FreeSizeInBytes                   = 930.75 GB
   RaidType                          = Windows Software RAID
   SasAddress                        = Not Applicable
   WWN                               = 0x3b5cd8a65c06bfd6
   Certified                         = Not Applicable
   NonRAIDDiskCachePolicy            = Not Applicable
   OperationState                    = Not Applicable
   PowerStatus                       = On
   SecurityStatus                    = Not Capable
   UsedRaidDiskSpace                 = 0.500 GB
   T10PICapability                   = Not Capable
   BlockSizeInBytes                  = 512
   SystemEraseCapability             = CryptographicErasePD
   EncryptionCapability              = Not Capable
   CryptographicEraseCapability      = Capable
   EncryptionProtocol                = None
   PartNumber                        =
   ForeignKeyIdentifier              = null
   RaidNominalMediumRotationRate     = 0
```

To get the list of controllers and properties of the PCIeSSD controller:

The following command provides the list of controllers:

```
racadm storage get controllers
RAID.Integrated.1-1
PCIeExtender.Slot.3
```

The following command provides the properties of the specified PCIe SSD controller:

```
racadm storage get controllers:PCIeExtender.Slot.3
PCIeExtender.Slot.3
RollupStatus = Ok
DeviceDescription = PCIe Extender in PCIe Slot 3
Status = Ok
Name = PCIeExtender 3 (PCI Slot 3)
```

The following command provides the properties of the specified PCIe SSD physical disk as a member of HW controller:

```
racadm storage get pdisks:Disk.Bay.4:Enclosure.Internal.0-1:RAID.SL.8-1
Disk.Bay.4:Enclosure.Internal.0-1:RAID.SL.8-1
   Status                            = Ok
   DeviceDescription                 = Disk 4 in Backplane 1 of RAID Controller in
SL 8
   Name                              = Solid State Disk 0:1:4
   State                             = Ready
   Size                              = 931.000 GB
   BusProtocol                       = PCIe
   MediaType                         = SSD
   AvailableSpare                    = 100 %
   Model                             = Dell Express Flash NVMe P4510 1TB SFF
   ProductId                         = Dell Express Flash NVMe P4510 1TB SFF
   SerialNumber                      = BTLJ928309UK1P0FGN
```

```
    DeviceProtocol                    = NVMe-MI1.0
    DeviceSidebandProtocol            = NVMe-M11.0
    Manufacturer                      = Intel
    PCIeNegotiatedLinkWidth           = x2
    PCIeCapableLinkWidth              = x4
    MaxCapableSpeed                   = 8 GT/s
    NegotiatedSpeed                   = 8 GT/s
    FormFactor                        = 2.5 Inch
    Revision                          = VDV1DP23
    RemainingRatedWriteEndurance      = 100 %
    FailurePredicted                  = NO
    PcieSSDBusId                      = Not Applicable
    PcieSSDDeviceId                   = Not Applicable
    PcieSSDFunctionId                 = Not Applicable
    RAIDStatus                        = Ready
    HotSpareStatus                    = No
    AvailableRaidDiskSpace            = 931.000 GB
    FreeSizeInBytes                   = 931.00 GB
    RaidType                          = None
    SasAddress                        = Not Applicable
    WWN                               = 0x140ce5ce4d25c
    Certified                         = Yes
    NonRAIDDiskCachePolicy            = Not Applicable
    OperationState                    = Not Applicable
    PowerStatus                       = On
    SecurityStatus                    = Not Capable
    UsedRaidDiskSpace                 = 0.001 GB
    T10PICapability                   = Not Capable
    BlockSizeInBytes                  = 512
    SystemEraseCapability             = CryptographicErasePD
    EncryptionCapability              = Not Capable
    CryptographicEraseCapability      = Capable
    EncryptionProtocol                = None
    PartNumber                        = CN0FJ9YXPESIT9AD010TA02
    ForeignKeyIdentifier              = null
    RaidNominalMediumRotationRate     = 0
```

Configuration

- To view the help details for a configuration command, run the following command:

```
racadm>> racadm storage help createvd
Storage configuration of hardware RAID connected to the system.

Usage:
racadm storage createvd:<Controller FQDD> -rl {r0|r1|r5|r6|r10|r50|r60}[-wp {wt|wb|
wbf}] [-rp {nra|ra|ara}]
[-ss {1k|2k|4k|8k|16k|32k|64k|128k|256k|512k|1M|2M|4M|8M|16M}]
-pdkey:<comma separated PD FQDD> [-dcp {enabled|disabled|default}]
[-name <VD name>] [-size <VD size>{b|k|m|g|t}] [-T10PIEnable]
------------------------------------------------------------------------------

Options :
-rl                 : Set the RAID Level
 r0                 : RAID 0  - Striping
 r1                 : RAID 1  - Mirroring
 r5                 : RAID 5  - Striping with Parity
 r6                 : RAID 6  - Striping with Extra Parity
 r10                : RAID 10 - Spanned Striping with Mirroring
 r50                : RAID 50 - Spanned Striping with Parity
 r60                : RAID 60 - Spanned Striping with Extra Parity
 -wp {wt | wb | wbf}    : Set the write policy to Write Through or Write Back or
Write Back Force
 -rp {nra|ra|ara}       : Set the read policy to No Read Ahead, Read Ahead, Adaptive
Read Ahead
 -ss                    : Specify the stripe size to use
 -pdkey:<PD FQDD list>  : The PDs to use in the VD.
 -dcp                   : Set the Disk Cache Policy in the VD
 enabled           : Enabled - Allow the disk to use it's cache
 disabled          : Disabled - Disallow the disk from using it's cache
 default           : Default - Use the default cache policy.
 SAS Drives  - Use Disabled by Default
```

```
 SATA Drives - Use Enabled by Default
 -name <VD name>        : The name to give the VD
 -size <VD size>        : The size of the VD
 b                : Specify the size in bytes
 k                : Specify the size in kilobytes
 m                : Specify the size in megabytes
 g                : Specify the size in gigabytes
 t                : Specify the size in terabytes
 -sc              : Spandepth: Number of spans in a virtual disk

Note:
 - This option is mandatory for hybrid raid level like RAID 10, RAID50 and RAID60.
 - The default value is one for basic RAID levels.
 - If RAID10 Uneven Span is Supported then for RAID10:
 -    -sc option will be optional.
 -    Will allow only 0 value for this option.
 -T10PIEnable                : To create a VD with PI
-------------------------------------------------------------------------------
Description :
Create a VD.
-------------------------------------------------------------------------------

Examples :
racadm storage createvd:RAID.Integrated.1-1 -rl r0
-pdkey:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
```

- To create, delete, and secure the virtual disks.
  - The following command creates a virtual disk:

    ```
    racadm storage createvd:RAID.Integrated.1-1 -rl r0
    -pdkey:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
    ```

  - The following command starts an initialization operation on a specified virtual disk:

    ```
    racadm storage init:Disk.Virtual.0:RAID.Integrated.1-1 -speed fast
    ```

  - The following command deletes the specified virtual disk:

    ```
    racadm storage deletevd:Disk.Virtual.0:RAID.Integrated.1-1
    ```

  - The following command encrypts the specified virtual disk:

    ```
    racadm storage encryptvd:Disk.Virtual.0:RAID.Integrated.1-1
    ```

    NOTE: Virtual disk must be created with either SED or NVMe drives behind PERC.

  - The following command assigns Local Key Management (LKM) security key for controller:

    ```
    racadm storage createsecuritykey:RAID.Integrated.1-1 -key <Key id> -xxx <passphrase>
    ```

  - The following command modifies Local Key Management (LKM) security key for controller:

    ```
    racadm storage modifysecuritykey:RAID.Integrated.1-1 -key <Key id> -oldpasswd
    <oldpassphrase> -newpasswd <newpassphrase>
    ```

  - The following command deletes Local Key Management (LKM) security key for controller:

    ```
    racadm storage deletesecuritykey:RAID.Integrated.1-1
    ```

- To convert the physical disk drive and assign hotspare.
  - The following command converts the specified nonstorage physical disk drive to a storage capable physical disk drive:

    ```
    racadm storage converttoraid:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
    ```

  - The following command converts the specified physical disk drive to a nonstorage physical disk drive:

    ```
    racadm storage
    converttononraid:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
    ```

- The following command assigns or unassigns a global or dedicated Hot spare:

```
racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
-assign no
```

```
racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
-assign yes -type ghs
```

```
racadm storage hotspare:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
-assign yes -type dhs -vdkey:Disk.Virtual.0:RAID.Integrated.1-1
```

- The following command converts the specified nonstorage physical disk to a storage capable physical disk with windows meta data

```
racadm storage converttoraid:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
-mdtype windows
```

- To reset, clear, and import the storage configuration to the controller.
  - The following command imports the current foreign configuration from the controller:

```
racadm storage importconfig:RAID.Integrated.1-1
```

  - The following command deletes all virtual disks and unassigns hot spare from the associated controller:

