

# Oracle® Enterprise Manager Ops Center

Manage the Configuration of a Zone

12c Release 3 (12.3.0.0.0)

E60028-01

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This guide provides an end-to-end example for how to use Oracle Enterprise Manager Ops Center.

## Introduction

Oracle Enterprise Manager Ops Center provides operations for creating and managing zones. Zones are virtualized operating system environment created within a single instance of the Oracle Solaris operating system. You can create zones on Oracle Solaris 10 or 11 OS. You can also manage most zones that are created using the native Oracle Solaris CLI from the Oracle Enterprise Manager Ops Center UI.

For Oracle Solaris 11 zones, you can discover and monitor zones that are configured with shared IP, but zone support is similar to a zone without an agent. The zones appear in the UI, but active management is not supported and advanced network configurations are not monitored. Immutable zones and zones on shared storage are not supported in this release.

You can modify or add more resources for the zone configuration such as CPU, memory, storage, and network resources. You can also make a duplicate copy of the zone. Zone replication is similar to creating a new zone. You can use this option to retain the existing zone configuration or change the configuration while creating a copy of the zone. This guide shows you how to manage the configuration of a zone.

You can dynamically modify the zone configuration such as CPU shares and memory, and add storage resources. Whereas, you must shut down the zone to connect to a network.

This guide describes the required state of the zone to perform the actions. See [Related Articles and Resources](#) for more information about managing the state of the zone.

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**Note:** You cannot edit the attributes or configuration of a kernel zone, or clone a kernel zone, in Oracle Enterprise Manager Ops Center 12c Release 3 (12.3.0.0.0).

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## What You Will Need

You need the following to manage the zone configuration:

- Virtualization admin role to access and manage the zones.
- Required storage and network resources are associated with the parent global zone.

## Managing Zone Configuration

This example uses the following tasks to manage the configuration of a zone:

- [Editing Attributes and Configuration](#)
- [Adding Storage](#)
- [Connecting to Network](#)
- [Cloning Zones](#)

### Editing Attributes and Configuration

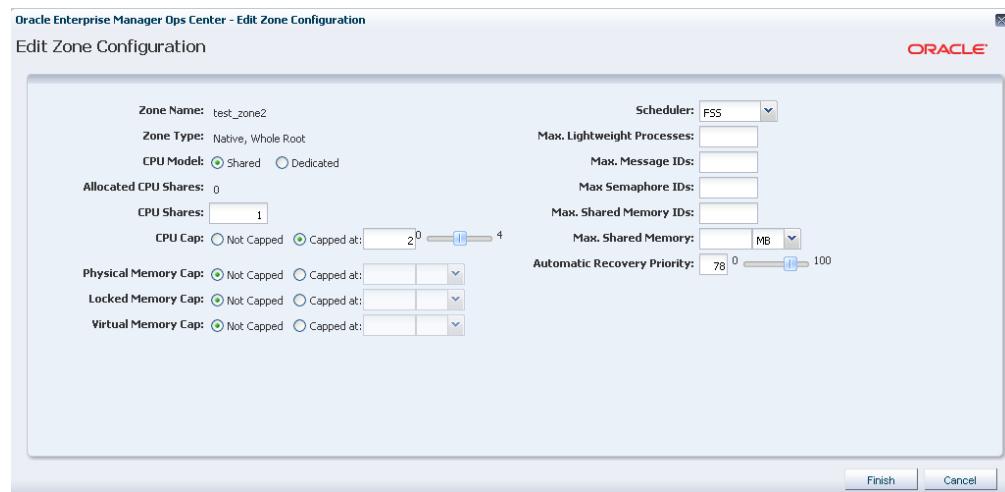
You can modify the following parameters of zone configuration:

- CPU model, resources and cap
- Memory caps
- Type of scheduler
- Lightweight processes
- Automatic recovery priority

In this example, the zone configuration is modified for CPU cap and automatic recovery priority value.

1. Select the zone from the Assets section.
2. Click **Edit Configuration** in the Actions pane.

The Edit Configuration window is displayed.

