Dell EMC OpenManage Enterprise Modular Edition Version 1.20.10 for PowerEdge MX7000 Chassis

RACADM Command Line Reference Guide

August 2020
Rev. A00

DELL EMC

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

1

Introduction

This document provides information about the RACADM subcommands, supported RACADM interfaces, and property database groups and object definitions for Dell EMC OpenManage Enterprise Modular (OME – Modular).

Topics:

New in this release

- Added the attribute, `switch-<n>` to the command,`connect` to facilitate connection to I/O module serial consoles.

Supported RACADM Interfaces

The RACADM command-line utility provides a scriptable interface that enables you to configure your OME - Modular. The utility runs on the management station and the managed system. It is available on the *Dell OpenManage Systems Management and Documentation* DVD or at **dell.com/support**.

Use racadm commands to set basic attributes such as, IP address attributes, to access the system. RACADM does not support multiple dependent attributes in a single execution. Use RESTful API or web interface to configure multiple or complex attributes, such as DNS registration attributes.

The RACADM utility supports the following interfaces:

- SSH—Also referred as Firmware RACADM, is accessible by logging in to OME-Modular using SSH.

  When there is a change in the chassis management network, all active sessions that are listed on the **User Sessions** page, are not terminated automatically.

- Remote—Supports running RACADM commands from a remote management station such as a laptop or desktop. Install the DRAC Tools utility from the OpenManage software on the remote system to run remote RACADM commands. To run remote RACADM commands, you must formulate the command such as an SSH RACADM command except that you must also use the **–r -i** options or the **–r –u –p** options. For more information about these options, see the "RACADM Subcommand Details."

NOTE: A log for remote racadm session (login or logout) is displayed in the **Audit Logs** page, irrespective of the remote racadm status. However, the feature does not work if the remote racadm option is disabled.

NOTE: For MX systems, if the TLS 1.2 is not enabled in the browser, remote racadm commands fail.

NOTE: The CLI interface does not support the special characters—'&', '|',''',''',>','<', '$(', '$\{', 'sudo', 'lsudo', 'lpath', and 'history'.

RACADM Command Options

Table 1. Details of RACADM command options

Option	Description
-r *<raclpAddr>*	Specifies the controller's remote IP address.

Table 1. Details of RACADM command options (continued)

Option	Description
-u *<usrName>*	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 is not allowed.
-p *<password>*	Specifies the password that is used to authenticate the command transaction. If the **-p** option is used, the **-i** option is not allowed.
-S	Specifies that RACADM should check for invalid certificate errors. RACADM stops the execution of the command with an error message if it detects an invalid certificate.
-i *<indexnumber>*	Specifies the index number for the indexed group, if applicable.
-g *<groupname>*	Specifies the group name, if applicable.
-o *objectname*	Specifies the object name, if applicable.
-m *objectname*	Specifies the module.

Table 2. Supported RACADM interfaces

Type	Local RACADM Address	SSH RACADM	Remote RACADM
OME-Modular	No	Yes	Yes

NOTE: Multiple instances of remote RACADM can be run on a management station.

Displayable Characters

Displayable characters include the following set:

- `abcdefghijklmnopqrstuvwxwz`
- `ABCDEFGHIJKLMNOPQRSTUVWXYZ`
- `0123456789~`!@#$%^&*()_+-={}[]|\:";'<>,.?/`

Other documents you may need

Table 3. List of documents

Name of the document	Brief introduction of the document
OpenManage Enterprise Modular RACADM Command Line Reference Guide	This document contains information about the RACADM sub-commands, supported interfaces, and property database groups and object definitions.
OpenManage Enterprise Modular Release Notes	This document provides the latest updates to the system or documentation or advanced technical reference material intended for experienced users or technicians.
OpenManage Enterprise and OpenManage Enterprise – Modular RESTful API Guide	This document provides information about integrating your applications with OpenManage Enterprise Modular, using the RESTful API commands.
Integrated Dell Remote Access Controller (iDRAC) User's Guide	This document provides information about installation, configuration, and maintenance of the iDRAC on managed systems.
OS10 Enterprise Edition User Guide	This document provides information about the features of the OS10 switches and using commands in the IOM CLI to configure the switches.

Table 3. List of documents (continued)

Name of the document	Brief introduction of the document
Dell EMC PowerEdge MX7000 Enclosure Installation and Service Manual	This document provides information about installing and replacing components in the PowerEdge MX7000 enclosure.
Dell EMC PowerEdge MX5016s and MX5000s Installation and Service Manual	This document provides information about installing and replacing components in the PowerEdge MX5016s storage sled and PowerEdge MX5000s SAS IOM.

2

RACADM sub command details

This section provides detailed descriptions about the RACADM subcommands, including the syntax and valid entries.

Topics:

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 double quotation marks:

- $ (dollar sign)
- " (double quotation mark)
- ` (backward quotation mark)
- \ (backward slash)
- ~ (tilde)
- ; (semicolon)
- | (vertical bar)
- ((left parentheses)
-) (right parentheses)

- # (pound)
- ASCII code 32 (space)

NOTE: The - (dash) character cannot be the first character of the string, regardless of whether the string is quoted.

There are different escaping rules for double quotation marks.

There are different escaping rules for using single quotation mark and double quotation marks.

For using double quotation marks:

The following characters must be escaped by prepending a backward slash:

- $ (dollar sign)
- " (double quotation mark)
- ' (single quotation marks)
- ` (back quotation mark)
- \ (backward slash)

For example, use the following for a string that contains the special characters, $, ",',`and \.

For using single quotation marks:

- No character escaping is necessary.
- A single quotation mark cannot be used even with a backslash escaped.

NOTE: An empty string may be specified as either "" (using double quotation marks) or '' (using single quotation mark).

For an incorrectly formulated command, following are the possible errors:

- `forbidden command`
- `invalid subcommand specified`
- `invalid syntax`
- `forbidden syntax`

NOTE: If invalid command options are run in the RACADM CLI, unexpected error messages are displayed.