```
racadm storage resetconfig:RAID.Integrated.1-1
```

  - The following command clears the current foreign configuration from the controller:

```
racadm storage clearconfig:RAID.Integrated.1-1
```

NOTE: After a `resetconfig` or `clearconfig` operation, the data cannot be reversed.

- To blink or unblink the PCIeSSD device.
  - The following command blinks the specified PCIeSSD device:

```
racadm storage blink:Disk.Bay.8:Enclosure.Internal.0-1:PCIeExtender.Slot.3
STOR095 : Storage operation is successfully completed.
```

  - The following command unblinks the specified PCIeSSD device:

```
racadm storage unblink:Disk.Bay.8:Enclosure.Internal.0-1:PCIeExtender.Slot.3
STOR095 : Storage operation is successfully completed.
```

- To prepare the specified PCIeSSD device for removal, run the following command:

```
racadm storage preparetoremove: Disk.Bay.8:Enclosure.Internal.0-1:PCIeExtender.Slot.3
STOR089 : Successfully accepted the storage configuration operation.
To apply the configuration operation, create a configuration job with --realtime
option.
To create the required commit jobs, run the jobqueue command.
For more information about the jobqueue command, enter the RACADM command "racadm
help jobqueue”
```

- To perform a cryptographic erase operation on the specified PCIeSSD device, run the following command:

```
racadm storage secureerase: Disk.Bay.8:Enclosure.Internal.0-1:PCIeExtender.Slot.3
RAC1040 : Successfully accepted the storage configuration operation.
To apply the configuration operation, create a configuration job, and then restart
the server.
To create the required commit and reboot jobs, run the jobqueue command.
For more information about the jobqueue command, enter the RACADM command "racadm
help jobqueue”
```

- To perform a cryptographic erase operation on PCIeSSD, SED or ISE (Instant Scramble Erase) device, run the following command:

```
racadm storage cryptographicerase:<SED FQDD>
```

- To request iDRAC to rekey only a specific storage controller:

```
racadm storage rekey:RAID.Integrated.1-1
```

- To enable security on the HBA controller:

```
racadm storage security:NonRAID.Slot.3-1 -enable
```

- To disable security on the HBA controller:

```
racadm storage security:NonRAID.Slot.3-1 -disable
```

- To enable security on a physical disk:

```
racadm storage encryptpd:Disk.Bay.0:Enclosure.Internal.0-0:RAID.Integrated.1-1
```

supportassist

Table 108. Details of supportassist

Description	Allows you to perform supportassist operations such as: • `collect` : Collects the supportassist data and exports to local share, or remote share, or Dell site depending on the parameters given in the command. You can specify the type of the logs to be in the collect command. To run this command, user must accept the End User License Agreement (EULA). **NOTE:** When performing the `collect` operation on chassis system, ensure that you use the `-t Debug` option. • `register` : Allows registration of supportassist to enable related features. • `exportlastcollection` : Exports the last collected supportassist data to the share which is mentioned in the command or to the default share. Default share can be configured using the supportassist attributes. • `accepteula` : Accepts the End User License Agreement (EULA). • `geteulastatus`: Provides the status of the End User License Agreement (EULA). • `uploadlastcollection` : Upload last collection to Dell supportassist server. • `exposeismintallertohostos`: Exposes iSM installer to host OS, so that user can install the iSM from host side. • `autocollectscheduler`: Provides options to create view, and clear the time-based automatic collections. User must perform registration for this feature. **NOTE:** All the commands except `accepteula`,`geteulastatus` , and `autocollectscheduler` will create job ID to track the progress of the operation.

Synopsis	• To perform supportassist operation by specifying the type of the operation.
	`racadm supportassist <support assist command type>`
	• To collect the data and store it in the iDRAC.
	`racadm supportassist collect -t <logtype>`
	• To collect the data and export to network share
	`racadm supportassist collect -t <logtype> -l <CIFS/NFS/TFTP/FTP/HTTP/HTTPS share> -u <username> -p <password>`
	• To collect the data and upload to Dell supportassist server.
	`racadm supportassist collect -t <logtype> -upload`

Table 108. Details of supportassist (continued)

- To collect the data and export to local share. This is only allowed from remote and local RACADM.

```
racadm supportassist collect -t <logtype>  -f <filename>
```

- To collect the data and export to remote share and to Dell supportassist server.

```
racadm supportassist collect -t <logtype>  -l <CIFS or NFS share
location> -u <username> -p <password> --upload
```

- To collect telemetry reports.

```
racadm supportassist collect -t TelemetryReports
```

- To Export the last collected supportassist data to a remote share.

```
racadm supportassist exportlastcollection -l <CIFS/NFS/TFTP/FTP/HTTP/
HTTPS share> -u myuser -p mypass
```

- To export the last collected supportassist data to the default network share.

```
racadm supportassist exportlastcollection
```

- To accept End User License Agreement (EULA)

```
racadm supportassist accepteula
```

- To check End User License Agreement (EULA) status

```
racadm supportassist geteulastatus
```

- To register iDRAC for supportassist features

```
racadm supportassist register -pfname <primary  first name> -plname
<primary last name> -pmnumber <primary number>
-panumber <primary alternate number> -pmailid <primary email id>
-sfname <secondary first name> -slname <secondary last name> -smnumber

<secondary number> -sanumber  <secondary alternate number>-smailid
<secondary email id> -company <company name> -street1 <street1 name>
-street2 <street2 name> -city <city name> -state <state name> -country
<country name> -zip <zip or postal code>
```

- To upload last collection to Dell supportassist server.

```
racadm supportassist uploadlastcollection
```

- To expose iSM installer to host operating system.

```
racadm supportassist exposeismminstallertohostos
```

- To schedule auto collection of supportassist data weekly.

```
racadm supportassist autocollectscheduler create -time <time>  -dow
<DayofWeek> -rp <repeat>
```

- To schedule auto collection of supportassist data monthly.

```
racadm supportassist autocollectscheduler create -time <time> -dom
<DayOfMonth> -rp <repeat>
```

```
racadm supportassist autocollectscheduler create -time <time> -wom
<WeekOfMonth> -dow <DayofWeek> -rp <repeat>
```

Table 108. Details of supportassist (continued)

	• To schedule auto collection of supportassist data quarterly.
	`racadm supportassist autocollectscheduler create -time <time> -wom <WeekOfMonth> -dow <DayofWeek> -rp <repeat>`
	• To view the auto collection data
	`racadm supportassist autocollectscheduler view`
	• To clear the auto collection data
	`racadm supportassist autocollectscheduler clear`

Input	• `-t`—Specifies the types of logs to be included in the export data. o `-sysinfo`—System information o `-osAppAll`—OS and Application data o `-ttylog`—Storage log information o `-Debug`—iDRAC debug logs • `-l`—Specifies the network share location. • `-u`—Specifies the user name of the remote share. • `-p`—Specifies the password of the remote share. • `-f`—Specifies the target filename of the exported data. **NOTE:** The filename must have .zip as the extension. • `-pfname`—Specifies the primary user's first name for the registration. • `-plname`—Specifies the primary user's last name for the registration. • `-pmnumber`—Specifies the primary user' s number. • `-panumber`—Specifies the primary user' s alternative number. • `-pmailid`—Specifies the primary user' s email address. • `-sfname`—Specifies the secondary user' s first name. • `-slname`—Specifies the secondary user' s last name. • `-smnumber`—Specifies the secondary user' s number. • `-sanumber`—Specifies the secondary user' s alternate number. • `-smailid`—Specifies the secondary user' s email address. • `-company`—Specifies the company name. • `-street1`—Specifies the street address of the company. • `-street2`—Specifies the secondary street address of the company. • `-city`—Specifies the name of the city. • `-state`—Specifies the name of the state. • `-country`—Specifies the name of the country. • `-zip`—Specifies the zip or postal code. • `-time`—Specifies the time to schedule a supportassist collection in HH:MM 12-hour format. • `-dom`—Specifies the day of the month to schedule a supportassist collection. Valid values are 1-28, L(Last day) or '*' (default - any day). If -dom option is included in the command, then -wom and -dow options should not be included. • `-wom`—Specifies the week of the month to schedule a supportassist collection. Valid values are 1-4, L(Last week) or '*' (default - any week). If -wom option is included in the command, then only -dow option should be included. -dom should not be included. • `-dow` — Specifies the day of the week to schedule a supportassist collection. Valid values sunday, monday,...saturday '*' (default - any day). • `-rp` — Specifies the repeat parameter weekly, or monthly, or quarterly. Weekly is allowed only with dow parameter. Monthly/quarterly is allowed either with dom or dow and wom together.

Example

- To collect the system information data.

```
racadm supportassist collect
```

- To collect the filtered data.

```
racadm supportassist collect --filter
```

- To collect the data and export to an FTP share.

```
racadm supportassist collect -t Debug -l ftp://192.168.10.24/share -u myuser -p mypass
```

- To collect the data and export to a TFTP share.

