

Dell EMC OpenManage Ansible Modules

Version 1.1 User's Guide

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.

Dell EMC OpenManage Ansible Modules

Version 3.0.0

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Overview

Dell EMC OpenManage Ansible Modules allows data center and IT administrators to use RedHat Ansible to automate and orchestrate the configuration, deployment, and update of Dell EMC PowerEdge Servers (12th generation of PowerEdge servers and later) by leveraging the management automation capabilities in-built into the Integrated Dell Remote Access Controller (iDRAC).

This user guide provides information about using **Dell EMC OpenManage Ansible Modules** and its different use cases.

In addition to dell.com/support, you can download Ansible modules from <https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC>. Modules that are downloaded from this GitHub location are supported by Dell EMC.

Topics:

- [Key Features](#)
- [What's new?](#)

Key Features

The key features in OpenManage Ansible Modules are:

- Export a server configuration profile (SCP) containing either the entire server configuration or component level configuration (iDRAC, BIOS, RAID, NIC) to a local file path on Ansible controller or a remote network share.
- Import an SCP from a local file path on Ansible controller or a remote network share.
- Support for configuration of BIOS, Integrated Dell Remote Access Controller (iDRAC), NIC, and RAID.
- Support for firmware update using a Firmware Repository hosted on a remote network share.
- Support for viewing firmware inventory details.
- Support for Windows, Linux, and ESXi operating system deployments.
- Support for configuring power controls, resetting iDRAC, viewing Lifecycle Controller (LC) job status, deleting LC job, deleting LC job queue, exporting LC logs, and configuring system lockdown mode.
- Retrieve the system inventory details.

 **NOTE:** These features are supported only on iDRAC with enterprise license.

What's new?

- Added support for streaming the **Server Configuration Profile (SCP)** within the HTTP or HTTPS messages for import or export operation to/from an iDRAC using Local file path on Ansible controller.
- A new and feature rich Storage Volume module (**dellemc_idrac_storage_volume**) to:
 - Support RAID volume creation on BOSS Controller.
 - View all the volumes for a RAID controller.
 - Create multiple RAID volumes on a storage controller using a single Ansible task.
 - Select physical disks either the respective Slot locations or Physical Disk IDs while creating a RAID volume.
 - Support multiple VD creation on a disk group.
- The **dellemc_configure_raid** module is deprecated and all the functionality are added to the new **dellemc_idrac_storage_volume** module.
- Enhanced BIOS configuration module to:
 - Support configuration of all the BIOS attributes (such as boot settings, processor settings, memory settings, system and workload profiles, system security etc).
 - Support Boot Source State modification using Redfish APIs — reorder, enable or disable boot source devices.
- Added support for providing a Custom Catalog file name while using firmware update from a DRM repository.
- Support for check mode — find out whether configuration changes are available to be made to the servers.
- New and updated playbook examples.

Getting Started

Topics:

- [How OpenManage Ansible Modules works](#)
- [Running your first Playbook](#)

How OpenManage Ansible Modules works


OpenManage Ansible modules uses iDRAC REST APIs based on Redfish standards and Server Configuration Profiles (SCP) for automated configuration, deployment and update of PowerEdge servers. An SCP contains all BIOS, iDRAC, Network and Storage settings of a PowerEdge server. You can apply them to multiple servers, enabling rapid, reliable, and reproducible configuration.

You can perform an SCP operation using any of the following methods:

- Export to or import from a remote network share via CIFS, NFS. Ensure that the remote network share is mounted on the Ansible controller with read-write privileges for user running the Ansible playbooks.
- Export or import via local file streaming (for iDRAC firmware 2.50.50.50 and above).

Setting up a local mount point for a remote network share

Mount the remote network share (CIFS or NFS) locally on the Ansible controller where you want to run the playbook or modules. Local mount point should have read-write privileges in order for OpenManage Ansible modules to write an SCP file to remote network share that will be imported by iDRAC.

 **NOTE:** Refer to Linux man pages for mounting an NFS or CIFS network share on Ansible control machine.

Running your first Playbook

To run a playbook:

1. Run the following command on the Ansible control machine:

```
ansible-playbook playbookname.yml
```

2. Press **Enter**.

With OpenManage Ansible Modules, you can construct a playbook with a set of modules resulting in a automation workflow for configuration, deployments, and updates of PowerEdge Servers.

To view the list of all available modules:

1. Run the following command on the Ansible control machine:

```
ansible-doc -l | grep "dell EMC"
```

2. Press **Enter**.

List of the available modules is displayed.

To view the documentation of a module:

1. Run the following command on the Ansible control machine:

```
ansible-doc <module name>
```

2. Press **Enter**.

Updating Firmware

You can maintain up-to-date firmware versions of Dell EMC server components to get better efficiency, security protection and enhanced features. Create update sources to do the firmware update.

Following are the tasks for the firmware update activities:

Topics:

- [Viewing Firmware Inventory](#)
- [Installing Firmware](#)

Viewing Firmware Inventory

Command: `dellemc_get_firmware_inventory`

Synopsis

You can view the firmware inventory of a server using this module. This module displays components of a server and the corresponding firmware versions.

Check_mode support: No

Options

Table 1. dellemc_get_firmware_inventory

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_username	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port

Table 2. Return Values

Name	Description	Returned	Type	Sample
Firmware Inventory	<ul style="list-style-type: none"> • Components of a server and their firmware versions. • List of dictionaries, 1 dictionary per firmware. 	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_get_firmware_inventory.md

Examples

```
-name: Get Installed Firmware Inventory
  dellemc_get_firmware_inventory:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxxx"
    idrac_pwd: "xxxxxxxxx"
```

Installing Firmware

Command: `dellemc_install_firmware`

Synopsis

You can install the firmware from a repository on a network share (CIFS, NFS) to keep the system updated.

- For 12th and 13th generation of PowerEdge servers, firmware update from a network repository is performed using WS-Man APIs.
- For 14th generation of PowerEdge servers, firmware update from a network repository is performed using the SCP.

To install the firmware:

- Make sure the network share contains a valid repository of Dell Update Packages (DUPs) and a catalog file that consists the latest DUPs.
- All applicable updates contained in the repository are applied to the system.

Check_mode support: No

Options

Table 3. dellenc_install_firmware

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
job_wait	Yes	True	<ul style="list-style-type: none"> • True • False 	<ul style="list-style-type: none"> • If the value is True, it waits for update JOB to get completed • If the value is False, it returns immediately with a JOB ID after queuing the update JOB in the job queue
catalog_file_name	No	Catalog.xml	NA	Catalog file name relative to the I (share_name).
reboot	No	False	<ul style="list-style-type: none"> • True • False 	<ul style="list-style-type: none"> • If the value is True, the system reboots after applying the updates • If the value is False, the system does not reboot after applying the updates
share_name	Yes	NA	NA	CIFS or NFS Network share
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option

Table 3. dellemc_install_firmware (continued)

Parameter	Required	Default	Choices	Comments
				is mandatory for CIFS Network share.
share_mnt	Yes	NA	NA	Local mount path of the network share with read-write permission for ansible user. This option is mandatory for Network share.