Question mark and question mark with subcommand

Description

Displays all the subcommands you can use with the RACADM command and a one-line description of each subcommand.

? followed by <*subcommand*> displays the syntax for the specified command.

You can also use the **help** and **help <*subcommand*>** commands to obtain the same information.

Synopsis

- `racadm ?`
- `racadm ? <subcommand>`

Input

```
racadm ?
```

```
racadm ? <subcommand>
```

Example

Example for RACADM ?

The following output example shows only part of the actual output for the racadm ? command. Descriptions shown in this example may vary slightly from the descriptions in your racadm session.

```
racadm ?
```

```
help            -- list racadm subcommand description
help <subcommand> -- display usage summary for a subcommand
```

```
?                -- list racadm subcommand description
? <subcommand>   -- display usage summary for a subcommand
arp              -- display the networking arp table
chassisaction    -- execute chassis or switch power-up/down/cycle or
config           -- modify OME-Modular configuration properties
...
setniccfg        -- modify network configuration properties
traceroute       -- determine the route of a packet
traceroute6      -- determine the route of a packet
```

Example for RACADM ? <*subcommand*>

```
racadm ? getsysinfo
```

```
getsysinfo -- display general OME-Modular and system information
Usage:
racadm getsysinfo [-d] [-c] [-4] [-6]
------------------------------------------------------------
Valid Options:
-d : show OME-Modular information
-c : show chassis information
-4 : show OME-Modular IPv4 information
-6 : show OME-Modular IPv6 information
```

help and help with subcommand

Description

Lists all the subcommands available for use with **RACADM** and provides a short description for each. You may also type a subcommand, group, object, or FQDD alternate name after **help**

Synopsis

- `racadm help`
- `racadm help <subcommand>`

Input

None

Example

```
racadm help
```

```
racadm help deploy
```

NOTE:

- The **help** command displays a complete list of subcommands.
- The racadm **help <*subcommand*>** command displays information for the specified subcommand only.

arp

Description

Displays the networking ARP table.

Synopsis

```
racadm arp
```

Input

```
racadm arp
```

Example

Table 4. racadm arp

Address	HWtype	HWaddress	Flags Mask	Iface
192.168.0.120	ether	00:00:5e:00:01:01	C	pub

Table 4. racadm arp (continued)

Address	HWtype	HWaddress	Flags Mask	Iface
192.168.1.120	ether	90:b1:1c:f4:32:09	C	pub
192.168.0.121	ether	90:b1:1c:f4:34:f4	C	pub

chassisaction

Description

Runs the turn on, turn off, power cycle, or reset operation.

Synopsis

```
racadm chassisaction [-m <module>] <action>
```

Input

- `-m`—Must be one of the following values:
  - `chassis`—Default state if `-m` is not specified.
  - `switch-<n>`—Where n =1-6
- `<action>`—Must be one of the following values:
  - `powerdown`—Graceful shutdown of the module
  - `powerup`—Turns on the module
  - `powercycle`—Graceful restart of the module
  - `nongraceshutdown`—Nongraceful shutdown of the module
  - `reset`—Hard reset of the module

NOTE: The valid option for `<module = switch>` is reset.

Example

- Perform a reset of switch-2

```
racadm chassisaction -m switch-2 reset
```

- Perform a non-graceful shutdown of the chassis

```
racadm chassisaction -m chassis nongraceshutdown
```

chassisgroup

Description

Approves or rejects the chassis addition requests. You can also use this command to view the chassis group details. Supported options are:

- `racadm chassisgroup help add`
- `racadm chassisgroup help view`
- `racadm chassisgroup help admit`
- `racadm chassisgroup help deny`

Synopsis

```
racadm chassisgroup <chassisgroup command type>
```

Input

- `-m`—IPv4 address of stand-alone chassis
- `-l`—IPv4 address of leader chassis
- `-g`—Name of the chassis group
- `--pending`— Pending requests to join the group
- `--discovered`— Discovered chassis in the wired environment

Examples

- Executes on a leader, adds a stand-alone chassis to the group:

```
racadm chassisgroup add -m 192.168.0.1
```

- View members present in a group:

```
racadm chassisgroup view members
```

```
racadm chassisgroup view members --pending
```

```
racadm chassisgroup view members --discovered
```

```
racadm chassisgroup view groups
```

- Executes on a stand-alone, adds a stand-alone chassis to the group:

```
racadm chassisgroup add -g <groupname>
```

- Executes on a standalone using lead IP, adds a stand-alone chassis to the group:

```
racadm chassisgroup add -l 192.168.0.1
```

- Admits a chassis to the chassis group

```
racadm chassisgroup admit -m 192.168.0.1
```

- Denies entry of the stand-alone chassis to the group:

```
racadm chassisgroup deny -m 192.168.0.1
```

chassislog

Description

Displays the records in the active chassis log. The most recent, that is a maximum of 25 records, are displayed by default. However, you can add the option, `-n all` to see all the records. Supported options are:

```
racadm chassislog chassislog view [-i]
```

```
racadm chassislog view [-c <category>] [-s <severity>] [-b
<subcategory>] [-q <sequence no.>] [-n <number of records>] [-r <start
timestamp>] [-e <end timestamp>]
```

Synopsis

- `-i`—Displays the sequence number of the first and the last record present in the active chassis log. You cannot use this option with any other option.

  NOTE: The sequence number of the chassis logs may not be continuous.