```
racadm supportassist collect -t Debug -l tftp://192.168.10.24/share
```

- To collect the data and export to an CIFS share.

```
racadm supportassist collect -t sysinfo -l //192.168.10.24/share -u myuser -p mypasss
```

- To collect the data and export to a HTTP share.

```
racadm supportassist collect -t TTYLog -l http://192.168.10.24/share -u myuser -p
mypass
```

- To collect the data and export to an HTTPS share.

```
racadm supportassist collect -t Debug -l https://192.168.10.24/share -u myuser -p
mypass
```

- To export the last collected supportassist data to an FTP share

```
racadm supportassist exportlastcollection -l ftp://192.168.10.24/share -u myuser -p
mypass
```

- To collect the data and export to an NFS network share:

```
racadm supportassist collect -l 10.94.161.103:/supportassist_share
```

- To collect the data and upload to the Dell supportassist server.

```
 racadm supportassist collect --upload
```

- To collect the data and export to a local share. This is allowed only from a remote or a local RACADM.

```
 racadm supportassist collect -f tsr.zip
```

- To collect the data and export to a remote share and to the Dell supportassist server.

```
 racadm supportassist collect -t Debug -l //192.168.10.24/share -u myuser -p mypass
--upload
```

- To collect telemetry report.

```
racadm supportassist collect -t TelemetryReports
```

- To export the last collected supportassist data to a CIFS share

```
 racadm supportassist exportlastcollection -l //192.168.10.24/share -u myuser -p
mypass
```

- To export the collected supportassist data to the default network share.

```
 racadm supportassist exportlastcollection
```

- To accept the End User License Agreement (EULA).

```
 racadm supportassist accepteula
```

- To check the End User License Agreement (EULA) status.

```
 racadm supportassist geteulastatus
```

- To register the iDRAC for supportassist features.

```
racadm supportassist register -pfname abc -plname xyz -pmnumber 1234567890 -panumber
1234567899 -pmailid abc_xyz@Dell.com -sfname abc -slname xyz -smnumber 1234567890
-sanumber 7777799999 -smailid abc_xyz@dell.com -company dell -street1
xyztechpark -street2 -city bangalore -state karnataka -country india -zip
123456
```

- To upload the last collection to the Dell supportassist server.

```
racadm supportassist uploadlastcollection
```

- To expose the iSM installer to the host operating system for the iSM installation.

```
racadm supportassist exposeismsinstallertohostos
```

- To schedule auto collection of supportassist data weekly.

```
racadm supportassist autocollectscheduler create -time 4:05am -dow sunday -rp weekly
```

- To schedule auto collection of the supportassist data monthly.

```
racadm supportassist autocollectscheduler create -time 7:55pm -dom 20 -rp monthly
```

- To schedule auto collection of the supportassist data quarterly.

```
racadm supportassist autocollectscheduler create -time 7:55am -wom 2 -dow monday -rp
quarterly
```

- To view the auto collection schedule.

```
racadm supportassist autocollectscheduler view
```

- To clear the auto collection schedule.

```
racadm supportassist autocollectscheduler clear
```

swinventory

Table 109. Details of swinventory

Description	Displays the list of software objects and associated properties that are installed on a server. **NOTE:** Lifecycle Controller and CSIOR should not be enabled to run this subcommand.
Synopsis	`racadm swinventory`
Input	`racadm swinventory`

Output	`racadm swinventory`
	
	`-------------------------SOFTWARE INVENTORY-----------------------`
	`ComponentType = FIRMWARE`
	`ElementName = Integrated Dell Remote Access Controller`
	`FQDD = iDRAC.Embedded.1-1`
	`InstallationDate = NA`
	`Rollback Version = 3.30.30.30`
	`HashValue = NA`
	`----------------------------------------------------------------`
	
	`ComponentType = FIRMWARE`
	`ElementName = Integrated Dell Remote Access Controller`
	`FQDD = iDRAC.Embedded.1-1`

Table 109. Details of swinventory (continued)

```
InstallationDate = 2019-01-07T03:20:46Z
Current Version = 3.30.30.30
HashValue = NA
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Gigabit Ethernet BCM5720 - 00:0A:F7:E8:4A:C6
FQDD = NIC.Integrated.1-3-1
InstallationDate = NA
Available Version = 20.8.4
HashValue =
e8abf74757e0d0e01ff5f483af68b3ae62c6908ea0f7443f685b01c7baa9a81b
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Gigabit Ethernet BCM5720 - 00:0A:F7:E8:4A:C6
FQDD = NIC.Integrated.1-3-1
InstallationDate = 2018-08-25T14:22:29Z
Current Version = 20.8.4
HashValue =
e8abf74757e0d0e01ff5f483af68b3ae62c6908ea0f7443f685b01c7baa9a81b
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Gigabit Ethernet BCM5720 - 00:0A:F7:E8:4A:C7
FQDD = NIC.Integrated.1-4-1
InstallationDate = NA
Available Version = 20.8.4
HashValue =
e8abf74757e0d0e01ff5f483af68b3ae62c6908ea0f7443f685b01c7baa9a81b
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Gigabit Ethernet BCM5720 - 00:0A:F7:E8:4A:C7
FQDD = NIC.Integrated.1-4-1
InstallationDate = 2018-08-25T14:22:31Z
Current Version = 20.8.4
HashValue =
e8abf74757e0d0e01ff5f483af68b3ae62c6908ea0f7443f685b01c7baa9a81b
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Adv. Dual 10GBASE-T Ethernet - 00:0A:F7:E8:4A:C8
FQDD = NIC.Integrated.1-1-1
InstallationDate = NA
Available Version = 20.08.04.03
HashValue =
f4d291569d9b81ccbf3f9b07e3abf5e6ac0d886ca88a9ada770c882114c0e820
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Adv. Dual 10GBASE-T Ethernet - 00:0A:F7:E8:4A:C8
FQDD = NIC.Integrated.1-1-1
InstallationDate = 2018-08-25T14:27:34Z
Current Version = 20.08.04.03
HashValue =
f4d291569d9b81ccbf3f9b07e3abf5e6ac0d886ca88a9ada770c882114c0e820
----------------------------------------------------------------------

ComponentType = FIRMWARE
ElementName = Broadcom Adv. Dual 10GBASE-T Ethernet - 00:0A:F7:E8:4A:C9
FQDD = NIC.Integrated.1-2-1
InstallationDate = NA
Available Version = 20.08.04.03
HashValue =
f4d291569d9b81ccbf3f9b07e3abf5e6ac0d886ca88a9ada770c882114c0e820
----------------------------------------------------------------------
```

NOTE: Configuration changes and firmware updates that are made within the operating system may not reflect properly in the inventory until you perform a server restart.

switchconnection

Table 110. Details of switchconnection

Description	Provides the switch port details of iDRAC and server network ports. Refresh switch port details of all ports in the server. To run this command, you must have the `Login` privilege.
Synopsis	• `racadm switchconnection view` • `racadm switchconnection view [iDRAC FQDD | NIC FQDD]` • `racadm switchconnection refresh`
Input	• `<iDRAC FQDD | NIC FQDD>` — is the fully qualified device descriptor of iDRAC or NIC.

Examples	• To provide switch port details of all iDRAC and server network port
	`racadm switchconnection view`
	• To provide switch port details of requested FQDD NIC.Integrated.1-1-1:BRCM
	`racadm switchconnection view NIC.Integrated.1-1-1:BRCM`
	• To refresh switch port details of all ports in the server
	`racadm switchconnection refresh`

systemerase

Table 111. systemerase

Description	Allows you to erase the components to remove the server from use.

Synopsis	• To erase a specific component.
	`racadm systemerase <component>`
	• To erase multiple components.
	`racadm systemerase <component>,<component>,<component>`

Input	• `<component>`—the valid types of components are: ○ `bios`—To reset the BIOS to default. ○ `diag`—To erase embedded diagnostics. ○ `drvpack`—To erase embedded OS driver pack. ○ `idrac`—To reset the iDRAC to default. ○ `lcdata`—To erase Lifecycle Controller data. ○ `allaps`—To reset all apps. ○ `secureerasepd`—To erase the physical disk. This supports SED, NVMe drives, and PCIe cards ○ `overwritepd`—To overwrite physical disk. This supports SAS and SATA drives. ○ `percnvcache`—To erase NV cache. ○ `vflash`—To erase vFlash. ○ `nvdimm`—To erase all NonVolatileMemory.

Table 111. systemerase (continued)

	NOTE: When BIOS is selected for System Erase, the server is turned off and the iDRAC is reset at the end of the Automated Task Application. To complete the process of BIOS reset, the server power must be restored. When the server is turned on, during POST, the BIOS completes the process of resetting to the default properties. At the completion of the reset process, the server is again turned off. Resetting the BIOS also includes the erasing of BIOS-related nonvolatile settings that are used by the OS and embedded in the UEFI applications. **NOTE:** When the racadm systemerase command is executed, the iDRAC will take the following actions if the: • Server is powered off—it is powered on. • Server is powered on—a graceful system reboot will be executed. • ACPI is enabled on the server— a graceful shutdown occurs within a minute or two. • ACPI is not enabled—a forced shutdown occurs and it may require up to ten minutes to complete. Following the server reboot, the Lifecycle Controller will execute the System Erase job to carry out the requested actions. All actions performed by the System Erase operations are recorded to the Lifecycle Log, including details of all devices erased. When these actions are completed, the server will be powered off and remain in this state, allowing service personnel to perform any needed posterase actions such as drive removal or hardware reconfiguration. When the server is powered on to return to service, the Lifecycle Controller will collect the system inventory and reflect any hardware or firmware changes made after the System Erase.
Examples	• `racadm systemerase bios` • `racadm systemerase diag` • `racadm systemerase drvpack` • `racadm systemerase idrac` • `racadm systemerase lcdata` • `racadm systemerase bios,diag,drvpack` • `racadm systemerase bios,idrac,lcdata` • `racadm systemerase allapps` • `racadm systemerase secureerasepd` • `racadm systemerase overwritepd` • `racadm systemerase percnvcache` • `racadm systemerase vflash` • `racadm systemerase secureerasepd,vflash,percnvcache` • `racadm systemerase nvdimm`

systemperfstatistics

Table 112. Details of systemperfstatistics

Description	Allows you to view and manage the system performance monitoring operations.

Table 112. Details of systemperfstatistics (continued)

Synopsis	• To view the FQDD's of system performance monitoring sensors
	`racadm systemperfstatistics view`
	• To list the usage statistics of a specific sensor
	`racadm systemperfstatistics <sensor_FQDD>`
	• To reset the utilization peaks of system performance monitoring sensors
	`racadm systemperfstatistics PeakReset <FQDD>`
	• To run the peakreset operation you must have configure iDRAC privilege.

Examples:

- To view the FQDD's of system performance monitoring sensors