Table 4. Return Values

Name	Description	Returned	Type	Sample
Firmware	Updates firmware from a repository on a network share (CIFS, NFS)	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_install_firmware.md

Example

```
-name: Update firmware from a repository on a Network Share
  dellemc_install_firmware:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:    "xx.xx.xx.xx:/share"
    share_user:    "xxxx"
    share_pwd:     "xxxxxxxx"
    share_mnt:     "/mnt/share"
    reboot:        "True"
    job_wait:      "True"
    catalog_file_name: "Catalog.xml"
```

Configuring PowerEdge Servers

Integrated Dell Remote Access Controller (iDRAC) with LC provide the ability to generate a human-readable representation of server configuration using Server Configuration Profile (SCP) feature. This file contains BIOS, iDRAC, LC, network, and RAID configuration settings. You can modify this file as per your need and apply to other servers.

The SCP feature is used in the Ansible module to automate the configuration activity of PowerEdge servers and their components.

NOTE: OpenManage Ansible Modules version 1.1 supports iDRAC firmware version 2.50.50.50 and later.

Topics:

- [Viewing LC Status](#)
- [Exporting Server Configuration Profile](#)
- [Importing Server Configuration Profile](#)
- [Configuring iDRAC](#)
- [Configuring BIOS](#)
- [Configuring RAID](#)
- [Configuring Collect System Inventory on Restart](#)
- [Configuring Syslog](#)

Viewing LC Status

Module: `dellemc_get_lcstatus`

Synopsis

You can view the LC status on a PowerEdge server using this module. You must check the readiness of the LC before carrying out any configuration or update. This module returns the LC readiness as True or False and its status.

Check_mode support: No

Options

Table 5. `dellemc_get_lcstatus`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port

Table 6. Return Values

Name	Description	Returned	Type	Sample
LC status	Displays the LC status on a PowerEdge server	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_get_lcstatus.md

Example

```
-name: Get LC Status
  dellemc_get_lcstatus:
    idrac_ip: "xx.xx.xx.xx"
```

```

idrac_user: "xxxxx"
idrac_pwd: "xxxxxxxxx"

```

Exporting Server Configuration Profile

Module: `dellemc_export_server_config_profile`

Synopsis

You can export **Server Configuration Profile (SCP)** with various components such as iDRAC, BIOS, NIC, RAID together or with one of these components. You can export SCP from iDRAC to a local or a network shared location. For shared location, make sure that a network share path is established.

Check_mode support: No

Options

Table 7. `dellemc_export_server_config_profile`

Parameter	Required	Default	Choices	Comments
<code>export_format</code>	No	XML	<ul style="list-style-type: none"> JSON XML 	The output file format
<code>export_use</code>	No	Default	<ul style="list-style-type: none"> Default Clone Replace 	<ul style="list-style-type: none"> If C(Default), will export the SCP using the Default method If C(Clone), will export the SCP using the Clone method If C(Replace), will export the SCP using the Replace method
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>job_wait</code>	Yes	NA	<ul style="list-style-type: none"> True False 	<ul style="list-style-type: none"> If the value is True, it waits for the SCP export job to finish and returns the job completion status If the value is False, it returns immediately with a JOB ID after queuing the SCP export job in LC job queue
<code>share_name</code>	Yes	NA	NA	CIFS or NFS network share or a local path
<code>share_user</code>	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
<code>share_pwd</code>	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
<code>scp_components</code>	No	ALL	<ul style="list-style-type: none"> ALL iDRAC BIOS NIC RAID 	Specify the hardware components configuration to be exported <ul style="list-style-type: none"> If ALL, the module exports all components configurations in SCP file If iDRAC, the module exports iDRAC configuration in SCP file If BIOS, the module exports BIOS configuration in SCP file

Table 7. dellemc_export_server_config_profile (continued)

Parameter	Required	Default	Choices	Comments
				<ul style="list-style-type: none"> If NIC, the module exports NIC configuration in SCP file If RAID, the module exports RAID configuration in SCP file

Table 8. Return Values

Name	Description	Returned	Type	Sample
Export SCP	Exports the SCP to the provided network share or to the local path	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_export_server_config_profile.md

Example

```
-name: Export Server Configuration Profile (SCP)
  dellemc_export_server_config_profile:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:   "xx.xx.xx.xx:/share"
    share_user:   "xxxx"
    share_pwd:    "xxxxxxxx"
    export_format: "XML"
    export_use:   "Default"
    job_wait:     "True"
```

Importing Server Configuration Profile

Module: dellemc_import_server_config_profile

Synopsis

You can import an SCP file (in an XML or JSON format) exported from a golden PowerEdge server configuration to one or more servers, thus achieving an effortless, consistent, and automated deployment. Importing an SCP file is useful in restoring the configuration of the server to the state stored in the profile.

You can import SCP from a local or a remote share to iDRAC. For a remote share, make sure that a network share path and the file name are available. If there are component configurations (such as BIOS, RAID, NIC, iDRAC, and so on) present in the SCP file that require a server restart, you can use the **I(shutdown_type)** argument to specify whether a **Graceful** or **Forced** shutdown of the server is required.

Check_mode support: No

Options

Table 9. dellemc_import_server_config_profile

Parameter	Required	Default	Choices	Comments
end_host_power_state	No	On	<ul style="list-style-type: none"> On Off 	<ul style="list-style-type: none"> If On, End host power is on If Off, End host power is off
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
job_wait	Yes	NA	<ul style="list-style-type: none"> True False 	<ul style="list-style-type: none"> If the value is True, it waits for the SCP import job to finish and returns the job completion status

Table 9. dellemc_import_server_config_profile (continued)

Parameter	Required	Default	Choices	Comments
				<ul style="list-style-type: none"> If the value is False, it returns immediately with a JOB ID after queuing the SCP import job in LC job queue
scp_components	No	ALL	<ul style="list-style-type: none"> ALL iDRAC BIOS NIC RAID 	<ul style="list-style-type: none"> If ALL, the module imports all components configurations from SCP file If iDRAC, the module imports iDRAC configuration from SCP file If BIOS, the module imports BIOS configuration from SCP file If NIC, the module imports NIC configuration from SCP file If RAID, the module imports RAID configuration from SCP file
scp_file	Yes	NA	NA	Server Configuration Profile file name
share_name	Yes	NA	NA	Network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
shutdown_type	No	Graceful	<ul style="list-style-type: none"> Graceful Forced NoReboot 	<ul style="list-style-type: none"> If Graceful, it gracefully shuts down the server If Forced, it forcefully shuts down the system If NoReboot, it does not reboot the server

Table 10. Return Values

Name	Description	Returned	Type	Sample
Import SCP	Imports SCP from a network share or from a local file	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_import_server_config_profile.md

Example

```
-name: Import Server Configuration Profile
  dellemc_import_server_config_profile
  idrac_ip:      "xx.xx.xx.xx"
  idrac_user:    "xxxx"
  idrac_pwd:     "xxxxxxxx"
  share_name:    "xx.xx.xx.xx:/share"
  share_user:    "xxxx"
  share_pwd:     "xxxxxxxx"
  scp_file:      "scp_file.xml"
  scp_components: "ALL"
  job_wait:      "True"
```

Configuring iDRAC

Following are the modules responsible for configuring specific iDRAC attributes.