- `-c`—The category used to filter the records. Provide multiple categories using a "," as the delimiter. The value is case-insensitive. The valid values are:
  - System
  - Config
  - Updates
  - Audit
- `-s`—The severity used to filter the records. Provide multiple severities using a "," as the delimiter. The value is case-insensitive. The valid values are:
  - Critical
  - Warning
  - Info

- `-b`—The subcategory used to filter the records. Provide multiple subcategories using a "," as the delimiter. The value is case-insensitive. The valid values are:
  - `CDEV`—Devices
  - `CAPP`—Application
  - `CTEM`—Templates
  - `CSEC`—Security
  - `CMON`—Monitoring
  - `CDPY`—Deployment
  - `CREP`—Reports
  - `CGRP`—Groups
  - `CDIS`—Discovery
  - `CINV`—Inventory
  - `CGEN`—Generic
  - `CUPD`—Firmware update
  - `CFWS`—Setup
  - `CUSR`—User audit messages
  - `CJOB`—Job info
  - `CMSC`—Miscellaneous
- `-q`—The sequence number from which the records must be displayed. Records older than this sequence number are displayed.
- `-n`—Specifies the number of records that must be displayed. If the number is not specified, the recent 25 records are displayed. The option, "all", displays all the available records.
- `-r`—Displays events that have occurred after this time. The time format is `yyyy-mm-dd HH:MM:SS`. The timestamp must be mentioned within double quotes.
- `-e`—Displays events that have occurred before this time. The time format is `yyyy-mm-dd HH:MM:SS`. The timestamp must be mentioned within double quotes.

Input

To view chassis log

```
racadm chassislog view
```

Example

- Display the latest 25 records from the active chassis log:

  ```
  racadm chassislog view
  ```

- Display the sequence number of the first and the last record present in the chassis log:

  ```
  racadm chassislog view -i
  ```

- Display the records under audit and system categories with severities set to warning or critical:

  ```
  racadm chassislog view -c Audit,system -s warning,critical
  ```

- Display the records with severities set to warning or critical, starting from sequence number 4:

  ```
  racadm chassislog view -s warning,critical -q 4
  ```

- Display five records starting from sequence number 20:

  ```
  racadm chassislog view -q 20 -n 5
  ```

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

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

cmcchangeover

Description Changes the redundant state of the management module from active to standby and standby to active.

Synopsis

```
racadm cmcchangeover
```

Input racadm cmcchangeover

Example NA

NOTE: During a failover, the chassis power state on the OME - Modular GUI is displayed as "off". The original power state is displayed after the inventory is refreshed.

config

Description Modifies the configuration properties of the management module.

NOTE: Use `racadm config` command to set basic attributes such as IP address attributes, to access the system. To configure complex or multiple networking attributes such as DNS registration attributes use the RESTful API or OME-Modular web interface. The racadm interface does not facilitate setting multiple dependent attributes in a single call.

Synopsis

```
racadm config -g <group> -o <object> <value> [-m <module>]
```

```
racadm config -g <group> -i <index> -o <object> <value>
```

Input

- `-g`—Configuration group to which the object belongs
- `-o`—Configuration object to configure
- `-i`—Index of indexed group, which is used with `-g` and `-o`
- `-m`—The `module` must have one of the following values: `- storage-<n>-` where n=1 to 8

  NOTE: The storage -<n> option is available only for `cfgStorageModule`
- `<value>`—Value of the configuration object

Example

- Configure a single property of a group:

  ```
  racadm config -g cfgLanNetworking -o cfgDNSRacName NAME
  ```
- Configure a single property of a group for a particular user:

  ```
  racadm config -g cfgUserAdmin -i 2 -o cfgUserAdminPassword PASSWORD
  ```

connect

Description Connects to switch or blade serial console. The `connect` command is supported only on firmware interfaces.

NOTE: To terminate `racadm connect` command, use control+\(backslash).

NOTE: You can connect eight serial sessions simultaneously for compute sleds using `racadm connect` command.

Synopsis

```
racadm connect [-b] -m <module>
```

Input

- `-b`—Binary mode

  If `-b` is used, reset OME-Modular to terminate the `connect`.

- `-m`—The `<module>` option must be one of the following values:
  - `server-<n>`—where n = 1-8
  - `switch-<n>`—where n = 1-6

CAUTION: When run from the OME–Modular serial console, the `connect -b` option stays connected until the management module resets or the serial console is terminated. This connection is a potential security risk.

NOTE: The `racadm connect` to server prompts you to enter the iDRAC credentials for connecting to the server.

Example

- Connect to server 1 serial console:

```
racadm connect -m server-1
```

- Connect to I/O module 1 serial console:

```
racadm connect -m switch-1
```

NOTE: When you run the `racadm connect -m switch-<N>` command for the first time, the option to enter the user credentials is not displayed. Press Enter again to view the option to enter the user credentials.

NOTE: Use quit key that is configured on the iDRAC to quit the console.

NOTE: When you run the command, `racadm connect -m switch-<N>`, the first time, the option to enter the user credentials is not displayed. Press [Enter] again to view the option to enter the user credentials.

deploy

Description

Deploys blade or IOM by specifying required properties.

In the firmware or SSH racadm interface, enter a backward slash before the string. For example: xyz \^123. In remote racadm, enter the string in double quotes. For example: "xyz^123".

NOTE: The quick deploy command is not supported in RACADM.

Synopsis

```
racadm deploy -m server-<n> -u root -p <password> -s <ipaddress>
<subnet> <gateway>
```

```
racadm deploy -m server-<n> -u root -p <password> -s -6 <ipv6Address>
<prefixlen> <gateway>
```

```
racadm deploy -m server-<n> -u root -p <password> -d [-6]
```

```
racadm deploy -m switch-<n> -u root -p <password>
```

```
racadm deploy -m switch-<n> -v SNMPv2 <snmpCommunityString> ro
```

```
racadm deploy -a [server|switch] -u root -p <password>
```

NOTE: For IOMs, you can only configure SNMPv2 community strings.

Input

- `-m—<module>`—must be one of the following values:
  - `server`
  - `switch`
- `-a—[server|switch]`—applies options to all modules present in the chassis of the given module type; if specified must be one of the following values:
  - `server`
  - `switch`

  If the module type is not specified, the default type is `server`.