```
racadm systemperfstatistics view
[key = iDRAC.Embedded.1#SystemBoardCPUUsageStat]
[key = iDRAC.Embedded.1#SystemBoardIOUsageStat]
[key = iDRAC.Embedded.1#SystemBoardMEMUsageStat]
[key = iDRAC.Embedded.1#SystemBoardSYSUsageStat]
```

- To list the usage statistics of a specific sensor

```
racadm systemperfstatistics iDRAC.Embedded.1#SystemBoardCPUUsageStat

Minimum Readings
Last Hour     = 0% [At Mon, 05 May 2017 17:13:04]
Last Day      = 0% [At Mon, 05 May 2017 15:59:53]
Last Week     = 0% [At Mon, 05 May 2017 15:59:53]

Maximum Readings
Last Hour     = 0% [At Thu, 01 Jan 1970 00:00:00]
Last Day      = 0% [At Thu, 01 Jan 1970 00:00:00]
Last Week     = 0% [At Thu, 01 Jan 1970 00:00:00]

Average Readings
Last Hour     = 0%
Last Day      = 0%
Last Week     = 0%

Peak Readings
Last Week     0% [At Mon, 05 May 2017 15:58:35]
```

- To reset the peak utilization of a specific sensor

```
racadm systemperfstatistics PeakReset iDRAC.Embedded.1#SystemBoardCPUUsageStat
RAC1163: The peak utilization value of Out-Of-Band performance monitoring sensor CPU
Usage is successfully reset.
```

techsupreport

Table 113. Details of techsupreport subcommand

Description	Allows you to perform the technical support report operations. Tech Support Report (TSR) is now known as SupportAssist Collections and the new term is used in all documentation and GUI. To maintain compatibility across server generations, the RACADM command has been retained as techsupreport.

Table 113. Details of techsupreport subcommand (continued)

	The types of operations are: • `collect`—Collects the technical support report data to export. You can specify the various types of logs to be in the report. This operation generates a Job ID. Use this Job ID to check the status of the collect operation. To run this operation, you must have the Server Control Commands permission. • `export`—Exports the collected Tech Support Report data. To run this subcommand, you must have the Execute Server Control Commands permission. • `getupdatetime`—Gets the timestamp of the last operating system application data collection. • `updateosapp`—Updates the operating system application data collection. To run this subcommand, you must have the Execute Server Control Commands permission.

Synopsis	• To perform the technical support report operation by specifying the type of operation.
	`racadm techsupreport <tech support report command type>`
	• To collect the report data.
	`racadm techsupreport collect [-t <type of logs>]`
	• To export the collected report data.
	`racadm techsupreport export -l <CIFS,NFS,TFTP,FTP> -u <username> -p <password>`
	• To get the timestamp of the last operating system application data collection.
	`racadm techsupreport getupdatetime`
	• To update the operating system application data collection.
	`racadm techsupreport updateosapp -t <type of OS App logs>`
	• To export the collected report data to local share.
	`racadm techsupreport export -f <filename>`

Input	• `-t`—type of logs. You can specify any of the following values that are separated by a ',' (comma) ○ `SysInfo`—System Information ○ `OSAppNoPII`—Filtered OS and Application data ○ `OSAppAll`—OS and Application data ○ `TTYLog`—TTYLog data **NOTE:** ○ For updating the operating system application data collection, enter the value `OSAppNoPII` or `OSAppAll` to the `-t` option. ○ If no value is specified and system information data is collected. ○ To perform the OSLog collection, ensure that ISM is installed and running. ○ TTYLog includes PCIeSSD data. • `-l`—network share location to export the report • `-u`—user name for the remote share to export the report • `-p`—password for the remote share to export the report • `-f`—target filename for the exported log. **NOTE:** The filename must have .zip as the extension.
Examples	• To collect the system information data. `racadm techsupreport collect –t <type of logs>`

Table 113. Details of techsupreport subcommand (continued)

	• To collect the system information and TTYLog data.
	`racadm techsupreport collect -t SysInfo,TTYLog`
	• To collect the operating system application data.
	`racadm techsupreport collect -t OSAppAll`
	• To export the collected Tech Support Report, to an FTP share
	`racadm techsupreport export -l ftp://192.168.0/share -u myuser -p xxx`
	• To export the collected Tech Support Report, to a TFTP share
	`racadm techsupreport export -l tftp://192.168.0/share`
	• To export the collected Tech Support Report, to a CIFS share.
	`racadm techsupreport export -l //192.168.0/share -u myuser -p xxx`
	• To export the collected Tech Support Report, to an NFS share.
	`racadm techsupreport export -l 192.168.0:/share`
	• To export the collected Tech Support Report to the local file system.
	`racadm techsupreport export -f tsr_report.zip`

testalert

Table 114. Details of testalert

Description	Tests FQDN supported SNMP trap notifications. To run this subcommand, you must have the Test Alert User Access.
Synopsis	`racadm testalert -i <index>`
Input	`-i` — Specifies the index of the trap test. *index* must be an integer from 1 to 8 on iDRAC.
Output	`Success: Test trap sent successfully` `Failure: Unable to send test trap`

Example	• Test a trap with index as 1.
	`racadm testalert -i 1`
	`Test trap sent successfully.`
	• Test a trap that has not been configured yet.
	`racadm testalert -i 2`
	`ERROR: Trap at specified index is not currently enabled.`

testemail

Table 115. Details of testemail

Description	Sends a test email from iDRAC to a specified destination. Prior to running the test email command, make sure that the SMTP server is configured. The specified index in the **idrac.EmailAlert** group must be enabled and configured properly. For more information, see *Integrated Dell Remote Access Controller RACADM CLI Guide* available at https://www.dell.com/idracmanuals.
Synopsis	`racadm testemail -i <index>`
Input	`-i <index>` — Specifies the index of the email alert to test.
Output	`Success: Test e-mail sent successfully Failure: Unable to send test e-mail`

Example	Commands for the **idrac.EmailAlert** group:
	• Enable the alert.
	`racadm set idrac.EmailAlert.1.Enable 1`
	• Set the destination email address.
	`racadm set idrac.EmailAlert.1.Address user1@mycompany.com`
	• Set the custom message that is sent to the destination email address.
	`racadm set idrac.emailalert.1.CustomMsg "This is a test!"`
	• Make sure that the SMTP IP address is configured properly.
	`racadm set idrac.remotehosts.SMTPServerIPAddress 192.168.0`
	• View the current email alert settings.
	`racadm get idrac.EmailAlert.<index>`
	where `<index>` is a number from 1 to 8.

testrsyslogconnection

Table 116. Details of testrsyslogconnection

Description	Allows you to check the connection with Telemetry rsyslog server. The Telemetry feature requires iDRAC9 DataCenter or OpenManage Enterprise Advanced license to run this command.
Synopsis	`racadm testrsyslogconnection`
Input	`testrsyslogconnection`
Output	A test connection to the rsyslog server was successful.
Example	To test a Telemetry rsyslog connection: `racadm testrsyslogconnection`

testtrap

Table 117. Details of testtrap

Description	Tests the RAC's SNMP trap alerting feature by sending a test trap from iDRAC to a specified destination trap listener on the network. To run this subcommand, you must have the **Test Alert** permission. **NOTE:** • Before you run the `testtrap` subcommand, make sure that the specified index in the `RACADM iDRAC.SNMPAlert` group is configured properly. • The indices of `testtrap` subcommand is co-related to the indices of **iDRAC.SNMPAlert** group.
Synopsis	`racadm testtrap -i <index>`
Input	`-i <index>` — Specifies the index of the trap configuration that must be used for the test. Valid values are from 1 to 4.

Example	• Enable the alert.
	`racadm set idrac.emailalert.1.CustomMsg 1`
	`racadm set iDRAC.SNMPAlert.1.State 1`
	• Set the destination email IP address.
	`racadm set iDRAC.SNMPAlert.1.Destination 192.168.0`
	• View the current test trap settings.
	`racadm get iDRAC.SNMPAlert.<index>`
	where `<index>` is a number from 1 to 8

traceroute

Table 118. Details of traceroute

Description	Traces network path of the routers as the packets traverse from the system to a destination IPv4 address. To run this subcommand, you must have the Execute Diagnostic Commands permission.
Synopsis	`racadm traceroute <IPv4 address>`
Input	`IPv4` — Specifies IPv4 address.
Output	`traceroute to 192.168.0.1 (192.168.0.1), 30 hops max, 40 byte packets` `1 192.168.0.1 (192.168.0.1) 0.801 ms 0.246 ms 0.253 ms`

traceroute6

Table 119. Details of traceroute6

Description	Traces the network path of routers as the packets traverse from the system to a destination IPv6 address.

Table 119. Details of traceroute6 (continued)

	To run this subcommand, you must have the Execute Diagnostic Commands permission.
Synopsis	`racadm traceroute6 <IPv6address>`
Input	<IPv6address> – Specifies IPv6 address.
Output	`traceroute to fd01::1 (fd01::1) from fd01::3, 30 hops max, 16 byte packets` `1 fd01::1 (fd01::1) 14.324 ms 0.26 ms 0.244 ms`

update

Table 120. Details of update subcommand

Description	Allows you to update the firmware of devices on the server. The supported firmware image file types are: • `.exe` — Windows-based Dell Update Package (DUP) • `.d9` • `.pm` • `.sc` The supported catalog files are: • `.xml` • `xml.gzip` **NOTE:** • Updating the platforms from the repository is not supported for IPv6. • The firmware update through FTP has a limitation of file name up to 64 characters. • Depending on the network traffic, the HTTP packet transfer may fail if you perform update operation from a remote RACADM through a local share. In such cases, retry the operation. If the issue persists, use remote RACADM with the CIFS or NFS share. • The supported share types for single file or DUP updates are CIFS, NFS, HTTP, and HTTPS. For Repository updates, the supported share types are CIFS, NFS, FTP, TFTP, and HTTP. • When a port number is appended to an IP address for firmware update, the job fails with an internal error. • `racadm update` command mounts a partition on the iDRAC as a USB device when run from the local host Operating System.

Synopsis	For single file or DUP update:
	`racadm update -f <updatefile>`
	`racadm update -f <updatefile> -l <location> -u <username for CIFS share> -p <password for CIFS share>`
	`racadm update -f <updatefile> -l <location>`

Table 120. Details of update subcommand (continued)

	For Repository updates
	`racadm update -f <catalog file> -t <Repository type> -l <location> \ -u <username for CIFS share> -p <password for CIFS share> \ [-a <restart>] [--verifycatalog]`
	`racadm update -f <catalog file> -t <Repository type> \ -e <FTP server with the path to the catalog file> [-a <restart>] \[--verifycatalog]`
	`racadm update -f <catalog file> -t <Repository type> \ -e <FTP server with the path to the catalog file> [-a <restart>] \ -ph <proxy ip> -pu <proxy user> -pp <proxy pass> -po <proxy port> \ -pt <proxy type>`
	`racadm update viewreport`

Input	For single file or DUP update: • `-f: <updatefile>`—Update filename (Windows DUP, `.d9`,`.pm`, `.sc`) only. • `-u: < username for CIFS share>`—Specifies username of the remote share that stores the update file. Specify username in a domain as domain/username. • `-p: <password for CIFS share`—Specifies password of the remote share that stores the update file. • `-l: <location>`—Specifies network share location that stores the update file. For more information on NFS or CIFS share, see section on Usage examples • `–reboot`—Performs a graceful system reboot after the firmware update. For Repository update: • `-f: <updatefile>`—Update filename . For update from repository `.xml` files are allowed. If a file name is not specified for repository update, Catalog.xml is taken as default. If a file name is not specified for repository update, then the `Catalog.xml` is taken as default. • `-u: < username for CIFS share>`—Username of the remote share that stores the update file. Specify username in a domain as domain/username. • `-p: <password for CIFS share` — Specifies password of the remote share that stores the update file. • `-l: <location>`—Specifies network share location (CIFS/NFS/HTTP/HTTPS/FTP), that stores the update file. For more information on network share, see section on Usage examples • `-a: <restart>` — This option indicates if the server should be restarted after the update from repository operation completes. Must be one of the below: ○ TRUE : restart after update completes ○ FALSE : do not restart after update completes **NOTE:** These options are case insensitive. • `-t:Repository type>`—Specifies the type of repository being used for the update. Must be one of the below: ○ FTP: Repository is FTP ○ TFTP: Repository is TFTP ○ HTTP: Repository is HTTP ○ HTTPS: Repository is HTTPS ○ CIFS: Repository is CIFS ○ NFS: Repository is NFS **NOTE:** These options are case insensitive. If the repository update functionality is to be invoked, this option is necessary.

Table 120. Details of update subcommand (continued)

	• `-e:<FTP server with the path to the catalog file>`—Specifies the Server path for the FTP, TFTP, HTTP, and HTTPS. • `-ph : <proxy ip>`—Specifies the IP address of the proxy server. • `-pu : <proxy user>`—Specifies the user name for proxy credentials. • `-pp : <proxy pass>`—Specifies the password for proxy credentials. • `-po : <proxy port>`—Specifies the port for proxy server. • `-pt : <proxy type>`—Specifies the proxy type. Must be one of the below: ○ HTTP: Proxy is HTTP ○ SOCKS4: Proxy is SOCKS4 **NOTE:** ○ If the repository has to be through a proxy, the proxy server address, proxy username and the proxy password are necessary. The Lifecycle Controller must be enabled for repository update. ○ This command supports both IPV4 and IPV6 formats. IPV6 is applicable only for CIFS and NFS remote share.
Output	Firmware update job for `<filename>` is initiated. This firmware update job may take several minutes to complete depending on the component or firmware being updated. To view the progress of the job, run the `racadm jobqueue view` command. For repository update command, the output is: `Update from repository operation has been initiated. Check the progress of the operation using "racadm jobqueue view -i JID_809364633532" command.` For devices that perform update process without rebooting the host, the update status changes from `Downloading` to `Completed`. For devices that require host reboot to perform update process, the update status changes from `Downloading` to `Scheduled`. When the status is displayed as `Scheduled`, reboot the host to start the update process. The following devices require host reboot to perform the update process: • Backplanes • BIOS • Complex programmable logic device (CPLD) • Hard disk drives ○ Solid-state drives (SSD) • Network interface cards (NIC) or Fibre Channel (FC) cards • PCIe SSD devices • Power supply unit (PSU) • Storage controllers

Example	For single file or DUP updates:
	• Upload the update file from a remote FTP share
	`racadm update -f <updatefile> -u admin -p mypass -l ftp://1.2.3.4/share`
	• Upload the update file from a remote FTP share and to perform a graceful system reboot after update:
	`racadm update -f <updatefile> -u admin -p mypass -l ftp://1.2.3.4/share --reboot`
	• Upload the update file from a remote CIFS share:
	`racadm update -f <updatefile> -u admin -p mypass -l //1.2.3.4/share`
	• Upload the update file from a remote CIFS share and under a user domain "dom":
	`racadm update -f <updatefile> -u dom/admin -p mypass -l //1.2.3.4/share`

Table 120. Details of update subcommand (continued)

- Upload the update file from a remote NFS share:

```
racadm update -f <updatefile> -l 1.2.3.4:/share
```

- Upload the update file from a remote HTTP share:

```
 racadm update -f <updatefile> -u admin -p mypass -l http://1.2.3.4/
share
```

- Upload the update file from a remote HTTPS share:

```
 racadm update -f <updatefile> -u admin -p mypass -l https://1.2.3.4/
share
```

- Upload the update file from the local file system using Local RACADM.