Configuring iDRAC Users

Module: `dellemc_configure_idrac_users`

Synopsis

This module creates, modifies or deletes an iDRAC local user.

Check_mode support: Yes

Options

Table 11. `dellemc_configure_idrac_users`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>share_name</code>	Yes	NA	NA	CIFS or NFS Network share or a local path
<code>share_user</code>	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
<code>share_pwd</code>	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
<code>action</code>	No	create	<ul style="list-style-type: none"> • create • delete • modify 	This value decides whether to create or delete or modify iDRAC user
<code>user_name</code>	No	NA	NA	Provide the username to be created or deleted or modified
<code>user_password</code>	No	NA	NA	Provide the password for the user to be created or modified
<code>privilege_users</code>	No	NA	<ul style="list-style-type: none"> • NoAccess • Readonly • Operator • Administrator 	Privilege user access is configurable
<code>ipmilanprivilege_users</code>	No	NA	<ul style="list-style-type: none"> • No_Access • Administrator • Operator • User 	IPMI Lan Privilege user access is configurable
<code>ipmiserialprivilege_users</code>	No	NA	<ul style="list-style-type: none"> • No_Access • Administrator • Operator • User 	IPMI Serial Privilege user access is configurable NOTE: This parameter is not supported by PowerEdge Modular servers.
<code>enable_users</code>	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Enabling or Disabling the new iDRAC user

Table 11. dellemc_configure_idrac_users (continued)

Parameter	Required	Default	Choices	Comments
solenable_users	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Enabling or Disabling SOL for iDRAC user
protocolenable_users	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Enabling or Disabling protocol for iDRAC user
authenticationprotocol_users	No	NA	<ul style="list-style-type: none"> T_None SHA MD5 	Configuring authentication protocol for iDRAC user
privacyprotocol_users	No	NA	<ul style="list-style-type: none"> T_None DES AES 	Configuring privacy protocol for iDRAC user

Table 12. Return Values

Name	Description	Returned	Type	Sample
iDRAC users	Configures the iDRAC users attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_idrac_users.md

Example

```
-name: Configure the iDRAC users attributes
  dellemc_configure_idrac_users:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    share_name: "xx.xx.xx.xx:/share"
    share_pwd: "xxxxxxxx"
    share_user: "xxxx"
    share_mnt: "/mnt/share"
    action: "create"
    user_name: "username"
    user_password: "xxxxxxxx"
    privilege_users: "Administrator"
    ipmilanprivilege_users: "Administrator"
    ipmiserialprivilege_users: "Administrator"
    enable_users: "Enabled"
    solenable_users: "Enabled"
    protocolenable_users: "Enabled"
    authenticationprotocol_users: "SHA"
    privacyprotocol_users: "AES"
```

Configuring iDRAC Timezone

Module: dellemc_configure_idrac_timezone

Synopsis

This module configures the iDRAC timezone related attributes.

Check_mode support: Yes

Options

Table 13. dellemc_configure_idrac_timezone

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username

Table 13. dellemc_configure_idrac_timezone (continued)

Parameter	Required	Default	Choices	Comments
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS Network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
setup_idrac_timezone	No	NA	NA	Configuring the timezone for iDRAC
enable_ntp	No	NA	NA	Whether to Enable or Disable NTP for iDRAC
ntp_server_1	No	NA	NA	NTP configuration for iDRAC
ntp_server_2	No	NA	NA	NTP configuration for iDRAC
ntp_server_3	No	NA	NA	NTP configuration for iDRAC

Table 14. Return Values

Name	Description	Returned	Type	Sample
iDRAC Timezone	Configures the iDRAC timezone attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_idrac_timezone.md

Example

```
-name: Configure the iDRAC timezone attributes
dellemc_configure_idrac_timezone:
  idrac_ip: "xx.xx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  share_name: "xx.xx.xx.xx:/share"
  share_pwd: "xxxxxxxx"
  share_user: "xxxx"
  share_mnt: "/mnt/share"
  setup_idrac_timezone: "UTC"
  enable_ntp: "Enabled"
  ntp_server_1: "x.x.x.x"
  ntp_server_2: "x.x.x.x"
  ntp_server_3: "x.x.x.x"
```

Configuring iDRAC Eventing

Module: dellemc_configure_idrac_eventing

Synopsis

This module configures iDRAC eventing related attributes.

Check_mode support: Yes

Options

Table 15. dellenc_configure_idrac_eventing

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS Network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
destination_number	No	None	NA	Destination number for SNMP Trap
destination	No	None	NA	Destination for SNMP Trap
snmp_v3_username	No	NA	NA	SNMP v3 username for SNMP Trap
snmp_trap_state	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable SNMP alert
email_alert_state	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable Email alert
alert_number	No	None	NA	Alert number for Email configuration
address	No	NA	NA	Email address for SNMP Trap
custom_message	No	NA	NA	Custom message for SNMP Trap reference
enable_alerts	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable iDRAC alerts
authentication	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Simple Mail Transfer Protocol Authentication
smtp_ip_address	No	NA	NA	SMTP IP address for communication
smtp_port	No	None	NA	SMTP Port number for access
username	No	None	NA	Username for SMTP authentication
password	No	None	NA	Password for SMTP authentication

Table 16. Return Values

Name	Description	Returned	Type	Sample
iDRAC eventing	Configures the iDRAC eventing attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_idrac_eventing.md

Example

```
-name: Configure the iDRAC eventing attributes
  dellemc_configure_idrac_eventing:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    share_name: "xx.xx.xx.xx:/share"
    share_pwd: "xxxxxxxx"
    share_user: "xxxx"
    share_mnt: "/mnt/share"
    destination_number: "xxxx"
    destination: "xxxx"
    snmp_v3_username: "xxxx"
    snmp_trap_state: "xxxx"
    email_alert_state: "xxxx"
    alert_number: "xxxx"
    address: "xxxxxxxxxxxx"
    custom_message: "xxxx"
    enable_alerts: "xxxxxx"
    authentication: "xxxxxx"
    smtp_ip_address: "x.x.x.x"
    smtp_port: "xxxx"
    username: "xxxx"
    password: "xxxxxxxx"
```

Configuring iDRAC Services

Module: `dellemc_configure_idrac_services`

Synopsis

This module configures the iDRAC services related attributes.

