

# Dell EMC OpenManage Ansible Modules

Version 1.0.1 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 1.0.1

© Copyright 2018 Dell Inc.

GNU General Public License v3.0+ (see COPYING or <https://www.gnu.org/licenses/gpl-3.0.txt>)

All rights reserved. Dell, EMC, and other trademarks are trademarks of Dell Inc. or its subsidiaries. Other trademarks may be trademarks of their respective owners.

# Contents

<b>1 Overview.....</b>	<b>5</b>
Key Features.....	5
<b>2 Getting Started.....</b>	<b>6</b>
How OpenManage Ansible Modules works.....	6
Running your first Playbook.....	6
<b>3 Updating Firmware.....</b>	<b>7</b>
Viewing Firmware Inventory.....	7
Installing Firmware.....	8
<b>4 Configuring PowerEdge Servers.....</b>	<b>10</b>
Viewing LC Status.....	10
Exporting Server Configuration Profile.....	11
Importing Server Configuration Profile.....	12
Configuring iDRAC.....	14
Configuring iDRAC Users.....	14
Configuring iDRAC Timezone.....	16
Configuring iDRAC Eventing.....	17
Configuring iDRAC Services.....	18
Configuring iDRAC Network.....	20
Configuring BIOS.....	23
Configuring RAID.....	25
Configuring Collect System Inventory on Restart.....	27
Configuring Syslog.....	28
<b>5 Deploying Operating System.....</b>	<b>30</b>
Boot to a Network ISO Image.....	30
<b>6 Server Inventory.....</b>	<b>32</b>
Viewing the System Inventory.....	32
<b>7 Server Administration Tasks.....</b>	<b>33</b>
Configuring the Power State on the PowerEdge Servers.....	33
Resetting iDRAC to Factory Settings.....	34
Viewing LC Job Status.....	35
Exporting LC Logs.....	35
Deleting LC Job.....	36
Deleting LC Job Queue.....	37
Configuring System Lockdown Mode.....	38
<b>8 Troubleshooting.....</b>	<b>40</b>

**9 Accessing documents from the Dell EMC support site..... 41**

# 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 version 1.0.1** and its different use cases.

In addition to [dell.com/support](https://dell.com/support), Ansible modules can also be downloaded from <https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC>. Modules downloaded from this Github location are supported by Dell EMC.

## Key Features

The key features in OpenManage Ansible Modules version 1.0.1 are:

- Export a server configuration profile (SCP) of Basic Input Output System (BIOS), Redundant Array of Independent Disks (RAID), Network Interface Controller (NIC), and so on, to a local file path or a network share.
- Import an SCP from a local file path or a network share.
- Support for configuration of BIOS, integrated Dell Remote Access Controller (iDRAC), NIC, and RAID.
- Support for firmware update.
- Support for viewing firmware inventory details.
- Support for Windows, Linux, and ESXi operating system deployments.
- Support for configuring power controls, resetting iDRAC, viewing LC job status, deleting LC job, deleting LC job queue, exporting LC logs, and configuring system lockdown mode.
- Retrieve the system inventory details.

# Getting Started

## How OpenManage Ansible Modules works

OpenManage Ansible modules uses the Server Configuration Profile (SCP) for most of the configuration management, deployment, and update of PowerEdge Servers. An SCP contains all BIOS, iDRAC, LC, 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.
- Export or import via local file streaming (for iDRAC firmware 3.00.00.00 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 control machine 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.

### Options

**Table 1. `dellemc_get_firmware_inventory`**

Parameter	Required	Default	Choices	Comments
<code>idrac_ip</code>	Yes	NA	NA	iDRAC IP Address
<code>idrac_username</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 2. Return Values**

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

### 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:** `dellenc_install_firmware`

## Synopsis

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

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 is applied to the system.