```
racadm update -f <updatefile>
```

- Upload the Update file from a remote CIFS share and to perform a graceful system reboot after update:

```
racadm update -f <updatefile> -u admin -p mypass -l //1.2.3.4/share --
reboot
```

- Upload the Update file from a remote NFS share and to perform a graceful system reboot after update:

```
racadm update -f <updatefile> -l 1.2.3.4:/share --reboot
```

- Upload the update file from a remote HTTP share and to perform a graceful system reboot after update:

```
racadm update -f <updatefile> -u admin -p mypass -l http://1.2.3.4/
share --reboot
```

- Upload the Update file from the local file system using local racadm and to perform a graceful system reboot after update:

```
racadm update -f <updatefile> --reboot
```

For Repository updates:

- Perform update from an FTP repository and to apply the updates, reboot the server:

```
  racadm update -f Catalog.xml -l //192.168.11.10/Repo -u test -p
passwd -a TRUE -t CIFS
```

- Generate a comparison report using about the available updates in the repository:

```
racadm update -f Catalog.xml -l 192.168.11.10:/Repo -t NFS -a FALSE --
verifycatalog
```

- Perform update from an FTP repository and reboot the server to apply the updates:

```
racadm update -f Catalog.xml -e 192.168.11.10/Repo/MyCatalog -a TRUE -t
FTP
```

- Perform update from an FTP repository with authentication and reboot the server to apply the updates

```
racadm update -f Catalog.xml -e 192.168.11.10/Repo/MyCatalog -u user -p
mypass -a TRUE -t FTP
```

- Perform update from a HTTP repository and restart the server to apply the updates.