  NOTE: Switches must support Ethernet management.
- `-u`—The username for servers must be 'root'.
- `-p`—Password for the given username. For a server, the password must be 1-20 characters with ASCII value in the 32-126 range.

  NOTE: The MXG610s IOM does not support colon, ":", in passwords.

  NOTE: You can configure only the "root" user password for servers, using the `deploy` command.
- `-s`— The `<ipaddress> <subnet> <gateway>` sets static IPV4 network configuration for server. The `<ipAddress>`, `<netmask>`, and `<gateway>` must be typed as dotted decimal strings.
- `-s`—The attribute string, `-6 <ipv6Address> <prefixlen> <gateway>`, sets static IPV6 network configuration for server. The attributes, `<ipv6Address>` and `<gateway>`, must be entered as colon separated IPV6 strings.
- `-d`—Enables DHCP for the specified server.
- `-d—[-6]` : enables DHCP for the specified server. The `-6` option enables IPV6 autoconfiguration.
- `-v`—The `SNMPv2 <snmpCommunityString> ro` string sets the protocol version to SNMPv2.

  The `SNMPv1 <snmpCommunityString> ro` sets the protocol version to SNMPv1, and its permissions as read-only. The length of the `snmpCommunityString` must be 1-20 characters with ASCII value in the 32-125 range.

  NOTE: SNMPv2 community string setting is allowed only for Network IOMs. SNMPv1 community string setting is allowed only for MXG610s IOMs.

Example

- Set root password, configure static IPv4 address for server-1

```
racadm deploy -m server-1 -u root -p <password> -s 192.168.0.20
255.255.255.0 192.168.0.1
```

- Set root password, configure static IPv6 address for server-1

```
racadm deploy -m server-1 -u root -p <password> -s -6 2001:DB8::2 64
2001:DB8::1
```

- Set root password and enable DHCP for server-3

```
racadm deploy -m server-3 -u root -p <password> -d
```

- Set root password and enable IPv6 DHCP for server-3

```
racadm deploy -m server-3 -u root -p <password> -d -6
```

- Set password for switch-1

```
racadm deploy -m switch-1 -u root -p <password>
```

- Set SNMPv2 community string for switch-1

```
racadm deploy -m switch-1 -v SNMPv2 DemoCommunityString ro
```

- Set SNMPv1 community string for switch-5

```
racadm deploy -m switch-5 -v SNMPv1
CommStrPart1,CommStrPart2,CommStrPart3 ro
```

- Set root password to "calvin" for all servers

```
racadm deploy -a -u root -p calvin
```

- Set password for all switches

```
racadm deploy -a switch -u root -p <password>
```

faultlist

Description

Displays the active error message in the chassis subsystem.

Synopsis

```
racadm faultlist view
$ racadm faultlist view
```

Example

```
SubSystem  = System.Modular.7
Message    = CPU 1 is absent
InstanceId  = Fault#02200004#1
Severity   = Critical
MessageId   = CPU0003
```

```
SubSystem  = PowerSupply
Message    = The power input of power supply 1 is lost.
InstanceId  = Fault#02200005#1
Severity   = Critical
MessageId   = PSU0003
```

```
SubSystem  = PowerSupply
Message    = The power input of power supply 5 is lost.
InstanceId  = Fault#02200006#1
Severity   = Critical
MessageId   = PSU0005
```

getconfig

Description

Displays the configuration properties of OME-Modular.

Synopsis

```
racadm getconfig -g <group> [-m <module>]
```

```
racadm getconfig -g <group> -o <object> [-m <module>]
```

```
racadm getconfig -g <group> -i <index>
```

```
racadm getconfig -g <group> -o <object> -i <index>
```

```
racadm getconfig -h
```

Input

- `-g`—Specifies the configuration group to display

- `-o`—Specifies the configuration object to display. This option is used with `-g`.
- `-i`—Specifies the index of indexed group. This option is used with `-g`.
- `-m`—The `<module>` must have one of the following values:
  - `storage-<n>`—Where n = 1 to 8

  NOTE: The `storage-<n>` option is available only for `cfgStorageModule`.
- `-h`—Displays all the available configuration groups.

Example

- Display an entire group, in this case the LAN networking:

```
racadm getconfig -g cfgLanNetworking
```

- Display a single object from a particular group:

```
racadm getconfig -g cfgLanNetworking -o cfgDNSRacName
```

- Display an indexed group:

```
racadm getconfig -g cfgUserAdmin -o cfgUserAdminPassword -i 2
```

- Display information about the service tag of the storage module:

```
racadm getconfig -g cfgStorageModule -m storage-<1 to 8> -o
cfgStorageModuleServiceTag
```

- Display all available configuration groups:

```
racadm getconfig -h
```

getmodinfo

Description

Gets module configuration and status information.

NOTE: If the Power Supply Unit (PSU) is absent, the RACADM interface displays the health state and power status for the PSU as `N/A`.

Synopsis

```
racadm getmodinfo [-m <module>]
```

Input

`-m`—The `<module>` must have one of the following values:

- `server-<n>`—Where n = 1 to 8
- `switch-<n>`—Where n = 1 to 6
- `mm-<n>` —Where n = 1, 2
- `fan-<n>`—Where n = 1 to 9
- `ps-<n>` —Where n = 1 to 6
- `storage-<n>`—chassis

Example

- Display rollup status of all the modules in the chassis.

```
racadm getmodinfo
```

- Display status of fan module 3 in the chassis.

```
racadm getmodinfo -m fan-3
```

getniccfg

Description

Displays the network settings for modules.

Synopsis

```
racadm getniccfg [-m <module>]
```

Input

`-m`—The `<module>` must be one of the following values:

- `chassis`—Default state if -m is not specified.
- `switch-<n>`—Where n = 1–6

Example

- Display switch network settings

```
racadm getniccfg -m switch-1
```

- Display chassis network settings

```
racadm getniccfg -m chassis
```

getpbinfo

Description

Gets power budget status information. If there is no power supply to the PSU, the output of the command is displayed as **Input Lost**. If there is a mismatch in the power source, for example, a PSU of 220 Volts and PSU of 110 Volts are combined, then the output of the command is displayed as **Configuration Error**.