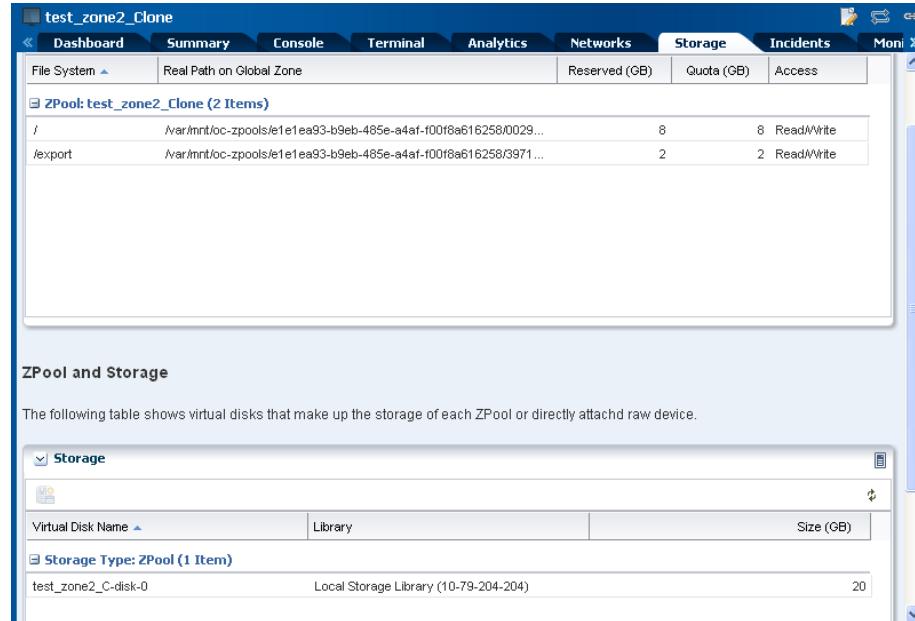


3. Enter the CPU shares to be capped to 2 and the Automatic Recovery Priority value to 78.
4. Click **Finish** to apply the changes.

You must reboot the zone only when you change the CPU model. In this example, the CPU model is retained and the other changes are dynamically applied to the zone.

## Adding Storage

You can add more storage to the zone as required. The storage is added to the existing zpool of the zone. The existing zone storage is displayed in the UI as follows:

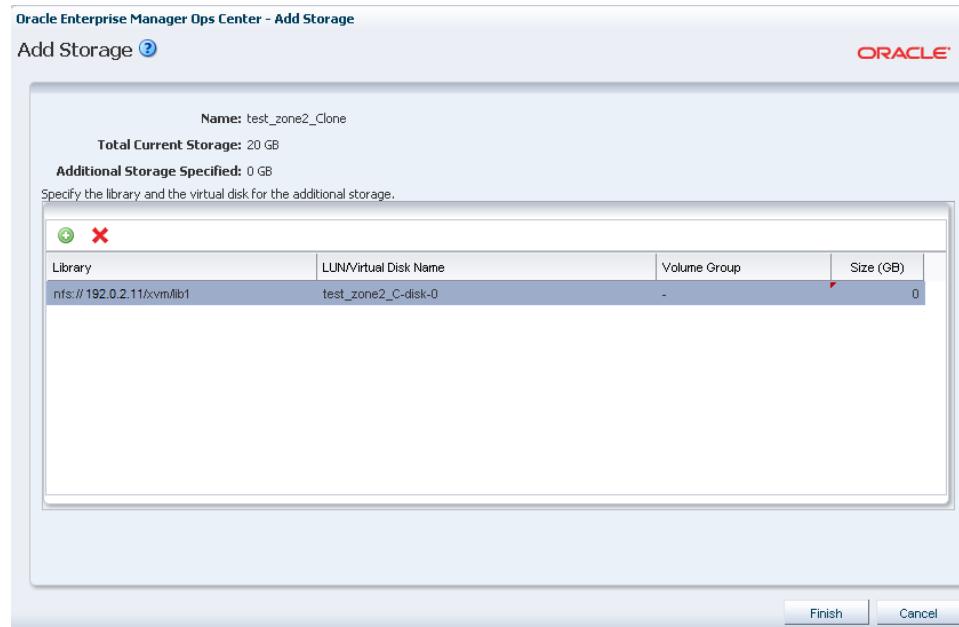


The screenshot shows the Oracle Enterprise Manager Ops Center interface. The top navigation bar includes Dashboard, Summary, Console, Terminal, Analytics, Networks, Storage (selected), Incidents, and Monitoring. The main content area is titled 'test\_zone2\_Clone'. Under 'Storage', there is a table for 'ZPool: test\_zone2\_Clone (2 Items)'. The table has columns: File System, Real Path on Global Zone, Reserved (GB), Quota (GB), and Access. It lists two entries: '/' with path '/var/mnt/oc-zpools/e1e1ea93-b9eb-485e-a4af-f00f8a616258/0029...' and 'export' with path '/var/mnt/oc-zpools/e1e1ea93-b9eb-485e-a4af-f00f8a616258/3971...'. Below this is a section titled 'ZPool and Storage' with a sub-section 'Storage Type: ZPool (1 Item)'. It shows a table for 'test\_zone2\_C-disk-0' in 'Local Storage Library (10-79-204-204)' with a size of 20 GB.