Check_mode support: Yes

Options

Table 17. `dellemc_configure_idrac_services`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>share_name</code>	Yes	NA	NA	CIFS or NFS Network share or a local path
<code>share_user</code>	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
<code>share_pwd</code>	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
<code>enable_web_server</code>	No	NA	<ul style="list-style-type: none">Enabled	Whether to Enable or Disable web server configuration for iDRAC

Table 17. dellemc_configure_idrac_services (continued)

Parameter	Required	Default	Choices	Comments
			<ul style="list-style-type: none"> Disabled 	
ssl_encryption	No	NA	<ul style="list-style-type: none"> Auto_Negotiate T_128_Bit_or_higher T_168_Bit_or_higher T_256_Bit_or_higher 	Secure Socket Layer encryption for web server
tls_protocol	No	NA	<ul style="list-style-type: none"> TLS_1_0_and_Higher TLS_1_1_and_Higher TLS_1_2_Only 	Transport Layer Security for web server
https_port	No	NA	NA	HTTPS access port
http_port	No	NA	NA	HTTP access port
timeout	No	NA	NA	Timeout value
snmp_enable	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Whether to Enable or Disable SNMP protocol for iDRAC
snmp_protocol	No	NA	<ul style="list-style-type: none"> All SNMPv3 	Type of the SNMP protocol
community_name	No	test	NA	SNMP community name for iDRAC
alert_port	No	None	NA	SNMP alert port for iDRAC
discovery_port	No	162	NA	SNMP discovery port for iDRAC
trap_format	No	None	NA	SNMP trap format for iDRAC

Table 18. Return Values

Name	Description	Returned	Type	Sample
iDRAC services	Configures the iDRAC services attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_idrac_services.md

Example

```
-name: Configure the iDRAC services attributes
  dellemc_configure_idrac_services:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    share_name: "xx.xx.xx.xx:/share"
    share_pwd: "xxxxxxxx"
    share_user: "xxxx"
    share_mnt: "/mnt/share"
    enable_web_server: "Enabled"
    http_port: "80"
    https_port: "443"
    ssl_encryption: "Auto_Negotiate"
    tls_protocol: "TLS_1_2_Only"
    timeout: "1800"
    snmp_enable: "Enabled"
    snmp_protocol: "SNMPv3"
    community_name: "test"
    alert_port: "None"
    discovery_port: "162"
    trap_format: "None"
```

Configuring iDRAC Network

Module: `dellemc_configure_idrac_network`

Synopsis

This module configures the iDRAC networking attributes.

Check_mode support: Yes

Options

Table 19. `dellemc_configure_idrac_network`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>share_name</code>	Yes	NA	NA	CIFS or NFS Network share or a local path
<code>share_user</code>	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
<code>share_pwd</code>	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
<code>setup_idrac_nic_vlan</code>	No	NA	NA	Configuring the VLAN-related setting for iDRAC
<code>register_idrac_on_dns</code>	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Registering Domain Name System for iDRAC
<code>dns_idrac_name</code>	No	NA	NA	DNS Name for iDRAC
<code>auto_config</code>	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Automatically creates the records for DNS
<code>static_dns</code>	No	NA	NA	Static configuration for DNS
<code>vlan_id</code>	No	None	NA	Configuring the VLAN ID for iDRAC
<code>vlan_priority</code>	No	None	NA	Configuring the VLAN priority for iDRAC
<code>enable_nic</code>	No	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable Network Interface Controller for iDRAC
<code>nic_selection</code>	No	NA	<ul style="list-style-type: none"> • Dedicated • LOM1 • LOM2 • LOM3 • LOM4 	Selecting Network Interface Controller types for iDRAC
<code>failover_network</code>	No	NA	<ul style="list-style-type: none"> • ALL • LOM1 • LOM2 • LOM3 • LOM4 	Failover Network Interface Controller types for iDRAC

Table 19. dellemc_configure_idrac_network (continued)

Parameter	Required	Default	Choices	Comments
			<ul style="list-style-type: none"> T_None 	
auto_detect	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Auto detect Network Interface Controller types for iDRAC
auto_negotiation	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Auto negotiation of Network Interface Controller for iDRAC
network_speed	No	NA	<ul style="list-style-type: none"> T_10 T_100 T_1000 	Network speed for Network Interface Controller types for iDRAC
duplex_mode	No	NA	<ul style="list-style-type: none"> Full Half 	Transmission of data Network Interface Controller types for iDRAC
nic_mtu	No	None	NA	NIC Maximum Transmission Unit
ip_address	No	NA	NA	IP Address needs to be defined
enable_dhcp	No	NA	NA	Whether to Enable or Disable DHCP Protocol for iDRAC
dns_from_dhcp	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Specifying Domain Name System from Dynamic Host Configuration Protocol
enable_ipv4	No	NA	<ul style="list-style-type: none"> Enabled Disabled 	Whether to Enable or Disable IPv4 configuration
static_dns_1	No	NA	NA	Specify Domain Name System Configuration
static_dns_2	No	NA	NA	Specify Domain Name System Configuration
static_gateway	No	None	NA	Interfacing the network with another protocol
static_net_mask	No	None	NA	Determine whether IP address belongs to host

Table 20. Return Values

Name	Description	Returned	Type	Sample
iDRAC network	Configures the iDRAC network attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_idrac_network.md

Example

```
-name: Configure the iDRAC network attributes
dellemc_configure_idrac_network:
  idrac_ip: "xx.xx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  share_name: "xx.xx.xx.xx:/share"
  share_pwd: "xxxxxxxx"
  share_user: "xxxx"
  share_mnt: "/mnt/share"
  register_idrac_on_dns: "Enabled"
  dns_idrac_name: "None"
  auto_config: "None"
  static_dns: "None"
  setup_idrac_nic_vlan: "Enabled"
  vlan_id: "0"
  vlan_priority: "1"
  enable_nic: "Enabled"
```

```

nic_selection:      "Dedicated"
failover_network:  "T_None"
auto_detect:       "Disabled"
auto_negotiation:  "Enabled"
network_speed:     "T_1000"
duplex_mode:       "Full"
nic_mtu:           "1500"
ip_address:        "x.x.x.x"
enable_dhcp:       "Enabled"
dns_from_dhcp:     "Enabled"
enable_ipv4:       "Enabled"
static_dns_1:      "x.x.x.x"
static_dns_2:      "x.x.x.x"
static_gateway:    "None"
static_net_mask:   "None"

```

Configuring BIOS

Module: `dellemc_configure_bios`

Synopsis

This module configures the BIOS attributes for PowerEdge servers.