Synopsis

```
racadm getpbinfo
```

Input

```
racadm getpbinfo
```

Example

```
racadm getpbinfo
```

```
[Power Budget Status]
System Input Power                                = 615 W (2098 BTU/h)
Peak System Power                                 = 628 W (2142 BTU/h)
Peak System Power Timestamp                       = 11:37:36 08/08/2018
Minimum System Power                              = 606 W (2067 BTU/h)
Minimum System Power Timestamp                    = 10:16:08 08/06/2018
Overall Power Health                              = Not OK
Redundancy                                        = No
System Input Power Cap                            = Disabled
Redundancy Policy                                 = None
Dynamic PSU Engagement Enabled                    = Not Applicable
System Input Max Power Capacity                   = 11571 W
Input Redundancy Reserve                          = Not Applicable
Input Power Allocated to Servers                  = Not Applicable
Input Power Allocated to Chassis Infrastructure = Not Applicable
Total Input Power Available for Allocation        = 2385 W (8137 BTU/h)
Standby Input Power Capacity                      = Not Applicable
Server Based Power Management Mode                = Not Applicable
Max Power Conservation Mode                       = Not Applicable
Server Performance Over Power Redundancy          = Not Applicable
Power Available for Server Power-on               = Not Applicable
Extended Power Performance(EPP) Status            = Not Applicable
Available Power in EPP Pool                       = Not Applicable
```

```
Used Power in EPP Pool                          = Not Applicable
EPP Percent - Available                         = Not Applicable
```

```
[Chassis Power Supply Status Table]
<Name>      <Model>       <Power State>       <Input Current>
<Input Volts>        <Output Rated
Power>

PS1         PSU.Slot.1    Online                1.55 A              226
V                3000
W


PS2         PSU.Slot.2    Online                1.57 A              227
V                3000 W
PS3         PSU.Slot.3    Online                1.65 A              227
V                3000
W


PS4         PSU.Slot.4    Slot Empty            N/A                 N/
A                 N/A
PS5         PSU.Slot.5    Slot Empty            N/A                 N/
A                 N/
A


PS6         PSU.Slot.6    Slot Empty            N/A                 N/
A
 N/A
```

```
[Server Module Power Allocation Table]
<Slot#>        <Server Name>       <Power State>    <Allocation>
<Priority>     <Blade Type>
1              SLOT-1              ON               605
W                 1             PowerEdge MX840c
2              Extension (1)       N/A              N/
A                 N/A           N/A
3              SLOT-3              ON               792
W                 1             PowerEdge MX840c
4              Extension (3)       N/A              N/
A                 N/A           N/A
5              SLOT-5              ON               227
W                 1             PowerEdge MX740c
6              SLOT-6              ON               228
W                 1             PowerEdge MX740c
7              SLOT-7              ON               240
W                 1             PowerEdge MX740c
8              SLOT-8              ON               622
W                 1             PowerEdge MX740c
```

getpminfo

Description

Gets power management status information.

Synopsis

```
racadm getpminfo
```

Input

```
racadm getpminfo
```

Example

```
[Real-Time Power Statistics]
System Input Power                              = 616 W (2101 BTU/h)
Peak System Power                               = 628 W (2142 BTU/h)
Peak System Power Start Time                    = Not Applicable
```

```
Peak System Power Timestamp                          = 11:37:36 08/08/2018
Minimum System Power                                 = 606 W (2067 BTU/h)
Minimum System Power Start Time                      = Not Applicable
Minimum System Power Timestamp                       = 10:16:08 08/06/2018
System Idle Power                                    = Not Applicable
System Potential Power                               = Not Applicable
System Input Current Reading                         = Not Applicable


[Real-Time Energy Statistics]
System Energy Consumption                            = 204 kWh
System Energy Consumption Start Time                 = Not Applicable
System Energy Consumption Timestamp                  = 05:47:05 08/20/2018


[System Power Status]
Chassis Power State                                  = ON
Overall Power Health                                 = Not OK
Redundancy                                           = No


[System Power Policy Configuration]
System Input Power Cap                               = Disabled
Redundancy Policy                                    = None
Dynamic PSU Engagement Enabled                       = Not Applicable


[Power Budgeting]
System Input Max Power Capacity                      = 11571 W
Input Redundancy Reserve                             = Not Applicable
Input Power Allocated to Servers                     = Not Applicable
Input Power Allocated to Chassis Infrastructure      = Not Applicable
Total Input Power Available for Allocation           = 2384 W (8134 BTU/h)
Standby Input Power Capacity                         = Not Applicable
```

getsensorinfo

Description

Displays system sensors.

Synopsis

```
racadm getsensorinfo
```

```
racadm getsensorinfo -c
```

Input

```
racadm getsensorinfo
```

```
racadm getsensorinfo -c
```

Where, `-c`—Compact output format

Example

- `racadm getsensorinfo`

```
<senType>     <Num>  <sensorName>  <status>     <reading>
<units>      <LC>    <UC>       <PWM>
FanSpeed      1          Fan-1       Not OK         N/A
rpm         N/A       N/A        0
FanSpeed      2          Fan-2       OK             17166
rpm         N/A       N/A        100
FanSpeed      3          Fan-3       OK             17250
rpm         N/A       N/A        100
FanSpeed      4          Fan-4       OK             17096
rpm         N/A       N/A        100
```

```
FanSpeed      5          Fan-5       OK             14513
rpm         N/A       N/A        100
FanSpeed      6          Fan-6       Not OK         N/A
rpm         N/A       N/A        0
FanSpeed      7          Fan-7       OK             14510
rpm         N/A       N/A        100
FanSpeed      8          Fan-8       OK             14479
rpm         N/A       N/A        100
FanSpeed      9          Fan-9       OK             14484
rpm         N/A       N/A        100


<senType>    <Num>    <sensorName>                 <status>  <reading>
<units>     <LC>     <UC>
Temp          1       Chassis Inlet Temperature     OK         27
Celsius     -7         47


<senType>     <Num>         <sensorName>       <status>
<health>
PWR           1             PS-1               Online
OK
PWR           2             PS-2               Input Lost
Not OK
PWR           3             PS-3               Slot Empty
N/A
PWR           4             PS-4               Online
OK
PWR           5             PS-5               Configuration Error
Not OK
PWR           6             PS-6               Slot Empty
N/A
```