```
racadm update -f Catalog.xml -e 192.168.11.10/Repo/MyCatalog -a TRUE -t
HTTP
```

Table 120. Details of update subcommand (continued)

	• Perform update from a TFTP repository and restart the server to apply the updates.
	`racadm update -f Catalog.xml -e 192.168.11.10/Repo/MyCatalog -a TRUE -t TFTP`
	• Perform update from an FTP repository through a proxy server.
	`racadm update -f Catalog.xml -e 192.168.11.10/Repo/MyCatalog -a TRUE -ph 145.140.12.56 -pu prxyuser -pp prxypass -po 80 -pt http -t FTP`
	• Perform update from an downloads.dell.com
	`racadm update -f Catalog.xml.gz -e downloads.dell.com/Catalog -a TRUE -t HTTPS`
	• View the comparison report generated when --verifycatalog is used.
	`racadm update viewreport`

usercertupload

Table 121. Details of usercertupload

Description	Uploads a user certificate or a user CA certificate from the client to iDRAC. To run this subcommand, you must have the Configure iDRAC permission.
Synopsis	`racadm usercertupload -t <type> [-f <filename>] -i <index>`

Input	• `-t` — Specifies the type of certificate to upload, either the CA certificate or server certificate.
	  ○ `1`=user certificate
	  ○ `2`=user CA certificate
	• `-f` — Specifies the filename of the certificate that must be uploaded. If the file is not specified, the `sslcert` file in the current directory is selected.
	• `-i` — Index number of the user. Valid values 2–16.

Output	If upload is successful, the message `User certificate successfully uploaded to the RAC.` If unsuccessful, appropriate error message is displayed.
Example	To upload user certificate for user 6. `racadm usercertupload -t 1 -f c:\cert\cert.txt -i 6`

usercertview

Table 122. Details of usercertview

Description	Displays the user certificate or user CA certificate that exists on iDRAC.
Synopsis	`racadm usercertview -t <type> [-A] -i <index>`

Input	• `-t` —Specifies the type of certificate to view, either the user certificate or the user CA certificate.
	  ○ 1=user certificate
	  ○ 2=user CA certificate
	• `-A` —Prevents printing headers or labels.

Table 122. Details of usercertview (continued)

	• `-i` —Index number of the user. Valid values are 2–16.

Example	To view user certificate for user 6.
	`racadm usercertview -t 1 -i 6`
	`Serial Number : 01`
	`Subject Information:`
	`Country Code (CC) : US`
	`State (S) : Texas`
	`Locality (L) : Round Rock`
	`Organization (O) : Dell Inc.`
	`Common Name (CN) : iDRAC default certificate`
	`Issuer Information:`
	`Country Code (CC) : US`
	`State (S) : Texas`
	`Locality (L) : Not Available`
	`Organization (O) : Dell Inc.`
	`Organizational Unit (OU): Remote Access Group`
	`Common Name (CN) : iDRAC default certificate`
	`Valid From : May 7 23:54:19 2017 GMT`
	`Valid To : May 4 23:54:19 2027 GMT`
	NOTE: Not Available is displayed for attribute values in the certificate that are not populated or configured.

vflashpartition

Table 123. Details of vflashpartition subcommand

Description	Manages the partitions on the vFlash SD card. **NOTE:** • To run this subcommand, you must have the iDRAC Enterprise license. • After iDRAC restart, the status of the previous operation performed on the partition(s) is erased.
Synopsis	`racadm vflashpartition <create | delete | status | list> -i<index> -o<label> -e<emulation type> -s<size> -f<format type> -t<partition type> -l<path> -u<user> -p<password> -a`

Input	• `-o` — Label that is displayed when the partition is mounted on the operating system. This option must be a string of up to six alphanumeric characters. VFLASH is the only accepted volume label for non-Dell SD card.
	• `-e` — Emulation type must be either floppy, cddvd, or hdd.
	  ○ `floppy` — emulates a floppy disk
	  ○ `cddvd` — emulates a CD or DVD
	  ○ `hdd` — emulates a hard disk
	• `-s` — Partition size in MB.
	• `-f` — Format type for the partition based on the type of the file system. Valid options are `raw`, `ext2`, `ext3`, `fat16`, and `fat32`.
	• `-t` — Create a partition of the following type:
	  ○ `empty` — Creates an empty partition
	  ○ `image` — Creates a partition using an image relative to iDRAC.
	Creation of a partition may be unsuccessful if:
	  ○ The network share is not reachable.

Table 123. Details of vflashpartition subcommand (continued)

	○ The user name or password provided is not correct. ○ The file provided does not exist. ○ The memory available on the SD card is lesser than size of the image file. • `-l` — Specifies the remote path relative to iDRAC. • `-u` — User name for accessing the remote image. • `-p` — Password for accessing the remote image. • `-a` — Display the status of operations on all the existing partitions. • `list` — Lists the existing partitions and its properties.

Example	• Create a 20MB empty partition.
	`racadm vflashpartition create -i 1 -o Drive1 -e hdd -t empty -f fat16 -s 20`
	• Create a partition from a remote image.
	`racadm vflashpartition create -i 1 -o Drive1 -e cddvd -t image -l //ipaddress/sharefolder/isoimge.iso -u username -p xxx`
	A new partition is created. By default, the created partition is read-only. This command is case-sensitive for the image filename extension. If the filename extension is in uppercase, for example FOO.ISO instead of FOO.iso, then the command returns a syntax error.
	NOTE:
	○ This feature is not supported in Local RACADM.
	○ Creating vFlash partition from an image file on the CFS or NFS IPv6 enabled network share is not supported.
	• Delete a partition.
	`racadm vflashpartition delete -i 1`
	• Status of operation on partition 1.
	`racadm vflashpartition status -i 1`
	• Status of all the existing partitions.
	`racadm vflashpartition status -a`
	• List all the existing partitions and its properties.
	`racadm vflashpartition list`

vflashsd

Table 124. Details of vflashsd

Description	Allows you to initialize or get the status of the vFlash SD card. The initialize operation removes all the existing partitions and resets the card. The status operation displays the status of the last operation performed on the card. To run this subcommand, you must have the Access Virtual Media privilege. **NOTE:** After you restart the iDRAC, the status of the previous initialize operation is erased.
Synopsis	• `racadm vflashsd initialize` • `racadm vflashsd status`
Input	• `Initialize`— performs initialize operation on SD card. • `Status` — indicates to view the progress or status report of the initialize operation.

Table 124. Details of vflashsd (continued)

Output	If initialization is in progress, the message `Initialization of the vFlash SD Card is now in progress` is displayed. If unsuccessful, appropriate error message is displayed. If the status of the last operation performed is successful, the message `LastAction Progress Status==========Initialize SD Card 100 % Complete` is displayed. If unsuccessful, appropriate error message is displayed.

vmdisconnect

Table 125. Details of vmdisconnect

Description	Allows you to end another Virtual Media session. After the session ends, the web-based interface reflects the correct connection status. Enables an iDRAC user to disconnect all active Virtual Media sessions. The active Virtual Media sessions are displayed on iDRAC web-based interface or by running the RACADM subcommands `remoteimage` or `getssninfo`. To run this subcommand, you must have the Access Virtual Media permission.
Synopsis	`racadm vmdisconnect`

4

Legacy and New Groups and Objects

NOTE: To avoid errors in the scripts, ensure that you use the New Groups and Objects along with the new subcommands. For the list of deprecated and new subcommands, see the section Deprecated and New Subcommands

Table 126. Legacy and New Groups and Objects

Legacy Groups and Objects	New Groups and Objects
idRacInfo	iDRAC.Info
idRacType	Type
idRacProductInfo	Product
idRacDescriptionInfo	Description
idRacVersionInfo	Version
idRacBuildInfo	Build
idRacName	Name
cfgActiveDirectory	iDRAC.ActiveDirectory
cfgADEnable	Enable
cfgADRacDomain	RacDomain
cfgADRacName	RacName
cfgADAuthTimeout	AuthTimeout
cfgADType	Schema
cfgADDomainController1	DomainController1
cfgADDomainController2	DomainController2
cfgADDomainController3	DomainController3
cfgADGlobalCatalog1	GlobalCatalog1
cfgADGlobalCatalog2	GlobalCatalog2
cfgADGlobalCatalog3	GlobalCatalog3
cfgADCertValidationEnable	CertValidationEnable
cfgADSSOEnable	SSOEnable
cfgADDcSRVLookupEnable	DCLookupEnable
cfgADDcSRVLookupbyUserdomain	DCLookupByUserDomain

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgADDcSRVLookupDomainName	DCLookupDomainName
cfgADGcSRVLookupEnable	GCLookupEnable
cfgADGcRootDomain	GCRootDomain
cfgLanNetworking	iDRAC.Nic
cfgNicEnable	Enable
cfgNicMacAddress	MACAddress
cfgDNSRacName	DNSRacName
cfgNicSelection	Selection
cfgNicFailoverNetwork	Failover
cfgDNSDomainName	DNSDomainName
cfgDNSDomainNameFromDHCP	DNSRacName
cfgDNSRegisterRac	DNSRegister
cfgNicVLanEnable	VLanEnable
cfgNicVLanID	VLanID
cfgNicVLanPriority	VLanPriority
cfgIpv4LanNetworking	iDRAC.IPv4
cfgNicIPv4Enable	Enable
cfgNicIpAddress	Address
cfgNicNetmask	NetMask
cfgNicGateway	Gateway
cfgNicUseDhcp	DHCPEnable
cfgDNSServersFromDHCP	DNSFromDHCP