**NOTE:** This feature is only available with iDRAC Enterprise License.

## 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	NA	<ul style="list-style-type: none"><li>• True</li><li>• False</li></ul>	<ul style="list-style-type: none"><li>• If the value is True, it waits for update JOB to get completed</li><li>• If the value is False, it returns immediately with a JOB ID after queuing the update JOB in the job queue</li></ul>
reboot	No	False	<ul style="list-style-type: none"><li>• True</li><li>• False</li></ul>	<ul style="list-style-type: none"><li>• If the value is True, the system reboots after applying the updates</li><li>• If the value is False, the system does not reboot after applying the updates</li></ul>
share_name	Yes	NA	NA	CIFS or NFS Network share
share_user	Yes	NA	NA	Network share user in the format 'user@domain' if user is part of a domain else 'user'



share_pwd	Yes	NA	NA	Network share user password
share_mnt	Yes	NA	NA	Local mount path of the network share with read-write permission for ansible user

**Table 4. Return Values**

Name	Description	Returned	Type	Sample
Firmware	Updates firmware from a repository on a network share (CIFS, NFS)	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### Example

```
-name: Update firmware from a repository on a Network Share
dellenc_install_firmware:
  idrac_ip: "xx.xx.xx.xx"
  idrac_user: "xxxx"
  idrac_pwd: "xxxxxxxxx"
  share_name: "\\xx.xx.xx.xx\share"
  share_user: "xxxx"
  share_pwd: "xxxxxxxxx"
  share_mnt: "/mnt/share"
  reboot: "True"
  job_wait: "True"
```

# 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 1.0.1 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 need to 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.

### 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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### 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.

#### Options

**Table 7. dellemc\_export\_server\_config\_profile**

Parameter	Required	Default	Choices	Comments
export_format	No	XML	<ul style="list-style-type: none"> <li>JSON</li> <li>XML</li> </ul>	The output file format
export_use	No	Default	<ul style="list-style-type: none"> <li>Default</li> <li>Clone</li> <li>Replace</li> </ul>	The type of server configuration profile (SCP) to be exported
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	NA	NA	iDRAC port
job_wait	Yes	NA	<ul style="list-style-type: none"> <li>True</li> <li>False</li> </ul>	<ul style="list-style-type: none"> <li>If the value is True, it waits for the SCP export job to finish and returns the job completion status</li> <li>If the value is False, it returns immediately with a JOB ID after queuing the SCP export job in LC job queue</li> </ul>
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'

share_pwd	No	NA	NA	Network share user password
scp_components	No	ALL	<ul style="list-style-type: none"> <li>• ALL</li> <li>• iDRAC</li> <li>• BIOS</li> <li>• NIC</li> <li>• RAID</li> </ul>	<p>Specify the hardware component(s) configuration to be exported</p> <ul style="list-style-type: none"> <li>• If ALL, the module exports all components configurations in SCP file</li> <li>• If iDRAC, the module exports iDRAC configuration in SCP file</li> <li>• If BIOS, the module exports BIOS configuration in SCP file</li> <li>• If NIC, the module exports NIC configuration in SCP file</li> <li>• If RAID, the module exports RAID configuration in SCP file</li> </ul>

**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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### 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 the SCP which was previously exported for that same server, or group of servers. Importing SCP 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 the import file **Import.xml** specifies some configuration changes that require a server restart (such as in iDRAC, BIOS, NIC, or RAID configuration), you can use the **shutdown\_type** parameter to specify whether a **Graceful** or a **Forced** shutdown of the server is required.

#### 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"> <li>• On</li> </ul>	<ul style="list-style-type: none"> <li>• If On, End host power is on</li> </ul>

			<ul style="list-style-type: none"> <li>Off</li> </ul>	<ul style="list-style-type: none"> <li>If Off, End host power is off</li> </ul>
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"> <li>True</li> <li>False</li> </ul>	<ul style="list-style-type: none"> <li>If the value is True, it waits for the SCP import job to finish and returns the job completion status</li> <li>If the value is False, it returns immediately with a JOB ID after queuing the SCP import job in LC job queue</li> </ul>
scp_components	No	ALL	<ul style="list-style-type: none"> <li>ALL</li> <li>IDRAC</li> <li>BIOS</li> <li>NIC</li> <li>RAID</li> </ul>	<ul style="list-style-type: none"> <li>If ALL, the module imports all components configurations from SCP file</li> <li>If IDRAC, the module imports iDRAC configuration from SCP file</li> <li>If BIOS, the module imports BIOS configuration from SCP file</li> <li>If NIC, the module imports NIC configuration from SCP file</li> <li>If RAID, the module imports RAID configuration from SCP file</li> </ul>
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' if user is part of a domain else 'user'
share_pwd	No	NA	NA	Network share user password
shutdown_type	No	Graceful	<ul style="list-style-type: none"> <li>Graceful</li> <li>Forced</li> <li>NoReboot</li> </ul>	<ul style="list-style-type: none"> <li>If Graceful, it gracefully shuts down the server</li> <li>If Forced, it forcefully shuts down the system</li> <li>If NoReboot, it does not reboot the server</li> </ul>

**Table 10. Return Values**

Name	Description	Returned	Type	Sample
Import SCP	Imports SCP from a network share or from a local file	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### 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 configures the iDRAC user management activities.