- `racadm getsensorinfo -c`

```
Sensor Type: Fan
<Num>       <sensorName> <status>    <reading>   <LC>        <UC>
1           Fan-1        Not OK      N/A    rpm   N/A         N/A
2           Fan-2        OK          17174 rpm    N/A         N/A
3           Fan-3        OK          17238 rpm    N/A         N/A
4           Fan-4        OK          17081 rpm    N/A         N/A
5           Fan-5        OK          14499 rpm    N/A         N/A
6           Fan-6        Not OK      N/A    rpm   N/A         N/A
7           Fan-7        OK          14502 rpm    N/A         N/A
8           Fan-8        OK          14505 rpm    N/A         N/A
9           Fan-9        OK          14479 rpm    N/A         N/A


Sensor Type: Temp
<Num>       <sensorName>                  <status>    <reading>
<LC>        <UC>
1           Chassis Inlet Temperature      OK           27   C
-7          47


Sensor Type: Power
<Num>       <sensorName>    <status>              <health>
1           PS-1            Slot Empty             N/A
2           PS-2            Online                          OK
3           PS-3            Slot Empty             N/A
4           PS-4            Online                 OK
5           PS-5            Configuration Error    Not OK
6           PS-6            Input Lost             Not OK
```

getsysinfo

Description Displays general RAC and system information.

Synopsis

```
racadm getsysinfo [-d] [-c] [-4] [-6]
```

Input

- `-d`—Displays MM information
- `-c`—Displays chassis information
- `-4`—Displays IPv4 settings
- `-6`—Displays IPv6 settings
- `-6` without `-s` option—Sets the static IPv6 address for the chassis
- `-6` without `-d` option—Enables autoconfiguration of IPv6 for the chassis

Example

- Displays Chassis Information

  ```
  racadm getsysinfo -c
  ```

- Displays MM Information

  ```
  racadm getsysinfo -d
  ```

ifconfig

Description Displays the network interface information.

Synopsis

```
racadm ifconfig
```

ping

Description Sends ICMP echo packets on the network.

Synopsis

```
racadm ping <ipaddress>
```

Input `<ipaddress>`—The IP address of the remote endpoint to ping.

Example To ping ip address 192.168.0.1

```
racadm ping 192.168.0.1
```

ping6

Description Sends ICMP echo packets on the network.

Synopsis

```
racadm ping6 <ipaddress>
```

Input `<ipaddress>`—The IPv6 address of the remote endpoint to ping.

Example To ping ipaddress FE80:0000:0000:0000:0202:B3FF:FE1E:8329

```
racadm ping6 FE80:0000:0000:0000:0202:B3FF:FE1E:8329
```

racreset

Description Resets the RAC.

Synopsis

```
racadm racreset
```

racresetcfg

Description Restores the RAC configuration to factory defaults.

Before or after performing `racresetcfg` in the member chassis, go to the lead chassis and remove the member chassis from the MCM group.

Synopsis

```
racadm racresetcfg
```

Input

- -f—Resets all management module configurations to the default configuration and preserves the user-configured and network settings.

Running the `racresetcfg` command results in the following:

- Clears Management Module Configuration and resets to Initial settings.
- Rediscovers iDRAC.

  NOTE: iDRAC discovery may take longer, as the Chassis may not receive the MDNS message from iDRAC immediately.
- Removes the MCM grouping functionality.

NOTE: The `reset_config`, `reset_all`, `racresetcfg`, `FIPS_MODE ON/OFF` workflow clear the database and the user information is not retained. Hence, configuration restoration is logged in `DELL_INTERNAL_PROCESS`.

NOTE: If the member chassis undergoes a factory reset, it becomes a stand-alone chassis and not a member of the multi-chassis group. You can remove the member from the lead chassis.

NOTE: After performing any reset operation, wait for the IP address before performing the reset operation again.

serveraction

Description Manages the server or storage power. The supported actions are:

- `powerdown`—performs server power off.
- `powerup`—performs server power-on.
- `powercycle`—performs server power cycle.
- `hardreset`—force hard server power reset.
- `graceshutdown`—perform graceful shutdown of server.
- `reseat`—perform a virtual reseat of a server or storage.

  NOTE: This action requires `-f` option to force the action.

  NOTE: `reseat` is the only action which can be performed for the storage devices.
- `powerstatus`—display current power status of server.

  NOTE: This action is not allowed with -a option.

Synopsis

```
racadm serveraction -m <module> <action>
```

```
racadm serveraction -a <action>
```

Input

- `-m`—The `<module>` must be `server-<n>`, where n = 1 to 8
- `-a`—Performs power action on all servers

Example

- Power action on a single server:

```
racadm serveraction -m server-1 powerdown
```

- Power action on all servers:

```
racadm serveraction -a powerup
```

- Reseat action on a single storage:

```
racadm serveraction -m storage-2 -f reseat
```

setniccfg

Description

Modifies network configuration properties.

Synopsis

```
racadm setniccfg [-m <module>] -d
```

```
racadm setniccfg [-m <module>] -d [-6]
```

```
racadm setniccfg [-m <module>] -s <ipAddress> <netmask> <gateway>
```

```
racadm setniccfg [-m <module>] -s -6 <ipv6Address> <prefixlen> <gateway>
```

```
racadm setniccfg [-m <module>] -v [vlan_id]
```

Input

- `-m`—The `<module>` option must be one of the following values:
  - `switch-<n>`, where n = 1-6
  - `chassis`—The default state if `-m` is not specified.
- `-d`—Enables DHCP for the Ethernet management port.
- `-s`—Enables static IP address, netmask, and gateway settings.