Check_mode support: Yes

Options

Table 21. `dellemc_configure_bios`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>share_name</code>	No	NA	NA	CIFS or NFS network share or a local path
<code>share_user</code>	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
<code>share_pwd</code>	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
<code>boot_mode</code>	No	NA	<ul style="list-style-type: none"> Bios Uefi 	<p>(deprecated) Configures the boot mode to BIOS or UEFI.</p> <p>NOTE: This option has been deprecated, and will be removed in the later version. Please use the <code>I(attributes)</code> for BIOS attributes configuration instead.</p> <p>NOTE: <code>I(boot_mode)</code> is mutually exclusive with <code>I(boot_sources)</code>.</p>

Table 21. dellemc_configure_bios (continued)

Parameter	Required	Default	Choices	Comments
boot_sequence	No	NA	NA	<p>(deprecated) Boot devices' FQDDs in the sequential order for BIOS or UEFI Boot Sequence.</p> <p>Provide the I(boot_mode) option to determine the appropriate boot sequence to be applied.</p> <p>NOTE: This option has been deprecated, and will be removed in the later version. Please use the I(attributes) or I(boot_sources) for Boot Sequence modification instead.</p> <p>NOTE: I(boot_sequence) is mutually exclusive with I(boot_sources).</p>
nvme_mode	No	NA	<ul style="list-style-type: none"> NonRaid Raid 	<p>(deprecated) Configures the NVME mode in the 14th generation of PowerEdge servers.</p> <p>NOTE: This option has been deprecated, and will be removed in the later version. Please use the I(attributes) for BIOS attributes configuration instead.</p> <p>NOTE: I(nvme_mode) is mutually exclusive with I(boot_sources).</p>
secure_boot_mode	No	NA	<ul style="list-style-type: none"> AuditMode, DeployedMode SetupMode UserMode 	<p>(deprecated) Configures how the BIOS uses the Secure Boot Policy Objects in the 14th generation of PowerEdge servers.</p> <p>NOTE: This option has been deprecated, and will be removed in the later version. Please use the I(attributes) for BIOS attributes configuration instead.</p> <p>NOTE: I(secure_boot_mode) is mutually exclusive with I(boot_sources).</p>
onetime_boot_mode	No	NA	<ul style="list-style-type: none"> Disabled OneTimeBootSeq OneTimeCustomBootSeqStr OneTimeCustomHddSeqStr OneTimeCustomUefiBootSeqStr OneTimeHddSeq OneTimeUefiBootSeq 	<p>(deprecated) Configures the one time boot mode setting.</p> <p>NOTE: This option has been deprecated, and will be removed in the later version. Please use the I(attributes) for BIOS attributes configuration instead.</p> <p>NOTE: I(onetime_boot_mode) is mutually exclusive with I(boot_sources).</p>
attributes	No	NA	NA	<p>Dictionary of BIOS attributes and value pair. Attributes should be part of the Redfish Dell BIOS Attribute Registry. Redfish URI to view BIOS attributes: (https://</p>

Table 21. dellenc_configure_bios (continued)

Parameter	Required	Default	Choices	Comments
				<p>I(idrac_ip)/redfish/v1/Systems/System.Embedded.1/Bios).</p> <p>If deprecated options are given and the same are repeated in I(attributes) then values in I(attributes) will take precedence.</p> <p>NOTE: I(attributes) is mutually exclusive with I(boot_sources).</p>
boot_sources	No	NA	NA	<p>List of boot devices to set the boot sources settings. Boot devices are dictionary.</p> <p>While applying boot sequence, Index of at least one boot device should be 0.</p> <p>NOTE: I(boot_sources) is mutually exclusive with I(attributes), I(boot_sequence), I(onetime_boot_mode), I(secure_boot_mode), I(nvme_mode), and I(boot_mode).</p> <p>NOTE: When user does not provide Index or Enabled value in boot_sources option, dellenc_configure_bios module uses the current Index or Enabled value from the target server for the specified boot source while applying boot sources.</p> <p>NOTE: In case the selected Index or Enabled value from the target server conflicts with any of the boot_sources option values to be applied, dellenc_configure_bios module may fail to apply with appropriate error message.</p>

Table 22. Return Values

Name	Description	Returned	Type	Sample
BIOS	Configures the BIOS configuration attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellenc_configure_bios.md

Examples

```
-name: Configure BIOS Generic attributes
dellenc_configure_bios:
  idrac_ip:      "xx.xx.xx.xx"
  idrac_user:   "xxxx"
  idrac_pwd:    "xxxxxxxx"
  attributes:
    BootMode :  "Bios"
```

```
OneTimeBootMode: "Enabled"
BootSeqRetry:    "Enabled"
```

```
- name: Configure PXE Generic Attributes
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    attributes:
      PxeDev1EnDis: "Enabled"
      PxeDev1Protocol: "IPV4"
      PxeDev1VlanEnDis: "Enabled"
      PxeDev1VlanId: x
      PxeDev1Interface: "NIC.Embedded.x-x-x"
      PxeDev1VlanPriority: x
```

```
- name: Configure Boot Sources
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
  boot_sources:
    - Name : "NIC.Integrated.x-x-x"
      Enabled : True
      Index : 0
```

```
- name: Configure Boot Sources
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
  boot_sources:
    - Name : "NIC.Integrated.x-x-x"
      Enabled : True
      Index : 0
    - Name : "NIC.Integrated.x-x-x"
      Enabled : true
      Index : 1
    - Name : "NIC.Integrated.x-x-x"
      Enabled : true
      Index : 2
```

```
- name: Configure Boot Sources - Enabled
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
  boot_sources:
    - Name : "NIC.Integrated.x-x-x"
      Enabled : True
```

```
- name: Configure Boot Sources - Index
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
  boot_sources:
    - Name : "NIC.Integrated.x-x-x"
      Index : 0
```

Configuring RAID

Module: `dellemc_configure_raid`

Synopsis

This module hosts the RAID configuration related attributes.

NOTE: This module is deprecated and replaced with [dellenc_idrac_storage_volume](#).