This example shows how to add more storage to a zone and the result. The zone can be in running or shutdown state to add storage to it. To add storage to zone, it is required that the storage libraries that constitute the storage are associated with the global zone.

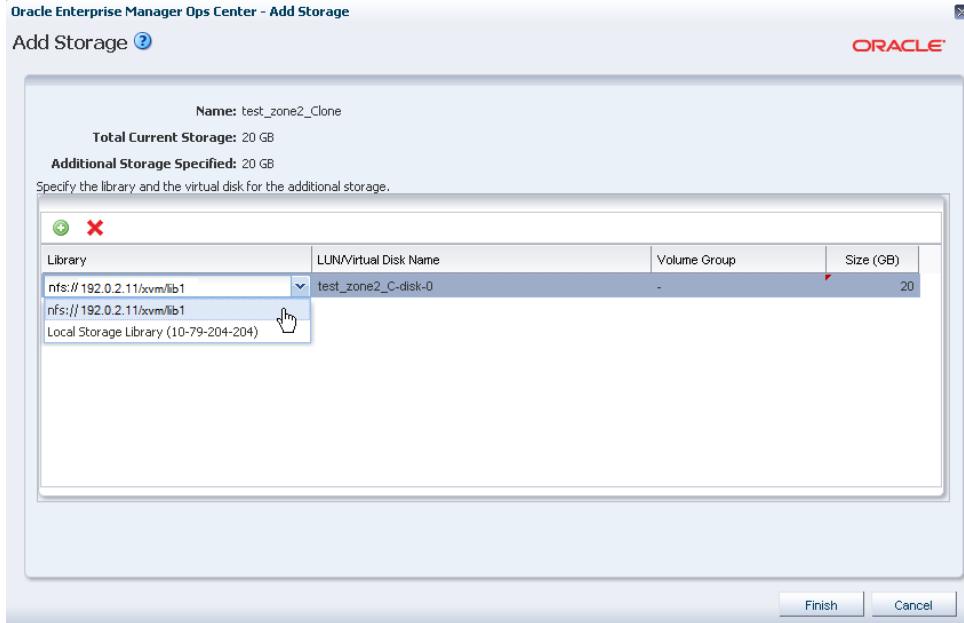
1. Select the zone to which you want to add storage.
2. Click **Add Storage** in the Actions pane.

The Add Storage window is displayed.



The screenshot shows the 'Add Storage' dialog box. The title bar says 'Oracle Enterprise Manager Ops Center - Add Storage' and 'Add Storage ②'. The main area has a sub-header 'Name: test\_zone2\_Clone' and 'Total Current Storage: 20 GB'. It says 'Additional Storage Specified: 0 GB' and 'Specify the library and the virtual disk for the additional storage.' Below this is a table with columns: Library, LUN/Virtual Disk Name, Volume Group, and Size (GB). A row is selected with 'nfs://192.0.2.11/xvm/lib1' in the Library column and 'test\_zone2\_C-disk-0' in the LUN/Virtual Disk Name column. The Size (GB) column shows a value of 0 with a red minus sign. At the bottom are 'Finish' and 'Cancel' buttons.

- All the libraries associated with the corresponding global zone are listed in the Library. Select the NAS library from the list and add 20 GB as the size of the virtual disk to be added to the zone.



- Click **Finish** to add the selected storage to the zone.

The selected storage is added to the zone and it is displayed in the **Storage** tab of the zone.

ZPool and Storage		
The following table shows virtual disks that make up the storage of each ZPool or directly attached raw device.		
<b>Storage</b>		
Virtual Disk Name	Library	Size (GB)
<b>Storage Type: ZPool (2 Items)</b>		
test_zone2_C-disk-0	Local Storage Library (10-79-204-204)	20
test_zone2_C-disk-0	nfs://192.0.2.11/xvm/lib1	20

The storage is added to the existing zpool of the zone. You cannot delete or remove the added storage to the zone. You can add storage from Block Storage libraries provided they are associated with the global zone.