cfgDNSServer1	DNS1
cfgDNSServer2	DNS2
cfgIpv6LanNetworking	iDRAC.IPv6
cfgIPv6Enable	Enable
cfgIPv6Address1	Address1
cfgIPv6Gateway	Gateway
cfgIPv6PrefixLength	PrefixLength

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgIPv6AutoConfig	AutoConfig
cfgIPv6LinkLocalAddress	LinkLocalAddress
cfgIPv6Address2	Address2
cfgIPv6Address3	Address3
cfgIPv6Address4	Address4
cfgIPv6Address5	Address5
cfgIPv6Address6	Address6
cfgIPv6Address7	Address7
cfgIPv6Address8	Address8
cfgIPv6Address9	Address9
cfgIPv6Address10	Address10
cfgIPv6Address11	Address11
cfgIPv6Address12	Address12
cfgIPv6Address13	Address13
cfgIPv6Address14	Address14
cfgIPv6Address15	Address15
cfgIPv6DNSServersFromDHCP6	DNSFromDHCP6
cfgIPv6DNSServer1	DNS1
cfgIPv6DNSServer2	DNS2
cfgServerPower	System.ServerPwr
cfgServerPowerStatus	Status
cfgServerActualPowerConsumption	Realtime.Power
cfgServerMinPowerCapacity	Cap.MinThreshold
cfgServerMaxPowerCapacity	Cap.MaxThreshold
cfgServerPeakPowerConsumption	Max.Power
cfgServerPeakPowerConsumptionTimestamp	Max.Power.Timestamp
cfgServerPowerConsumptionClear	Max.PowerClear
cfgServerPowerCapWatts	Cap.Watts
cfgServerPowerCapBtuhr	Cap.BtuHr

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgServerPowerCapPercent	Cap.Percent
cfgServerPowerCapEnable	Cap.Enable
cfgServerPowerLastHourAvg	Avg.LastHour
cfgServerPowerLastDayAvg	Avg.LastDay
cfgServerPowerLastWeekAvg	Avg.LastWeek
cfgServerPowerLastHourMinPower	Min.LastHour
cfgServerPowerLastHourMinTime	Min.LastHour.Timestamp
cfgServerPowerLastHourMaxPower	Max.LastHour
cfgServerPowerLastHourMaxTime	Max.LastHour.Timestamp
cfgServerPowerLastDayMinPower	Min.LastDay
cfgServerPowerLastDayMinTime	Min.LastDay.Timestamp
cfgServerPowerLastDayMaxPower	Max.LastDay
cfgServerPowerLastDayMaxTime	Max.LastDay.Timestamp
cfgServerPowerLastWeekMinPower	Min.LastWeek
cfgServerPowerLastWeekMinTime	Min.LastWeek.Timestamp
cfgServerPowerLastWeekMaxPower	Max.LastWeek
cfgServerPowerLastWeekMaxTime	Max.LastWeek.Timestamp
cfgServerPowerInstHeadroom	Realtime.Headroom
cfgServerPowerPeakHeadroom	Max.Headroom
cfgServerActualAmperageConsumption	Realtime.Amps
cfgServerPeakAmperage	Max.Amps
cfgServerPeakAmperageTimeStamp	Max.Amps.Timestamp
cfgServerCumulativePowerConsumption	EnergyConsumption
cfgServerCumulativePowerConsumptionTimeStamp	EnergyConsumption.StarttimeStamp
cfgServerCumulativePowerClear	EnergyConsumption.Clear
cfgServerPowerPicEAllocation	PCIePowerAllocation
cfgServerPowerSupply	System.Power.Supply
cfgServerPowerSupplyIndex	Index
cfgServerPowerSupplyInputStatus	LineStatus

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgServerPowerSupplyMaxInputPower	MaxInputPower
cfgServerPowerSupplyMaxOutputPower	MaxOutputPower
cfgServerPowerSupplyOnlineStatus	Status
cfgServerPowerSupplyFwVer	FwVer
cfgServerPowerSupplyCurrentDraw	CurrentDraw
cfgServerPowerSupplyType	Type
cfgServerPowerBusMonitoring	PMBusMonitoring
cfgUserAdmin	iDRAC.Users
cfgUserAdminIndex	NA
cfgUserAdminUserName	UserName
cfgUserAdminPassword	Password
cfgUserAdminEnable	Enable
cfgUserAdminPrivilege	Privilege
cfgUserAdminIpmiLanPrivilege	IpmiLanPrivilege
cfgUserAdminIpmiSerialPrivilege	IpmiSerialPrivilege
cfgUserAdminSolEnable	SolEnable
cfgRemoteHosts	iDRAC.SysLog
cfgRhostsSyslogEnable	SysLogEnable
cfgRhostsSyslogServer1	Server1
cfgRhostsSyslogServer2	Server2
cfgRhostsSyslogServer3	Server3
cfgRhostsSyslogPort	Port
cfgRhostsFwUpdateTftpEnable	FwUpdateTFTPEnable
cfgRhostsFwUpdateIpAddr	FwUpdateIPAddr
cfgRhostsFwUpdatePath	FwUpdatePath
cfgRhostsSmtpServerIpAddr	SMTPServerIPAddress
cfgEmailAlert	iDRAC.EmailAlert
cfgEmailAlertIndex	NA
cfgEmailAlertEnable	Enable

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgEmailAlertAddress	Address
cfgEmailAlertCustomMsg	CustomMsg
cfgSsnMgtSshIdleTimeout	iDRAC.SSH
	Enable
	Port
	Timeout
cfgSsnMgtRacadmTimeout	iDRAC.Racadm
	Enable
	Timeout
cfgSsnMgtConsRedirMaxSessions	iDRAC.VirtualConsole
	EncryptEnable
	Enable
	PluginType
	LocalVideo
	Port
	MaxSessions
	Timeout
	AccessPrivilege
cfgSsnMgtWebserverTimeout	iDRAC.Webserver
	Enable
	HttpPort
	Timeout
	HttpsPort
	LowerEncryptionBitLength
[cfgSerial]	iDRAC.Serial
cfgSerialBaudRate	BaudRate
cfgSerialConsoleEnable	Enable
cfgSerialConsoleIdleTimeout	IdleTimeout
cfgSerialConsoleNoAuth	NoAuth

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgSerialConsoleCommand	Command
cfgSerialHistorySize	HistorySize
cfgSerialConsoleQuitKey	QuitKey
cfgSerialCom2RedirEnable	Enable
cfgSerialSshEnable	iDRAC.SSH
[cfgOobSnmp]	iDRAC.SNMP
cfgOobSnmpAgentEnable	AgentEnable
cfgOobSnmpAgentCommunity	AgentCommunity
cfgNetTuningNic100MB	iDRAC.Nic
cfgNetTuningNicFullDuplex	iDRAC.Nic
cfgNetTuningNicMtu	iDRAC.Nic
cfgNetTuningNicAutoneg	iDRAC.Nic
cfgRacTuneRemoteRacadmEnable=1	iDRAC.Racadm
cfgRacTuneWebserverEnable=1	iDRAC.Webserver
cfgRacTuneHttpPort=80	iDRAC.Webserver
cfgRacTuneHttpsPort=443	iDRAC.Webserver
cfgRacTuneSshPort=22	iDRAC.SSH
cfgRacTuneConRedirEnable=1	iDRAC.VirtualConsole
cfgRacTuneConRedirPort=5900	iDRAC.VirtualConsole
cfgRacTuneConRedirEncryptEnable=1	iDRAC.VirtualConsole
cfgRacTuneLocalServerVideo=1	iDRAC.VirtualConsole
cfgRacTuneIpRangeEnable=0	RangeEnable
cfgRacTuneIpRangeAddr=192.168.1.1	RangeAddr
cfgRacTuneIpRangeMask=255.255.255.0	RangeMask
cfgRacTuneTimezoneOffset=0	TimeZoneOffset
cfgRacTuneDaylightOffset=0	DaylightOffset
cfgRacTuneAsrEnable=1	TBD
cfgRacTunePlugintype=0	iDRAC.VirtualConsole
cfgRacTuneCtrlEConfigDisable=0	PrebootConfig

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgRacTuneLocalConfigDisable=0	LocalConfig
cfgRacTuneVirtualConsoleAuthorizeMultipleSessions=0	iDRAC.VirtualConsole
ifcRacManagedNodeOs	System.ServerOS
ifcRacMnOsHostname	HostName
ifcRacMnOsOsName	OSName
cfgRacSecurity	iDRAC.Security
cfgRacSecCsrKeySize	CsrKeySize
cfgRacSecCsrCommonName	CsrCommonName
cfgRacSecCsrOrganizationName	CsrOrganizationName
cfgRacSecCsrOrganizationUnit	CsrOrganizationUnit
cfgRacSecCsrLocalityName	CsrLocalityName
cfgRacSecCsrStateName	CsrStateName
cfgRacSecCsrCountryCode	CsrCountryCode
cfgRacSecCsrEmailAddr	CsrEmailAddr
cfgRacVirtual	iDRAC.VirtualMedia
cfgVirMediaAttached	Attached
cfgVirtualBootOnce	BootOnce
cfgVirMediaFloppyEmulation	FloppyEmulation
cfgLDAP	iDRAC.LDAP
cfgLdapEnable	Enable
cfgLdapServer	Server
cfgLdapPort	Port
cfgLdapBaseDN	BaseDN
cfgLdapUserAttribute	UserAttribute
cfgLdapGroupAttribute	GroupAttribute
cfgLdapGroupAttributeIsDN	GroupAttributeIsDN
cfgLdapBindDN	BindDN
# cfgLdapBindPassword	BindPassword
cfgLdapSearchFilter	SearchFilter

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgLdapCertValidationEnable	CertValidationEnable
cfgLdapRoleGroup	iDRAC.LDApRole
cfgLdapRoleGroupIndex	NA
cfgLdapRoleGroupDN	DN
cfgLdapRoleGroupPrivilege	Privilege
cfgStandardSchema	iDRAC.ADGroup
cfgSSADRoleGroupIndex	NA
cfgSSADRoleGroupName	Name
cfgSSADRoleGroupDomain	Domain
cfgSSADRoleGroupPrivilege	Privilege
cfgIpmiSerial	iDRAC.IPMISerial
cfgIpmiSerialConnectionMode	ConnectionMode
cfgIpmiSerialBaudRate	BaudRate
cfgIpmiSerialFlowControl	FlowControl
cfgIpmiSerialChanPrivLimit	ChanPrivLimit
cfgIpmiSerialLineEdit	LineEdit
cfgIpmiSerialDeleteControl	DeleteControl
cfgIpmiSerialEchoControl	EchoControl
cfgIpmiSerialHandshakeControl	HandshakeControl
cfgIpmiSerialNewLineSequence	NewLineSeq
cfgIpmiSerialInputNewLineSequence	InputNewLineSeq
cfgIpmiSol	iDRAC.IPMISol
cfgIpmiSolEnable	Enable
cfgIpmiSolBaudRate	BaudRate
cfgIpmiSolMinPrivilege	MinPrivilege
cfgIpmiSolAccumulateInterval	AccumulateInterval
cfgIpmiSolSendThreshold	SendThreshold
cfgIpmiLan	iDRAC.IPMILan
cfgIpmiLanEnable	Enable

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgIpmiLanPrivilegeLimit	PrivLimit
cfgIpmiLanAlertEnable	AlertEnable
cfgIpmiEncryptionKey	EncryptionKey
cfgIpmiPetCommunityName	CommunityName
cfgUserDomain	iDRAC.UserDomain
cfgUserDomainIndex	NA
cfgUserDomainName	Name
cfgSmartCard	iDRAC.SmartCard
cfgSmartCardLogonEnable	SmartCardLogonEnable
cfgSmartCardCRLEnable	SmartCardCRLEnable
cfgVFlashSD	iDRAC.vFlashSD
cfgVFlashSDSize	Size
cfgVFlashSDLicensed	Licensed
cfgVFlashSDAvailableSize	AvailableSize
cfgVFlashSDHealth	Health
cfgVFlashSDEnable	Enable
cfgVFlashSDWriteProtect	WriteProtect
cfgVFlashSDInitialized	Initialized
cfgVFlashPartition	iDRAC.vFlashPartition
cfgVFlashPartitionIndex	NA
cfgVFlashPartitionSize	Size
cfgVFlashPartitionEmulationType	EmulationType
cfgVFlashPartitionFlashOSVolLabel	VolumeLabel
cfgVFlashPartitionFormatType	FormatType
cfgVFlashPartitionAccessType	AccessType
cfgVFlashPartitionAttachState	AttachState
cfgServerInfo	iDRAC.ServerBoot
cfgServerBootOnce	BootOnce
cfgServerFirstBootDevice	FirstBootDevice

Table 126. Legacy and New Groups and Objects (continued)

Legacy Groups and Objects	New Groups and Objects
cfgLogging	iDRAC.Logging
cfgLoggingSELOEMEventFilterEnable	SELOEMEventFilterEnable
cfgIpmiPetAlertEnable	Enable
cfgIpmiPetAlertDestIpAddr	DestAddr

Topics:

- cfgSSADRoleGroupPrivilege (Read or Write)

cfgSSADRoleGroupPrivilege (Read or Write)

Table 127. cfgSSADRoleGroupPrivilege

Description	Use the bit mask numbers listed in the table below to set role-based authority privileges for a Role Group.
Legal Values	• For iDRAC: 0x00000000 to 0x000001ff
Default	<blank>

Example