Options

Table 23. dellenc_configure_raid

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS Network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for Network share.
vd_name	No	NA	NA	Virtual disk name <ul style="list-style-type: none"> • Optional, if we perform create operations • Mandatory, if we perform remove operations
span_depth	No	1	NA	Span Depth
span_length	No	2	NA	Span Length
number_dedicated_hot_spare	No	0	NA	Number of Dedicated Hot Spare
number_global_hot_spare	No	0	NA	Number of Global Hot Spare
raid_level	No	RAID 0	<ul style="list-style-type: none"> • RAID 0 • RAID 1 • RAID 5 • RAID 6 • RAID 10 • RAID 50 • RAID 60 	Provide the required RAID level
disk_cache_policy	No	Default	<ul style="list-style-type: none"> • Default • Enabled • Disabled 	Disk Cache Policy
write_cache_policy	No	WriteThrough	<ul style="list-style-type: none"> • WriteThrough • WriteBack • WriteBackForce 	Write cache policy
read_cache_policy	No	NoReadAhead	<ul style="list-style-type: none"> • NoReadAhead • ReadAhead 	Read cache policy

Table 23. dellemc_configure_raid (continued)

Parameter	Required	Default	Choices	Comments
			<ul style="list-style-type: none"> Adaptive 	
stripe_size	No	65536	NA	Provide stripe size value in multiples of 64 * 1024
controller_fqdd	Yes	NA	NA	Fully Qualified Device Descriptor (FQDD) of the storage controller, for e.g. RAID.Integrated.1-1
media_type	No	HDD	<ul style="list-style-type: none"> HDD SSD 	Media type
bus_protocol	No	SATA	<ul style="list-style-type: none"> SAS SATA 	Bus protocol
state	Yes	NA	<ul style="list-style-type: none"> present absent 	<ul style="list-style-type: none"> If the value is 'present', the module will perform 'create' operations If the value is 'absent', the module will perform 'remove' operations

Table 24. Return Values

Name	Description	Returned	Type	Sample
RAID configuration	Configures the RAID configuration attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_configure_raid.md

Example

```
-name: Configure the RAID attributes
  dellemc_configure_raid:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:   "xx.xx.xx.xx:/share"
    share_pwd:    "xxxxxxxx"
    share_user:   "xxxx"
    share_mnt:    "xxxxxx"
    controller_fqdd: "xxxxxxxx"
    vd_name:      "xxxxxx"
```

Configuring storage volume

Module: dellemc_idrac_storage_volume

Synopsis

This module hosts the RAID configuration related attributes.

Check_mode support: Yes

Options

Table 25. dellemc_idrac_storage_volume

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password

Table 25. dellemc_idrac_storage_volume (continued)



Parameter	Required	Default	Choices	Comments
idrac_port	No	443	NA	iDRAC port
span_depth	No	1	NA	Span Depth
span_length	No	1	NA	Span Length
number_dedicated_hot_spare	No	0	NA	Number of Dedicated Hot Spare
volume_type	No	RAID 0	<ul style="list-style-type: none"> • RAID 0 • RAID 1 • RAID 5 • RAID 6 • RAID 10 • RAID 50 • RAID 60 	Provide the required RAID level
disk_cache_policy	No	Default	<ul style="list-style-type: none"> • Default • Enabled • Disabled 	Disk Cache Policy
write_cache_policy	No	WriteThrough	<ul style="list-style-type: none"> • WriteThrough • WriteBack • WriteBackForce 	Write Cache Policy
read_cache_policy	No	NoReadAhead	<ul style="list-style-type: none"> • NoReadAhead • ReadAhead • AdaptiveReadAhead 	Read Cache Policy
stripe_size	No	65536	NA	Provide stripe size value in multiples of 64 * 1024
controller_id	No	NA	NA	Fully Qualified Device Descriptor (FQDD) of the storage controller, for example: RAID.Integrated.1-1  NOTE: Controller FQDD is required for C(create) RAID configuration.
volume_id	No	NA	NA	Fully Qualified Device Descriptor (FQDD) of the virtual disk, for example: Disk.virtual.0:RAID.Slot.1-1  NOTE: This option is used to get the virtual disk information.
media_type	No	None	<ul style="list-style-type: none"> • HDD • SDD 	Media type
protocol	No	None	<ul style="list-style-type: none"> • SAS • SATA 	Bus protocol
state	Yes	view	<ul style="list-style-type: none"> • create • delete • view 	<ul style="list-style-type: none"> • If C(create), the module will perform create operations • If C(delete), the module will perform remove operations • If C(view), the module will return storage view
volumes	No	NA	NA	A list of virtual disk-specific iDRAC attributes. This is applicable for C(create) and C(delete) operations.

Table 25. dellenc_idrac_storage_volume (continued)

Parameter	Required	Default	Choices	Comments
				<ul style="list-style-type: none"> For C(create) operation, name and drives are applicable options, other volume options can also be specified. i NOTE: The drives is a required option for C(create) operation and accepts either location (list of drive slot) or id (list of drive fqdd). For C(delete) operation, only name option is applicable.
capacity	No	NA	NA	Virtual disk size in GB
raid_reset_config	No	NA	NA	This option represents whether a Reset Config operation needs to be performed on the RAID controller. Reset Config operation deletes all the virtual disks present on the RAID controller.
raid_init_operation	No	None	<ul style="list-style-type: none"> None Fast 	This option represents Initialization Configuration operation to be performed on the virtual disk.

Table 26. Return Values

Name	Description	Returned	Type	Sample
Storage volume configuration	Configures the RAID configuration related attributes	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_idrac_storage_volume.md

Examples

```
-name: Create single volume
  dellenc_idrac_storage_volume:
    idrac_ip:      "xx.xxx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    controller_id: "RAID.Slot.1-1"
    state:         "create"
    volumes:
      - drives:
          location: [5]
```

```
-name: Create multiple volume
  dellenc_idrac_storage_volume:
    idrac_ip:      "xx.xxx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    raid_reset_config: "True"
    state:         "create"
    controller_id: "RAID.Slot.1-1"
    volume_type:   "RAID 1"
    span_depth:    1
    span_length:   2
    number_dedicated_hot_spare: 1
    disk_cache_policy: "Enabled"
    write_cache_policy: "WriteBackForce"
    read_cache_policy: "ReadAhead"
    stripe_size:    65536
    capacity:       100
    raid_init_operation: "Fast"
    volumes:
      - name: "volume_1"
        drives:
```

```

        id: ["Disk.Bay.1:Enclosure.Internal.0-1:RAID.Slot.1-1",
            "Disk.Bay.2:Enclosure.Internal.0-1:RAID.Slot.1-1"]
    - name: "volume_2"
      volume_type: "RAID 5"
      span_length: 3
      span_depth: 1
      drives:
        location: [7,3,5]
      disk_cache_policy: "Disabled"
      write_cache_policy: "WriteBack"
      read_cache_policy: "NoReadAhead"
      stripe_size: 131072
      capacity: 200
      raid_init_operation: "None"

```

```

-name: View all volume details
dellenc_idrac_storage_volume:
  idrac_ip: "xx.xxx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  state: "view"

```

```

-name: View specific volume details
dellenc_idrac_storage_volume:
  idrac_ip: "xx.xxx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  state: "view"
  controller_id: "RAID.Slot.1-1"
  volume_id: "Disk.Virtual.0:RAID.Slot.1-1"

```

```

-name: Delete single volume
dellenc_idrac_storage_volume:
  idrac_ip: "xx.xxx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  state: "delete"
  volumes:
    - name: "volume_1"

```

```

-name: Delete multiple volume
dellenc_idrac_storage_volume:
  idrac_ip: "xx.xxx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  state: "delete"
  volumes:
    - name: "volume_1"
    - name: "volume_2"

```

Configuring Collect System Inventory on Restart

Module: `dellenc_idrac_lc_attributes`

Synopsis

This module is responsible for enabling or disabling of **Collect System Inventory on Restart (CSIOR)** property for all iDRAC or LC jobs. When you enable the **CSIOR** property, hardware inventory and part configuration information are discovered and compared with previous system inventory information on every system restart.