## Adding File Systems

You can add file systems to a zone. The zone must be in shut down state to add a file system. The following figure shows the existing file system for a zone:

The screenshot shows the Oracle Enterprise Manager Ops Center interface. The top navigation bar includes Dashboard, Summary, Console, Terminal, Analytics, Networks, Storage, and Incidents. The Storage tab is selected. Below the navigation is a table with columns: File System, Real Path on Global Zone, Reserved (GB), Quota (GB), and Access. A single row is listed under 'ZPool: test\_zone2 (1 Item)', showing a file system at path / with 8 GB reserved and 8 GB quota, and Read/Write access. Below this is a section titled 'ZPool and Storage' with a table showing a single storage entry: 'Storage Type: ZPool (1 Item)' with 'test\_zone1-vdisk0' in the Local Storage Library (10-79-204-204) with 10 GB size.

In this example, a file system is added on a managed storage resource. The file system will be added to the existing zpool of the zone.

1. Select the zone from the Assets section.
2. Click **Shutdown Zone** from the Actions pane.  
The zone is shutdown and the **Add File System** option is enabled.
3. Click **Add File System** in the Actions pane.  
The Add File Systems window is displayed.

The screenshot shows the 'Add File Systems' dialog box. At the top, it says 'Oracle Enterprise Manager Ops Center - Add File Systems' and 'Add File Systems'. The main area has fields for 'Name' (test\_zone2), 'ZPool' (test\_zone2), and 'Available Storage Size' (6 GB). Below these is a note: 'Specify new file systems to be added to test\_zone2.' A table below shows the configuration for a new file system: 'File System' (/export), 'Managed Storage' (checkbox checked), 'Mount Point' (checkbox checked), 'Reser... (GB)' (2), 'Quota (GB)' (2), and 'Access' (ReadWrite). At the bottom are 'Finish' and 'Cancel' buttons.

4. Define the following details for the file system:
  - Enter the file system.

- Select the storage source as Managed Storage.
- Enter the Reserved and Quota size of the file system.
- Set the Access to Read/Write.

5. Click **Finish** to add the file system to the zone.

The file system is added to the zone existing zpool. You must boot the zone for the changes to take effect.

## Connecting to Network

You can connect or disconnect networks from the zone. The networks that are attached to the global zone in shared or exclusive mode are available to be connected to the zone. Depending on the type of zone, the corresponding networks are available.

This example showcases a scenario of connecting a network to a zone in shared IP mode.

1. Select the zone from the Assets section.
2. Select **Shutdown Zone** in the Actions pane.

The zone must be in shutdown state to connect networks to it.

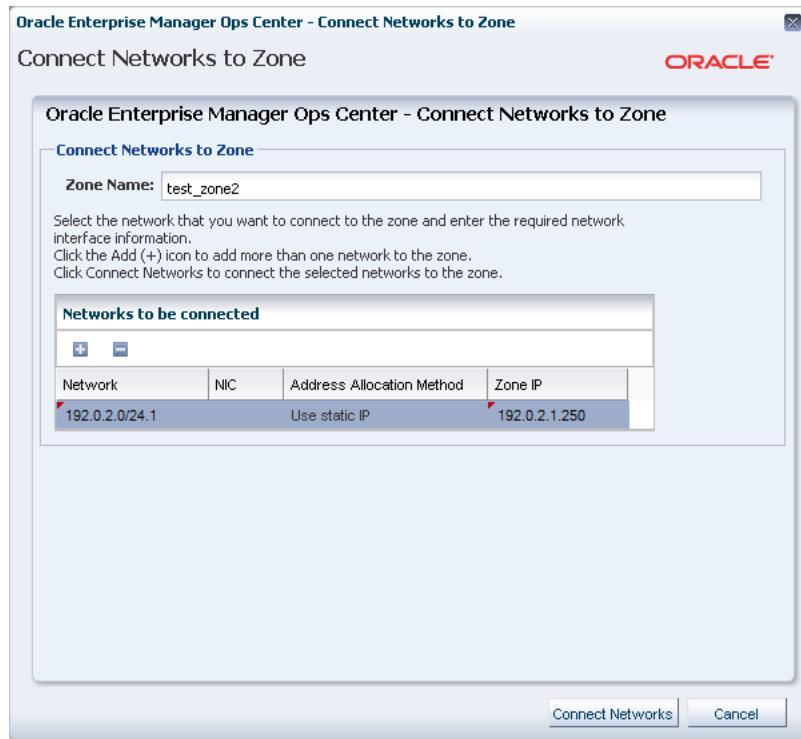


3. Click **Shutdown Zone** in the Shutdown Zone window.

The zone is shut down. The **Connect Network** option is enabled in the Actions pane.