### 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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>action</code>	No	create	<ul style="list-style-type: none"> <li>create</li> <li>delete</li> <li>modify</li> </ul>	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"> <li>NoAccess</li> <li>Readonly</li> <li>Operator</li> <li>Administrator</li> </ul>	Privilege user access is configurable

ipmilanprivilege_users	No	NA	<ul style="list-style-type: none"> <li>No_Access</li> <li>Administrator</li> <li>Operator</li> <li>User</li> </ul>	IPMI Lan Privilege user access is configurable
ipmiserialprivilege_users	No	NA	<ul style="list-style-type: none"> <li>No_Access</li> <li>Administrator</li> <li>Operator</li> <li>User</li> </ul>	IPMI Serial Privilege user access is configurable  <b>NOTE: This parameter is not supported by PowerEdge Modular servers.</b>
enable_users	No	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Enabling or Disabling the new iDRAC user
solenable_users	No	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Enabling or Disabling SOL for iDRAC user
protocolenable_users	No	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Enabling or Disabling protocol for iDRAC user
authenticationprotocol_users	No	NA	<ul style="list-style-type: none"> <li>T_None</li> <li>SHA</li> <li>MD5</li> </ul>	Configuring authentication protocol for iDRAC user
privacyprotocol_users	No	NA	<ul style="list-style-type: none"> <li>T_None</li> <li>DES</li> <li>AES</li> </ul>	Configuring privacy protocol for iDRAC user