Check_mode support: Yes

Options

Table 27. dellenc_idrac_lc_attributes

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
csior	Yes	NA	<ul style="list-style-type: none"> Enabled Disabled 	Whether to Enable or Disable Collect System Inventory on Restart (CSIOR) property for all iDRAC or LC jobs

Table 28. Return Values

Name	Description	Returned	Type	Sample
iDRAC CSIOR	Configures CSIOR property for all iDRAC or LC jobs	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_idrac_lc_attributes.md

Example

```
-name: Set up iDRAC LC Attributes
dellemc_idrac_lc_attributes:
  idrac_ip: "xx.xx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxx"
  share_name: "xx.xx.xx.xx:/share"
  share_user: "xxxxx"
  share_pwd: "xxxxxxxx"
  share_mnt: "/mnt/share"
  csior: "xxxxxxxx"
```

Configuring Syslog

Module: dellenc_setup_idrac_syslog

Synopsis

This module enables or disables syslog parameters for iDRAC.

Check_mode support: Yes

Options

Table 29. dellenc_setup_idrac_syslog

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address

Table 29. dellemc_setup_idrac_syslog (continued)

Parameter	Required	Default	Choices	Comments
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS Network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
syslog	Yes	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable iDRAC syslog

Table 30. Return Values

Nam	Description	Returned	Type	Sample
iDRAC Syslog	Configures iDRAC Syslog parameters	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_setup_idrac_syslog.md

Example

```
-name: Configure iDRAC Syslog Parameters
  dellemc_setup_idrac_syslog:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    share_name: "xx.xx.xx.xx:/share"
    share_user: "xxxx"
    share_pwd: "xxxxxxxx"
    share_mnt: "/mnt/share"
    syslog: "xxxxxxxx"
```

Deploying operating system

To provision a bare metal server, it is essential to deploy the required operating system in the device before you start using it. This section describes the process of deploying the operating system on the PowerEdge servers using Ansible.

To automate the process of operating system deployment in an unattended manner using Ansible, the iDRAC's capability is utilized to transfer the customized ISO to iDRAC for boot.

To perform OS deployment, ensure:

- Operating system image is injected with required Dell drivers, and unattended response file.
- iDRAC is enabled, configured, and reachable.
- RAID is configured.

Topics:

- [Boot to a Network ISO Image](#)

Boot to a Network ISO Image

Module: `dellemc_boot_to_network_iso`

Synopsis

This module facilitates the operating system deployment. You can run this module to boot the target system to a bootable ISO image on a CIFS or NFS share. This module looks for the customized ISO in the configured share location and transfers the image to iDRAC to load it. On the system reboot, the OS deployment begins.

Check_mode support: No

Options

Table 31. dellemc_boot_to_network_iso

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC password
idrac_port	No	443	NA	iDRAC port
iso_image	Yes	NA	NA	Network ISO name
share_name	Yes	NA	NA	CIFS or NFS Network share
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.

Table 32. Return Values

Name	Description	Returned	Type	Sample
Boot to Network ISO	Boots to a network ISO Image	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_boot_to_network_iso.md

Example

```
-name: Boot to Network ISO
  dellemc_boot_to_network_iso:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:    "xx.xx.xx.xx:/share"
    share_user:    "xxxx"
    share_pwd:     "xxxxxxxx"
    iso_image:     "uninterrupted_os_installation_image.iso"
```

Server Inventory

This section describes the process of retrieving the server inventory of the PowerEdge Servers using Ansible Modules.

Topics:

- [Viewing the System Inventory](#)

Viewing the System Inventory

Module: `dellemc_get_system_inventory`

Synopsis

System inventory provides basic and component level detailed inventory information. You can run this module when you want to verify the asset, configured state, inventory, and health-related information for the system and its component.

Check_mode support: No

Options

Table 33. `dellemc_get_system_inventory`

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_user</code>	Yes	NA	NA	iDRAC username
<code>idrac_pwd</code>	Yes	NA	NA	iDRAC user password
<code>idrac_port</code>	No	443	NA	iDRAC port

Table 34. Return Values

Name	Description	Returned	Type	Sample
System Inventory	Displays the PowerEdge Server System Inventory	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_get_system_inventory.md

Example

```
-name: Get System Inventory
  dellemc_get_system_inventory:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxxx"
    idrac_pwd: "xxxxxxxxx"
```

Server Administration Tasks

This section describes the tasks that you can run using OpenManage Ansible Modules version 1.1.

NOTE: OpenManage Ansible Modules version 1.1 supports iDRAC firmware version 2.50.50.50 and later.

Topics:

- [Configuring the Power State on the PowerEdge Servers](#)
- [Resetting iDRAC](#)
- [Viewing LC Job Status](#)
- [Exporting LC Logs](#)
- [Deleting LC Job](#)
- [Deleting LC Job Queue](#)
- [Configuring System Lockdown Mode](#)

Configuring the Power State on the PowerEdge Servers

Module: `dellemc_change_power_state`

Synopsis

This module configures the power control options on a PowerEdge server. You can run this module:

- To turn on the server.
- To turn off the server.
- To reboot the server.
- For hard reset of the server.

Check_mode support: Yes

Options

Table 35. dellemc_change_power_state

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
change_power	Yes	NA	<ul style="list-style-type: none"> • On • ForceOff • GracefulRestart • GracefulShutdown • PushPowerButton • Nmi 	Desired power state

Table 36. Return Values

Name	Description	Returned	Type	Sample
Power state of a server	Configures the power control options on a PowerEdge server	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_change_power_state.md

Example

```
-name: Change Power State
  dellemc_change_power_state:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    change_power: "xxxxxxxx"
```

Resetting iDRAC

Module: dellemc_idrac_reset**Synopsis**

You can reset the iDRAC using this module.

Check_mode support: Yes

Options**Table 37. dellemc_idrac_reset**

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port

Table 38. Return Values

Name	Description	Returned	Type	Sample
Reset iDRAC	Resets the iDRAC	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_idrac_reset.md

Example

```
-name: Reset iDRAC
  dellemc_idrac_reset:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxx"
    idrac_port: "xxx"
```

Viewing LC Job Status

Module: dellemc_get_lc_job_status**Synopsis**

You can view the iDRAC or LC job status using this module. To view information about a job status, a job id is required. After a job is initiated, the system stages the job request information and sends a job id back to the system. You can query the progress and status of the job by using the job id.