  NOTE:
  - Enter the IP address, netmask, and gateway as dotted decimal strings.
  - Command also supports VLAN Configuration.
- `-v`—VLAN settings has the following legal values:
  - If there are no arguments, it implies that the VLAN tag must be removed.
  - <vlan_id> : 1-4000, 4021-4094

NOTE: Disable the DHCP option to configure the static IP.

Example

- Enable DHCP for a switch:

```
racadm setniccfg -m switch-1 -d
```

- To Enable Autoconfiguration for ipv6

```
racadm setniccfg -m chassis -d -6
```

- Configuration of switch to a static IPv4 address:

```
racadm setniccfg -m switch-1 -s 192.168.0.120 255.255.255.0
192.168.0.1
```

- Configuration of chassis to a static IPv6 address:

```
racadm setniccfg -m chassis -s -6 2001:DB8::2 64 2001:DB8::1
```

- Configuration of VLAN id for chassis:

```
racadm setniccfg -m chassis -v 1000
```

- Removal of VLAN configuration from a chassis:

```
racadm setniccfg -m chassis -v
```

swinventory

Description Displays the list of the software objects installed in the chassis.

Synopsis

```
racadm swinventory
```

Input

```
racadm swinventory
```

Example To view the software inventory:

```
racadm swinventory
```

traceroute

Description Prints the route packets trace to the network host.

Synopsis

```
racadm traceroute <host>
```

Input `<host>`—The IPv4 address or hostname of the remote endpoint to trace.

Example To execute a trace route for IP address 192.168.0.2:

```
racadm traceroute 192.168.0.2
```

traceroute6

Description Prints the route packets trace to the network host.

Synopsis

```
racadm traceroute6 <host>
```

Input `<host>`—The IPv6 address/hostname of the remote end point to trace.

Example To execute a trace route for address FE80:0000:0000:0000:0202:B3FF:FE1E:8329:

```
racadm traceroute6 FE80:0000:0000:0000:0202:B3FF:FE1E:8329
```

3

OpenManage Enterprise Modular property database group and object descriptions

You can configure a setting that does not have a hash sign (#) prefixed in the output. To modify a configurable object, use the –o option.

Topics:

cfgLanNetworking

This group contains parameters to configure OME-Modular NIC for IPv4.

One instance of the group is allowed. Some objects in this group may require management module NIC to be reset, which may cause a brief loss in connectivity. Objects that change management module NIC IP address settings close all active user sessions and require users to reconnect using the updated IP address settings.

Use this object with the `config` or `getconfig` subcommands.

To use this object property, you must have the Chassis Configuration Administrator privilege.

The following `cfgDNSServer` are used with the `cfgLanNetworking` command:

- `cfgDNSServersFromDHCP=1`
- `cfgDNSServer1=`
- `cfgDNSServer2=`
- `cfgDNSRegisterRac=0`
- `cfgDNSRacName=mx-PT0004S`
- `cfgDNSDomainName=`
- `cfgDNSDomainNameFromDHCP=0`

To change the DNS domain name, run the following commands:

1. `racadm config -g cfglannetworking -o cfgDNSRegisterRac 0`

   If **Register with DNS** is enabled.
2. `racadm config -g cfglannetworking -o cfgDNSDomainNameFromDHCP 0`
3. `racadm config -g cfglannetworking -o cfgDNSDomainName Spaceisg.com`
4. `racadm config -g cfglannetworking -o cfgDNSRegisterRac 1`

   If step 1 is applied, to return to the original state.

To change the preferred or alternate DNS name, run the following commands:

1. `racadm config -g cfglannetworking -o cfgDNSRegisterRac 0`

   If **Register with DNS** is enabled.
2. `racadm config -g cfglannetworking -o cfgDNSServersFromDHCP 0`

3. `racadm config -g cfglannetworking -o cfgDNSServer1 100.69.112.5`

   For **Alternate DNS Server name** use `cfgDNSServer2`

4. `racadm config -g cfglannetworking -o cfgDNSRegisterRac 1`

   If step 1 is applied, to return to the original state.

NOTE: You can modify the cfgDNSServer1 and cfgDNSServer2 only when cfgDNSServersFromDHCP is 0. Else, the static DNS server settings are ignored.

NOTE: Disable **Use DHCP for DNS Domain Name** to configure the **DNS Domain Name**.

NOTE: Configure the **DNS Name**, **DNS Domain Name**, and DNS server address before enabling **Register with DNS**.

The following sections provide information about the objects in the `cfgLanNetworking` group.

cfgDNSServersFromDHCP (Read or Write)

Description	Specifies if the DNS server IPv4 addresses must be assigned from the DHCP server on the network. This property is used only if DHCP is enabled.
Legal Values	• `1` — True • `0` — False
Default	0

cfgDNSServer1 (Read or Write)

Description	Specifies the IPv4 address for DNS server 1. This property is only valid if `cfgDNSServersFromDHCP` is set to `0` (FALSE). **NOTE:** `cfgDNSServer1` and `cfgDNSServer2` may be set to identical values while swapping addresses.
Legal Values	String representing a valid IPv4 address. For example: `192.168.0.20`.
Default	0.0.0.0

cfgDNSServer2 (Read or Write)

Description	Retrieves the IPv4 address for DNS server 2. This parameter is only valid if `cfgDNSServersFromDHCP` is set to `0` (FALSE). **NOTE:** `cfgDNSServer1` and `cfgDNSServer2` may be set to identical values while swapping addresses.
Legal Values	String representing a valid IPv4 address. For example: `192.168.0.20`.
Default	0.0.0.0

cfgDNSRegisterRac (Read or Write)

Description	Registers the iDRAC or management module name on the DNS server. When you set this parameter, the management module registers its DNS name for its IPv4 and IPv6 addresses with the DNS server.