**Table 12. Return Values**

Name	Description	Returned	Type	Sample
iDRAC users	Configures the iDRAC users attributes	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### Example

```

-name: Configure the iDRAC users attributes
dellmc_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.

### Options

**Table 13. `dellemc_configure_idrac_timezone`**

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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>setup_idrac_timezone</code>	No	NA	NA	Configuring the timezone for iDRAC
<code>enable_ntp</code>	No	NA	NA	Whether to Enable or Disable NTP for iDRAC
<code>ntp_server_1</code>	No	NA	NA	NTP configuration for iDRAC
<code>ntp_server_2</code>	No	NA	NA	NTP configuration for iDRAC
<code>ntp_server_3</code>	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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### 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\\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.

### Options

**Table 15.** `dellemc_configure_idrac_eventing`

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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>destination_number</code>	No	None	NA	Destination number for SNMP Trap
<code>destination</code>	No	None	NA	Destination for SNMP Trap
<code>snmp_v3_username</code>	No	NA	NA	SNMP v3 username for SNMP Trap
<code>snmp_trap_state</code>	No	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Whether to Enable or Disable SNMP alert
<code>email_alert_state</code>	No	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	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"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Whether to Enable or Disable iDRAC alerts
authentication	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### 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: "xxxxxxxxxx"
    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.

## Options

**Table 17. dellenc\_configure\_idrac\_services**

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' if user is part of a domain else 'user'
share_pwd	No	NA	NA	Network share user password
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
enable_web_server	No	NA	<ul style="list-style-type: none"><li>• Enabled</li><li>• Disabled</li></ul>	Whether to Enable or Disable webserver configuration for iDRAC
ssl_encryption	No	NA	<ul style="list-style-type: none"><li>• Auto_Negotiate</li><li>• T_128_Bit_or_higher</li><li>• T_168_Bit_or_higher</li><li>• T_256_Bit_or_higher</li></ul>	Secure Socket Layer encryption for webserver
tls_protocol	No	NA	<ul style="list-style-type: none"><li>• TLS_1_0_and_Higher</li><li>• TLS_1_1_and_Higher</li><li>• TLS_1_2_Only</li></ul>	Transport Layer Security for webserver
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"><li>• Enabled</li><li>• Disabled</li></ul>	Whether to Enable or Disable SNMP protocol for iDRAC
snmp_protocol	No	NA	<ul style="list-style-type: none"><li>• All</li><li>• SNMPv3</li></ul>	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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### 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.

#### Options

**Table 19. dellemc\_configure\_idrac\_network**

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' if user is part of a domain else 'user'
share_pwd	No	NA	NA	Network share user password
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
setup_idrac_nic_vlan	No	NA	NA	Configuring the VLAN-related setting for iDRAC
register_idrac_on_dns	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Registering Domain Name System for iDRAC
dns_idrac_name	No	NA	NA	DNS Name for iDRAC
auto_config	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Automatically creates the records for DNS
static_dns	No	NA	NA	Static configuration for DNS
vlan_id	No	None	NA	Configuring the VLAN id for iDRAC
vlan_priority	No	None	NA	Configuring the VLAN priority for iDRAC
enable_nic	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Whether to Enable or Disable Network Interface Controller for iDRAC
nic_selection	No	NA	<ul style="list-style-type: none"> <li>• Dedicated</li> <li>• LOM1</li> <li>• LOM2</li> <li>• LOM3</li> <li>• LOM4</li> </ul>	Selecting Network Interface Controller types for iDRAC
failover_network	No	NA	<ul style="list-style-type: none"> <li>• ALL</li> <li>• LOM1</li> <li>• LOM2</li> <li>• LOM3</li> <li>• LOM4</li> <li>• T_None</li> </ul>	Failover Network Interface Controller types for iDRAC
auto_detect	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Auto detect Network Interface Controller types for iDRAC
auto_negotiation	No	NA	<ul style="list-style-type: none"> <li>• Enabled</li> <li>• Disabled</li> </ul>	Auto negotiation of Network Interface Controller for iDRAC
network_speed	No	NA	<ul style="list-style-type: none"> <li>• T_10</li> <li>• T_100</li> <li>• T_1000</li> </ul>	Network speed for Network Interface Controller types for iDRAC
duplex_mode	No	NA	<ul style="list-style-type: none"> <li>• Full</li> </ul>	Transmission of data Network Interface Controller types for iDRAC

			• Half	
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_1	No	NA	NA	Needs to specify Domain Name Server Configuration
dns_2	No	NA	NA	Needs to specify Domain Name Server configuration
dns_from_dhcp	No	NA	• Enabled • Disabled	Specifying Domain Name Server from Dynamic Host Configuration Protocol
enable_ipv4	No	NA	• Enabled • Disabled	Whether to Enable or Disable IPv4 configuration
gateway	No	None	NA	iDRAC network gateway address
net_mask	No	None	NA	iDRAC network netmask details
static_dns_from_dhcp	No	NA	• Enabled • Disabled	Specifying Domain Name Server from Dynamic Host Configuration Protocol
static_dns_1	No	NA	NA	Specify Domain Name Server Configuration
static_dns_2	No	NA	NA	Specify Domain Name Server 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	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### Example

```

-name: Configure the iDRAC network attributes
dell EMC_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_1:              "x.x.x.x"
dns_2:              "x.x.x.x"
dns_from_dhcp:      "Enabled"
enable_ipv4:        "Enabled"
gateway:            "None"
net_mask:           "None"
static_dns_1:       "x.x.x.x"
static_dns_2:       "x.x.x.x"
static_dns_from_dhcp: "Enabled"
static_gateway:     "None"
static_net_mask:    "None"

```

## Configuring BIOS

**Module:** `dellenc_configure_bios`

### Synopsis

This module hosts the BIOS configuration related tasks. The tasks are:

- **Setup\_boot\_mode:** Configures the boot mode to BIOS or Unified Extensible Firmware Interface (UEFI).
- **Setup\_onetime\_boot\_mode:** Configures the one time boot mode setting such as **Disabled**, **OneTimeBootSeq**, **OneTimeHddSeq**, **OneTimeUefiBootSeq**.
- **Setup\_NVMe\_Mode:** Configures the NVMe mode.
- **Setup\_Secure\_boot\_Mode:** Configures how the BIOS uses the Secure Boot Policy Objects.

### Options

**Table 21. dellenc\_configure\_bios**

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' if user is part of a domain else 'user'
share_pwd	No	NA	NA	Network share user password

share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
boot_mode	No	NA	<ul style="list-style-type: none"> <li>• Bios</li> <li>• Uefi</li> </ul>	Configures the boot mode to Bios or Uefi
boot_sequence	No	NA	NA	Boot devices' FQDDs in the sequential order for BIOS or UEFI Boot Sequence  <b>NOTE:</b> Ensure that 'boot_mode' option is provided to determine the boot sequence to be applied.
nvme_mode	No	NA	<ul style="list-style-type: none"> <li>• NonRaid</li> <li>• Raid</li> </ul>	Configures the NVME mode  <b>NOTE:</b> This attribute is specific to the 14th Generation of PowerEdge servers.
secure_boot_mode	No	NA	<ul style="list-style-type: none"> <li>• AuditMode,</li> <li>• DeployedMode</li> <li>• SetupMode</li> <li>• UserMode</li> </ul>	Configures how the BIOS uses the Secure Boot Policy Objects  <b>NOTE:</b> This attribute is specific to the 14th Generation of PowerEdge servers.
onetime_boot_mode	No	NA	<ul style="list-style-type: none"> <li>• Disabled</li> <li>• OneTimeBootSeq</li> <li>• OneTimeCustomBootSeqStr</li> <li>• OneTimeCustomHddSeqStr</li> <li>• OneTimeCustomUefiBootSeqStr</li> <li>• OneTimeHddSeq</li> <li>• OneTimeUefiBootSeq</li> </ul>	Configures the one time boot mode setting

**Table 22. Return Values**

Name	Description	Returned	Type	Sample
BIOS	Configures the BIOS configuration attributes	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>



## Example