4. Click **Connect Networks** in the Actions pane.

The Connect Networks to Zone window is displayed.

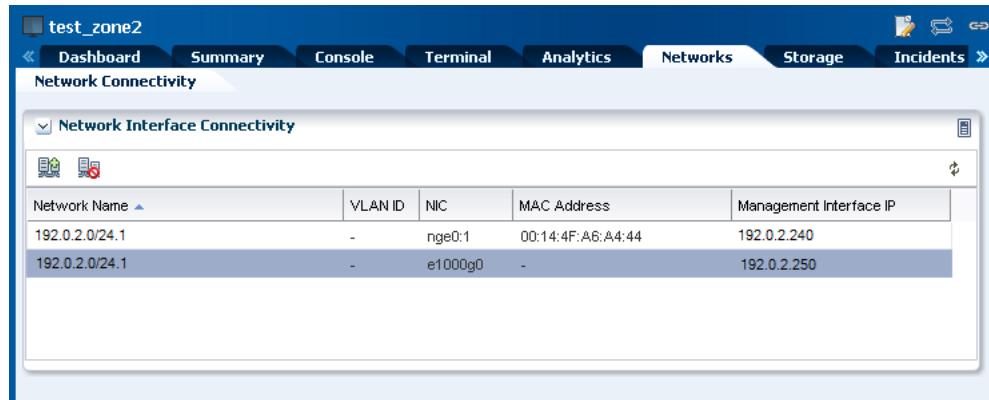


5. Select the network from the list and enter the following details:

- The NIC
- Use Static IP as the Address Allocation Method
- The IP address for the zone

6. Click **Connect Networks** to connect the network to the zone.

The network is connected to the zone and the **Networks** tab list the connected network as shown in the figure:



Boot the zone to change the state to running.

## Cloning Zones

Zone replication also known as cloning zones are similar to creating new zones. You can retain the zone configuration of the existing zone or change the configuration of

the zone when you create it. You can make clones of zone and manage their configuration.

1. Select the zone that must be replicated from the Assets section.

2. Click **Replicate Zone** from the Actions pane.

The Replicate Zone wizard is displayed.

3. Define the following zone details:

- A default zone name is created. You can change the name. In this example, the default zone name is retained.
- Select the library in which to store the cloned zone metadata.

Click **Next**.

**Identify Zone** \* Indicates Required Field

Identify the new zone, then specify a library in which to store the zone metadata.

\* Zone Name:

Description:

Tags:

Tag Name	Value
legacy.tags	agent

Library to store zone metadata:

4. Retain the CPU and memory specification as described for the zone and click **Next**.

**Configure CPU and Memory** \* Indicates Required Field

Select the CPU usage type and memory caps for the new zone.  
See Help for information about how CPU and memory are shared.

CPU Model:  Shared  Dedicated

\* CPU Shares:

CPU Cap:  Not Capped  Capped at:  0

Available Memory: 5.07GB

Physical Memory Cap:  Not Capped  Capped at:  MB

Locked Memory Cap:  Not Capped  Capped at:  MB

Virtual Memory Cap:  Not Capped  Capped at:  MB

5. Retain the zone setup parameters and click **Next**.

**Specify Zone Setup** \* Indicates Required Field

Specify language, time zone, terminal-type and root password for the Zone.

Language:	C
Time Zone:	GMT
Terminal Type:	X Terminal Emulator
* Hostname:	Myzone11_Clone
* NFSv4 Domain Name:	dynamic
Root Password:	<i>Leave empty to keep existing password</i>
Confirm Password:	<i>Leave empty to keep existing password</i>

Automatically boot zone when the global zone is booted  
 Automatically boot zone after creation

6. In the Configure Zone File Systems, retain the file system as described. If required, you can change only the Reserved and Quota size of the file system. Click **Next**.