Check_mode support: No

Options

Table 39. dell EMC_get_lc_job_status

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
job_id	Yes	NA	NA	JOB ID in the format "JID_123456789012"

Table 40. Return Values

Name	Description	Returned	Type	Sample
LC Job Status	Displays the status of an LC job	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_get_lc_job_status.md

Example

```
-name: Get LC Job Status
  dell EMC_get_lc_job_status
  idrac_ip: "xx.xx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxxxx"
  job_id: "JID_1234567890"
```

Exporting LC Logs

Module: dell EMC_export_lc_logs

Synopsis

LC logs provide records of past activities on a managed system. These log files are useful for the server administrators since they provide detailed information about recommended actions and some other technical information that is useful for troubleshooting purposes.

The various types of information available in LC logs are alerts-related, configuration changes on the system hardware components, firmware changes due to an upgrade or downgrade, replaced parts, temperature warnings, detailed timestamps of when the activity has started, severity of the activity, and so on.

Check_mode support: No

Options

Table 41. dell EMC_export_lc_logs

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS Network share
share_user	No	NA	NA	Network share user in the format 'user@domain' or 'domain\user' if user is part of a domain else 'user'. This option is mandatory for CIFS Network share.

Table 41. dellemc_export_lc_logs (continued)

Parameter	Required	Default	Choices	Comments
share_pwd	No	NA	NA	Network share user password. This option is mandatory for CIFS Network share.
job_wait	Yes	NA	<ul style="list-style-type: none"> • True • False 	<ul style="list-style-type: none"> • If the value is True, it waits for the job to complete and returns the job completion status • If the value is False, it returns immediately with a JOB ID after queuing the job in LC job queue

Table 42. Return Values

Name	Description	Returned	Type	Sample
LC logs	Exports the LC logs to the given network share	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_export_lc_logs.md

Example

```
-name: Export Lifecycle Controller Logs
  dellemc_export_lc_logs:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxxxx"
    idrac_port: "xxx"
    share_name: "xx.xx.xx.xx:/share"
    share_user: "xxxx"
    share_pwd: "xxxxxxxxxx"
    job_wait: "True"
```

Deleting LC Job

Module: dellemc_delete_lc_job**Synopsis**

This module deletes an LC job for a given valid JOB ID from the job queue.

You can delete an LC job:

- after the job is completed.
- if you do not want to perform the job or if it is taking long to execute.

Check_mode support: Yes

Options**Table 43. dellemc_delete_lc_job**

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
job_id	Yes	NA	NA	JOB ID in the format "JID_XXXXXXXX"

Table 44. Return Values

Name	Description	Returned	Type	Sample
Delete LC job	Deletes an LC job for a given a JOB ID	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_delete_lc_job.md

Examples

```
-name: Delete LC Job
  dellemc_delete_lc_job:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxxx"
    idrac_pwd: "xxxxxx"
    idrac_port: "xxx"
    job_id: "JID_XXXXXXXXX"
```

Deleting LC Job Queue

Module: dellemc_delete_lc_job_queue**Synopsis**

You can delete all the jobs in the LC job queue using this module. All the jobs in the job queue are terminated when you delete a job queue.

Check_mode support: No

Options**Table 45. dellemc_delete_lc_job_queue**

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port

Table 46. Return Values

Name	Description	Returned	Type	Sample
LC Job Queue	Deletes the LC job queue	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_delete_lc_job_queue.md

Example

```
-name: Delete LC Job Queue
  dellemc_delete_lc_job_queue:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxxx"
    idrac_pwd: "xxxxxx"
    idrac_port: "xxx"
```

Configuring System Lockdown Mode

Module: dellemc_system_lockdown_mode**Synopsis**

System Lockdown Mode provides a mechanism to protect configuration from any unintentional or accidental changes after the system is provisioned to a certain level.

This module is responsible for enabling or disabling the lockdown mode of a system. When System Lockdown Mode is enabled, the system's configuration is locked and system cannot be configured or updated until the lockdown mode is disabled.

Check_mode support: No

Options

Table 47. dellenc_system_lockdown_mode

Parameter	Required	Default	Choices	Comments
idrac_ip	Yes	NA	NA	iDRAC IP Address
idrac_user	Yes	NA	NA	iDRAC username
idrac_pwd	Yes	NA	NA	iDRAC user password
idrac_port	No	443	NA	iDRAC port
share_name	Yes	NA	NA	CIFS or NFS network share or a local path
share_user	No	NA	NA	Network share user in the format 'user@domain' or user\domain if user is part of a domain else 'user'. This field is mandatory for CIFS Network Share.
share_pwd	No	NA	NA	Network share user password. This field is mandatory for CIFS Network Share.
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for Ansible user. This option is mandatory for CIFS or NFS Network share.
lockdown_mode	Yes	NA	<ul style="list-style-type: none"> • Enabled • Disabled 	Whether to Enable or Disable system lockdown mode

Table 48. Return Values

Name	Description	Returned	Type	Sample
System Lockdown Mode	Configures lockdown mode of the system	Success	String	https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC/blob/master/samples/dellemc_system_lockdown_mode.md

Example

```
-name: Configure System Lockdown Mode
  dellenc_system_lockdown_mode:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:    "xx.xx.xx.xx:/share"
    share_user:    "xxxx"
    share_pwd:     "xxxxxxxx"
    share_mnt:     "/mnt/share"
    lockdown_mode: "xxxxxxxx"
```

Troubleshooting

- While creating new iDRAC users, the provided values are not getting applied completely on 14G servers.
 - In case the user is not created with all the required user settings, change the user setting with action option **modify** in the `dellenc_configure_idrac_users` module.

Accessing support content from the Dell EMC support site

Access supporting content related to an array of systems management tools using direct links, going to the Dell EMC support site, or using a search engine.

- Direct links:
 - For Dell EMC Enterprise Systems Management and Dell EMC Remote Enterprise Systems Management—<https://www.dell.com/esmmanuals>
 - For Dell EMC Virtualization Solutions—<https://www.dell.com/SoftwareManuals>
 - For Dell EMC OpenManage—<https://www.dell.com/openmanagemanuals>
 - For iDRAC—<https://www.dell.com/idracmanuals>
 - For Dell EMC OpenManage Connections Enterprise Systems Management—<https://www.dell.com/OMConnectionsEnterpriseSystemsManagement>
 - For Dell EMC Serviceability Tools—<https://www.dell.com/serviceabilitytools>
- Dell EMC support site:
 1. Go to <https://www.dell.com/support>.
 2. Click **Browse all products**.
 3. From the **All products** page, click **Software**, and then click the required link.
 4. Click the required product and then click the required version.

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