```
-name: Configure BIOS attributes
  dellemc_configure_bios:
    idrac_ip:      "xx.xx.xx.xx"
    idrac_user:    "xxxx"
    idrac_pwd:     "xxxxxxxx"
    share_name:    "\\\\.xx.xx.xx.xx\\share"
    share_pwd:     "xxxxxxxx"
    share_user:    "xxxxx"
    share_mnt:     "xxxxxx"
    boot_mode :    "xxxxxx"
    nvme_mode:     "xxxxxx"
    secure_boot_mode: "xxxxxx"
    onetime_boot_mode: "xxxxxx"
```

# Configuring RAID

## Module: dellemc\_configure\_raid

### Synopsis

This module hosts the RAID configuration related attributes.

### Options

Table 23. dellemc\_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' if user is part of a domain else 'user'
share_pwd	No	NA	NA	Network share user password
share_mnt	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
vd_name	No	NA	NA	Virtual disk name <ul style="list-style-type: none"><li>Optional, if we perform create operations</li><li>Mandatory, if we perform remove operations</li></ul>
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"> <li>RAID 0</li> <li>RAID 1</li> <li>RAID 5</li> <li>RAID 6</li> <li>RAID 10</li> <li>RAID 50</li> <li>RAID 60</li> </ul>	Provide the required RAID level
disk_cache_policy	No	Default	<ul style="list-style-type: none"> <li>Default</li> <li>Enabled</li> <li>Disabled</li> </ul>	Disk Cache Policy
write_cache_policy	No	WriteThrough	<ul style="list-style-type: none"> <li>WriteThrough</li> <li>WriteBack</li> <li>WriteBackForce</li> </ul>	Write cache policy
read_cache_policy	No	NoReadAhead	<ul style="list-style-type: none"> <li>NoReadAhead</li> <li>ReadAhead</li> <li>Adaptive</li> </ul>	Read cache policy
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"> <li>HDD</li> <li>SSD</li> </ul>	Media type
bus_protocol	No	SATA	<ul style="list-style-type: none"> <li>SAS</li> <li>SATA</li> </ul>	Bus protocol
state	Yes	NA	<ul style="list-style-type: none"> <li>present</li> <li>absent</li> </ul>	<ul style="list-style-type: none"> <li>If the value is 'present', the module will perform 'create' operations</li> <li>If the value is 'absent', the module will perform 'remove' operations</li> </ul>

**Table 24. Return Values**

Name	Description	Returned	Type	Sample
RAID configuration	Configures the RAID configuration attributes	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### 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 Collect System Inventory on Restart

**Module:** `dellemc_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.

## Options

**Table 25. `dellemc_idrac_lc_attributes`**

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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>csior</code>	Yes	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Whether to Enable or Disable Collect System Inventory on Restart (CSIOR) property for all iDRAC or LC jobs

**Table 26. Return Values**

Name	Description	Returned	Type	Sample
iDRAC CSIOR	Configures CSIOR property for all iDRAC or LC jobs	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

## Example