Legal Values
- 1 — True
- 0 — False

Default 0

NOTE: For IPv6, only the DHCPv6 address or static address is registered.

Example:

```
racadm getconfig -g cfgLanNetworking
```

```
cfgDNSServersFromDHCP=1
```

```
cfgDNSServer1=192.168.0.5
```

```
cfgDNSServer2=192.168.0.6
```

```
cfgDNSRacName=cmc-frankly
```

```
cfgDNSDomainName=fwad.lab
```

```
cfgDNSDomainNameFromDHCP=1
```

```
cfgDNSRegisterRac=1
```

cfgDNSRacName (Read or Write)

Description Displays the management module name, which is Service Tag by default. This parameter is only valid if `cfgDNSRegisterRac` is set to `1` (TRUE).

Legal Values A string of up to 63 ASCII characters. At least one character must be alphabetic.

NOTE: Some DNS servers only register names of 31 characters or fewer.

Default cmc-<service tag>

cfgDNSDomainName (Read or Write)

Description In the DNS domain name, parameter is only valid if `cfgDNSDomainNameFromDHCP` is set to `0`(FALSE).

Legal Values A string of up to 254 ASCII characters. At least one of the characters must be alphabetic. Characters are restricted to alphanumeric, '-', and '.'.

NOTE: Microsoft Active Directory only supports Fully Qualified Domain Names (FQDN) of 64 bytes or fewer.

Default <blank>

cfgDNSDomainNameFromDHCP (Read or Write)

Description Specifies that management module DNS domain name must be assigned from the network DHCP server.

Legal Values
- 1 — True
- 0 — False

Default 0

This property is used only if DHCP is enabled for the IPv4 stack or if IPv6 and IPV6 autoconfig are enabled.

The management module can obtain its DNS domain name from either a DHCP or DHCPv6 server, if the following properties are set to `1` (true):

- `IPv4Enable`
- `NIC Enabled`
- `IPv6 Enabled`
- `Autoconfiguration Enabled`

The network administrator must ensure that these DHCP servers are configured to provide the same DNS domain name to the management module. Else, the domain name becomes unpredictable.

cfgStorageModule

Description This command is used only with the `getconfig` command.

Synopsis

Input

- `cfgStorageModuleStorageMode=<storage mode>`
- `# cfgStorageModuleServiceTag=<service tag>`
- `cfgStorageModuleAssetTag=`
- `cfgConnectedSlots=<connected slots>`

Example

- `cfgStorageModuleStorageMode=2`
- `# cfgStorageModuleServiceTag=MX0000`
- `cfgStorageModuleAssetTag=`
- `cfgConnectedSlots=2,2,2,2,2,2,2,2`

cfgStorageModuleStorageMode

Description Displays the storage module.

Synopsis

```
cfgStorageModuleStorageMode=<storage mode>
```

Input

```
cfgStorageModuleStorageMode=<storage mode>
```

NOTE:

- If the storage mode is 1, then cfgConnectedSlots will be list of all connected slots to that particular enclosure.
- If the storage mode is 2, then cfgConnectedSlots shows the assignment for each drive.

Example

```
cfgStorageModuleStorageMode=2
```

cfgStorageModuleServiceTag

Description Displays the service tag.

Synopsis

```
cfgStorageModuleServiceTag=<service tag>
```

Input

```
cfgStorageModuleServiceTag=<service tag>
```

Example

```
cfgStorageModuleServiceTag=MX0000
```

cfgStorageModuleAssetTag

Description Displays the asset tag.

Synopsis

```
cfgStorageModuleAssetTag=
```

Input

```
cfgStorageModuleAssetTag
```

Example

```
cfgStorageModuleAssetTag=xxxxxx
```

cfgConnectedSlots

Description Displays the connected slots.

Synopsis

```
cfgConnectedSlots=<connected slots>
```

Input

```
cfgConnectedSlots=<connected slots>
```

Example

```
cfgConnectedSlots=2,2,2,2,2,2,2,2
```

cfgUserAdmin

Description This group provides configuration information about the users who are enabled to access management module through the available remote interfaces.

Up to 64 instances of the user group are allowed. Each instance represents the configuration for an individual user.

Use this object with the `config` or `getconfig` subcommands. To use the command as follows: `-i <index group>`, supply an index group number.

To use this object property, you must have the chassis configuration administrator privilege.

NOTE: You can configure a setting that does not have the hash sign (#) prefixed in the output. To modify a configurable object, use the `–o` option.

cfgUserAdminPassword - Write Only

Description	The password for this user. User passwords are encrypted and cannot be seen or displayed after the property is written.
Legal Values	A string of up to 20 ASCII characters. The following characters are supported in a password: • Uppercase letters • Lowercase letters • Numbers—0-9 • Special characters—/, -, _, ., :, ,, [], "
Default	********

cfgRacTuning

This group is used to configure OME-Modular configuration properties, such as service tag or web server settings.

Use this object with the `config` or `getconfig` subcommands.

To use this object property for OME-Modular, you must have the Chassis Configuration Administrator privilege.

NOTE: You can configure a setting that does not have the hash sign (#) prefixed in the output. To modify a configurable object, use the `–o` option.

Use the `-m` option to apply this setting to OME-Modular.

cfgRacTuneWebserverEnable (Read or Write)

Description	Enables or disables the web server. If this property is disabled then it is not accessible using client web browsers. This property has no effect on the `Telnet/SSH` or `racadm interfaces`.
Legal Values	• `1` (TRUE) • `0` (FALSE)
Default	1

cfgRacTuneServiceTag

Description	Displays the service tag.
Synopsis	`cfgRacTuneServiceTag=<service tag>`
Input	`cfgRacTuneServicetag=<service tag>`
Example	`cfgRacTuneServiceTag=UY0007U`