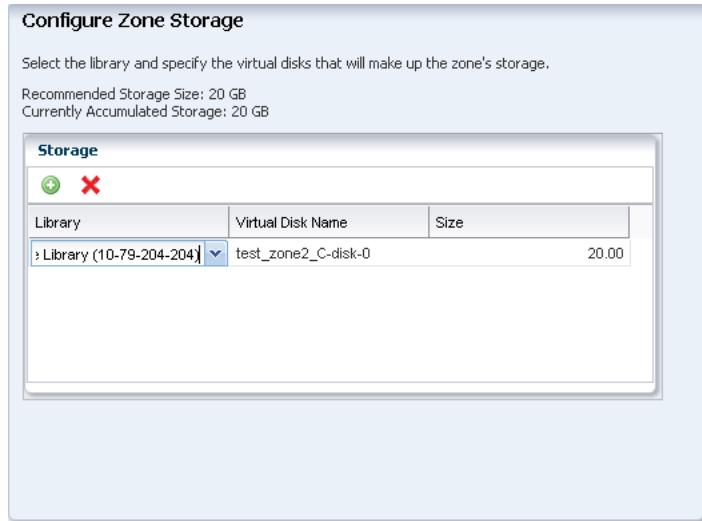
**Configure Zone File Systems**

Select the file systems that you want to manage.

**Note** - You cannot change the file system from managed to unmanaged.

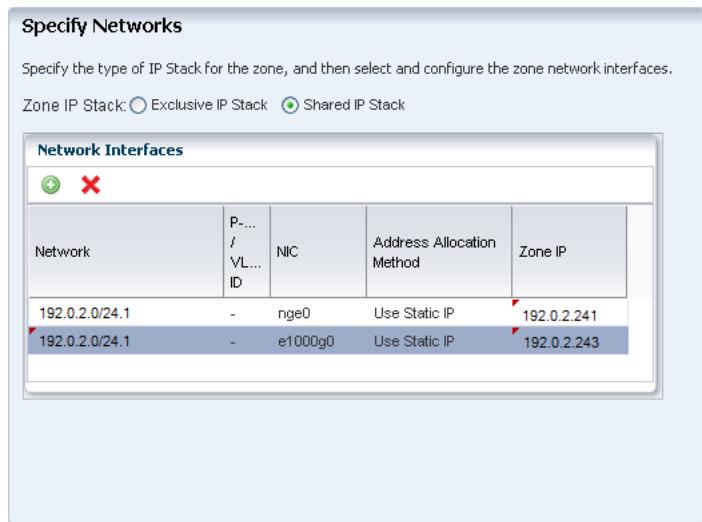
File System	Man... Stor...	Mount Point	Reserved (GB)	Quota (GB)	Access	Type
/	<input checked="" type="checkbox"/>		8	8.00	Read&Write	filesystem
/export	<input checked="" type="checkbox"/>		2.00	2.00	Read&Write	filesystem

7. Select the library for the zone storage. Enter the size of the virtual disk. Click **Next**.



8. Select the IP stack and the networks that must be connected to the zone. In this example, maintain the network connections as described for the selected zone. Enter the IP address for the cloned zone to be connected to the networks.

Click **Next**.



9. Select **None** for the name service.

Click **Next**.



10. View the summary of the information provided for the replication.

Click **Finish** to replicate the zone.



The zone replication job is started and you can view the new zone in the Assets section.

## What's Next?

You can manage the lifecycle of your zones. See [Related Articles and Resources](#) for more information about zones.

## Related Articles and Resources

The Oracle Enterprise Manager Ops Center 12c documentation is located at [http://docs.oracle.com/cd/E59957\\_01/index.htm](http://docs.oracle.com/cd/E59957_01/index.htm).

See the following guides for more information:

- *Oracle Enterprise Manager Ops Center Virtualize Reference* for information about zones and server pools.

- *Oracle Enterprise Manager Ops Center Administration Guide* for information about user roles and permissions.
- *Oracle Enterprise Manager Ops Center Command Line Interface*

See the Operate How To available at [http://docs.oracle.com/cd/E59957\\_01/nav/operate.htm](http://docs.oracle.com/cd/E59957_01/nav/operate.htm).

See the Deploy How To available at [http://docs.oracle.com/cd/E59957\\_01/nav/deploy.htm](http://docs.oracle.com/cd/E59957_01/nav/deploy.htm).

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