```

-name: Set up iDRAC LC Attributes
  dellemc_idrac_lc_attributes:

```

```

idrac_ip:    "xx.xx.xx.xx"
idrac_user:  "xxxxx"
idrac_pwd:   "xxxxxxxxx"
share_name:  "\\\\.xx.xx.xx\\share"
share_user:  "xxxxxx"
share_pwd:   "xxxxxxxxx"
share_mnt:   "/mnt/share"
csior:       "xxxxxxxx"

```

# Configuring Syslog

**Module:** `dellemc_setup_idrac_syslog`

## Synopsis

This module enables or disables syslog parameters for iDRAC.

## Options

**Table 27. `dellemc_setup_idrac_syslog`**

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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>syslog</code>	Yes	NA	<ul style="list-style-type: none"> <li>Enabled</li> <li>Disabled</li> </ul>	Whether to Enable or Disable iDRAC syslog

**Table 28. Return Values**

Name	Description	Returned	Type	Sample
iDRAC Syslog	Configures iDRAC Syslog parameters	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

## 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\\share"
share_user: "xxxx"
share_pwd: "xxxxxxxx"
share_mnt: "/mnt/share"
syslog: "xxxxxxx"
```

# 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.

## 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.

### Options

**Table 29. `dellemc_boot_to_network_iso`**

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 password
<code>idrac_port</code>	No	443	NA	iDRAC port
<code>iso_image</code>	Yes	NA	NA	Network ISO name
<code>share_name</code>	Yes	NA	NA	CIFS or NFS Network share
<code>share_user</code>	Yes	NA	NA	Network share user in the format 'user@domain' if user is part of a domain else 'user'
<code>share_pwd</code>	Yes	NA	NA	Network share user password

**Table 30. Return Values**

Name	Description	Returned	Type	Sample
Boot to Network ISO	Boots to a network ISO Image	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

**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.

## Viewing the System Inventory

**Module:** `dellemc_get_system_inventory`

### Synopsis

System inventory provides basic as well as 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.

### Options

**Table 31. `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 32. Return Values**

Name	Description	Returned	Type	Sample
System Inventory	Displays the PowerEdge Server System Inventory	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### Example

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



# Server Administration Tasks

This section describes the tasks that you can run using OpenManage Ansible Modules version 1.0.1

**NOTE:** OpenManage Ansible Modules version 1.0.1 supports iDRAC firmware version 2.50.50.50 and later.

Topics:

- [Configuring the Power State on the PowerEdge Servers](#)
- [Resetting iDRAC to Factory Settings](#)
- [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:** `dellmc_change_power_state`

### Synopsis

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

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

### Options

**Table 33. `dellmc_change_power_state`**

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>change_power</code>	Yes	NA	<ul style="list-style-type: none"> <li>• On</li> <li>• ForceOff</li> <li>• GracefulRestart</li> <li>• GracefulShutdown</li> </ul>	Desired power state

			<ul style="list-style-type: none"> <li>PushPowerButton</li> <li>Nmi</li> </ul>	
--	--	--	--	--

**Table 34. Return Values**

Name	Description	Returned	Type	Sample
Power state of a server	Configures the power control options on a PowerEdge server	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### Example

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

## Resetting iDRAC to Factory Settings

### Module: dellemc\_idrac\_reset

#### Synopsis

You can reset the iDRAC to its default factory settings using this module. This module deletes your current iDRAC configuration and resets it to the default settings.

#### Options

**Table 35. 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 36. Return Values**

Name	Description	Returned	Type	Sample
Reset iDRAC	Resets the iDRAC	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### Example

```
-name: Reset iDRAC
  dellemc_idrac_reset:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    idrac_pwd: "xxxxxxxxx"
    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. Once 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.

## Options

**Table 37. `dellemc_get_lc_job_status`**

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>job_id</code>	Yes	NA	NA	JOB ID in the format "JID_123456789012"

**Table 38. Return Values**

Name	Description	Returned	Type	Sample
LC Job Status	Displays the status of a LC job	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

## Example

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

# Exporting LC Logs

**Module:** `dellemc_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.

## Options

**Table 39. dellemc\_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	Yes	NA	NA	Network share user in the format 'user@domain' if user is part of a domain else 'user'
share_pwd	Yes	NA	NA	Network share user password
job_wait	Yes	NA	<ul style="list-style-type: none"> <li>True</li> <li>False</li> </ul>	<ul style="list-style-type: none"> <li>If the value is True, it waits for the job to finish and returns the job completion status</li> <li>If the value is False, it returns immediately with a JOB ID after queuing the job in LC job queue</li> </ul>

**Table 40. Return Values**

Name	Description	Returned	Type	Sample
LC logs	Exports the LC logs to the given network share	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### 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:

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

#### Options

**Table 41. dell EMC\_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	NA	NA	iDRAC port
job_id	Yes	NA	NA	JOB ID in the format "JID_XXXXXXXX"

**Table 42. Return Values**

Name	Description	Returned	Type	Sample
Delete LC job	Deletes an LC job for a given a JOB ID	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

### Examples