```
racadm get -g cfgStandardSchema -i 1
```

```
# cfgSSADRoleGroupIndex=1
cfgSSADRoleGroupName=blsys-1
cfgSSADRoleGroupDomain=
cfgSSADRolGroupPrivilege=3081
```

Table 128. Role Group privileges and their Bit Masks

Role Group Privilege	Bit Mask
Login to iDRAC	0x00000001
Configure iDRAC	0x00000002
Configure Users	0x00000004
Clear Logs	0x00000008
Execute Server Control Commands	0x00000010
Access Virtual Console	0x00000020
Access Virtual Media	0x00000040
Test Alerts	0x00000080
Execute Debug Commands	0x00000100

5

Error Codes

An error code or a return code is an integer value which represents the status of a command that is run. Running any valid racadm command generates an error code.

To view an error code, you need to run another command after completion of the original command as below:

- `echo$?`—for Linux operating system
- `echo %errorlevel%`—for Windows operating system

Error Code	Description
0	Success
1	Generic Failure Example: • All iDRAC internal failures • Any read/write failures of iDRAC internal data • Failures due to unknown reasons
2	• When an invalid or out of range value is specified for any argument. • When the length of an argument (filename/path) is larger than allowed.
3	• When racadm command entered is incorrect/invalid. • When any command/option entered is not supported with the current interface/platform.
4	Syntax of the command is not correct, or invalid number of arguments are passed to the command.
5	When current iDRAC user does not have privileges to run the command.
6	When current iDRAC user does not have the required iDRAC license, or the existing license has expired.
7	When iDRAC does not have enough resources.
8	When iDRAC is running a similar job.
9	Failures (Write failures, invalid share details, mount failures, and so on) related to remote shares (CIFS/NFS/FTP/TFTP/HTTP/HTTPS).
10	Failure to transfer data from/to local interface
11	• When lockdown mode is enabled. • When dependent feature is disabled. • When dependent attributes are not configured/invalid.
12	Unable to connect to iDRAC remotely (remote racadm connect failures).
13	Issues related to IPMI failures.
14	Failure to transfer data from remote Interface.
15	Any session-related issues or state of the command.
16	Commands failing due to Invalid Keys/Signing Error.
17	Syntax of the command is correct but arguments that are passed to the command are not correct (Invalid FQDD, Invalid Object Specified).