```
-name: Delete LC Job
  dell EMC_delete_lc_job:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "root"
    idrac_pwd: "xxxxxx"
    idrac_port: "123"
    job_id: "JID_XXXXXXXX"
```

## Deleting LC Job Queue

**Module: dell EMC\_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.

### Options

**Table 43. dell EMC\_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 44. Return Values**

Name	Description	Returned	Type	Sample
LC Job Queue	Deletes the LC job queue	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

#### Example

```
-name: Delete LC Job Queue
  dellemc_delete_lc_job_queue:
    idrac_ip: "xx.xx.xx.xx"
    idrac_user: "xxxx"
    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.

#### Options

**Table 45. `dellemc_system_lockdown_mode`**

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' if user is part of a domain else 'user'
<code>share_pwd</code>	No	NA	NA	Network share user password
<code>share_mnt</code>	No	NA	NA	Local mount path of the network share with read-write permission for ansible user
<code>lockdown_mode</code>	Yes	NA	<ul style="list-style-type: none"> <li>Enabled</li> </ul>	Whether to Enable or Disable system lockdown mode

			• Disabled	
--	--	--	------------	--

Table 46. Return Values

Name	Description	Returned	Type	Sample
System Lockdown Mode	Configures lockdown mode of the system	Success	String	<a href="https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC">https://github.com/dell/Dell-EMC-Ansible-Modules-for-iDRAC</a>

Example

```
-name: Configure System Lockdown Mode
  dellemc_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: "xxxxxxx"
```

## Troubleshooting

- While configuring iDRAC timezone on 14G servers with iDRAC firmware 3.00.00.00 and 3.11.11.11 the job keeps running for longer time without any return output.
  - To ensure that the new timezone values are applied to the servers, export an SCP.
- Upgrade to a latest Dell EMC recommended firmware version (iDRAC firmware version 3.15.15.15 and later) before performing the configuration changes.
- 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.
- Firmware install is failing on server with iDRAC firmware 3.00.00.00 and with Linux NFS share.
  - To perform firmware update, use DUPs from a share other than Linux NFS share.



# Accessing documents from the Dell EMC support site

You can access the required documents using the following links:

- For Dell EMC Enterprise Systems Management documents — [Dell.com/SoftwareSecurityManuals](http://Dell.com/SoftwareSecurityManuals)
- For Dell EMC OpenManage documents — [Dell.com/OpenManageManuals](http://Dell.com/OpenManageManuals)
- For Dell EMC Remote Enterprise Systems Management documents — [Dell.com/esmmanuals](http://Dell.com/esmmanuals)
- For iDRAC and Dell EMC Lifecycle Controller documents — [Dell.com/idracmanuals](http://Dell.com/idracmanuals)
- For Dell EMC OpenManage Connections Enterprise Systems Management documents — [Dell.com/OMConnectionsEnterpriseSystemsManagement](http://Dell.com/OMConnectionsEnterpriseSystemsManagement)
- For Dell EMC Serviceability Tools documents — [Dell.com/ServiceabilityTools](http://Dell.com/ServiceabilityTools)
- a Go to [Dell.com/Support/Home](http://Dell.com/Support/Home).
- b Click **Choose from all products**.
- c From **All products** section, click **Software & Security**, and then click the required link from the following:
  - **Enterprise Systems Management**
  - **Remote Enterprise Systems Management**
  - **Serviceability Tools**
  - **Dell Client Command Suite**
  - **Connections Client Systems Management**
- d To view a document, click the required product version.
- Using search engines:
  - Type the name and version of the document in the search box.