Oracle® Enterprise Manager Ops Center

Creating a Server Pool for Oracle VM Server for SPARC

12*c* Release 2 (12.2.2.0.0)

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

Introduction

Using Oracle Enterprise Manager Ops Center, you can create server pool for Oracle VM Server for SPARC systems.

A server pool is a group of one or more virtualized hosts that has access to the same virtual and physical networks, and storage resources. Server pools provide load balancing, high availability capabilities, and sharing of the resources for all the members of the pool.

The Oracle VM Servers for SPARC systems can be configured and running with I/O domains and root domains. You can also select the exclusive access of the resources of these domains.

You can also pool Oracle VM Server for SPARC servers of different CPU type and frequency. To pool servers with different CPUs, you must create guest domains with a generic CPU architecture. The generic CPU architecture enables you to migrate guest domains between Oracle VM Servers of different CPU types.

Placing an Oracle VM Server for SPARC server in a server pool will not remove any of the existing storage and network connections. Also, removing the server from the server pool does not remove all the storage and network connections.

You must select the policies in the server pool to manage the underutilized and overutilized servers in the pool:

- **Placement Policy**: This policy decides the preferred virtualization host in the server pool to place the logical domains.
- **Auto Balancing Policy**: This policy performs load balancing of the server pool automatically at set intervals.

See Related Articles and Resources for Oracle VM Server for SPARC documentation website.

What You Will Need

You need the following resources to create a server pool for Oracle VM Server for SPARC.

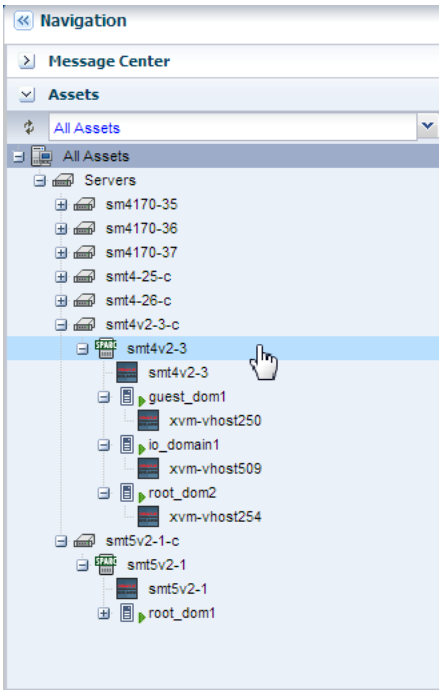
- Two servers installed with Oracle VM Server for SPARC in a healthy state and not associated with any server pool.

- A NAS storage library to store the logical domain metadata.
- (Optional) A SAN storage library for the virtual disk storage of logical domains.
- One or more networks in the default network domain which can be attached to the server pool.
- Placement policy and Auto balancing policy to manage the load of the virtualization servers in the server pool.

  See *Oracle Enterprise Manager Ops Center Feature Reference Guide* for more information on policies.
- A user with the Virtualization Admin role to create and manage the server pool.

Hardware and Software Configuration

In this example, a server pool with Oracle VM Server for SPARC systems provisioned on Oracle SPARC T4 and Oracle SPARC T5 servers are used. The servers are provisioned with Oracle VM Server for SPARC 3.1 version. The two servers are displayed in the UI as follows:



In one of the Oracle VM Server for SPARC system, *smt4v2-3*, a root domain, an I/O domain, and a guest domain are installed. In *smt5v2-1* Oracle VM Server for SPARC system, a root domain is installed.

You can have domains running in the control domain before placing them in the server pool.

When you want to create root domains or I/O domains in a server, the server pool cannot be selected as a target. Instead, you can select the servers in the server pool to create the domains.

Create a Server Pool for Oracle VM Server for SPARC

Oracle Enterprise Manager Ops Center initiates a wizard that collects information about the servers, storage and network resources, and placement policies to create a server pool.

Server pool creation in Oracle Enterprise Manager Ops Center provides the following options to manage the root domain and I/O resources:

- You can select to define exclusive access of the I/O resources of the root and I/O domains only to the guest domains created in the pool. This disallows to create any zones on the root and I/O domains.
- You can select to associate the storage libraries to the root and I/O domains.
- You can select to use the network interfaces from the root and I/O domains to attach the network to the server pool.
- The network to be attached with the server pool is not configured with VLAN ID and therefore the network tagging mode is not defined for the members of the server pool.

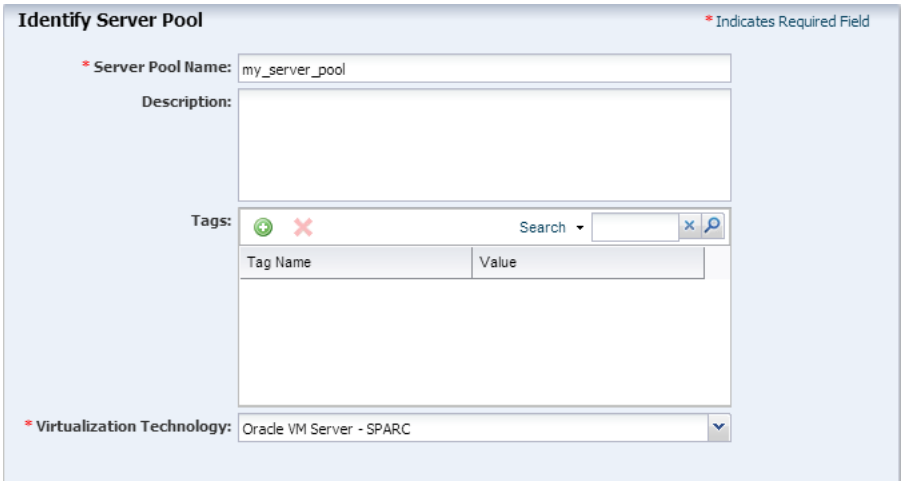
The following configuration is used to create the server pool in this example:

- Exclusive access to I/O resources is defined for all the root domains and I/O domains.
- The root domain and I/O domain in *smt4v2-3* system are associated with the storage libraries.
- The placement policy to place the guests on the Oracle VM Server with the lowest relative load is selected.

To Create a Server Pool for Oracle VM Server for SPARC

1. Select **Server Pools** in the Resource Management View of the Navigation pane.
2. Click **Create Server Pool** in the Actions pane.

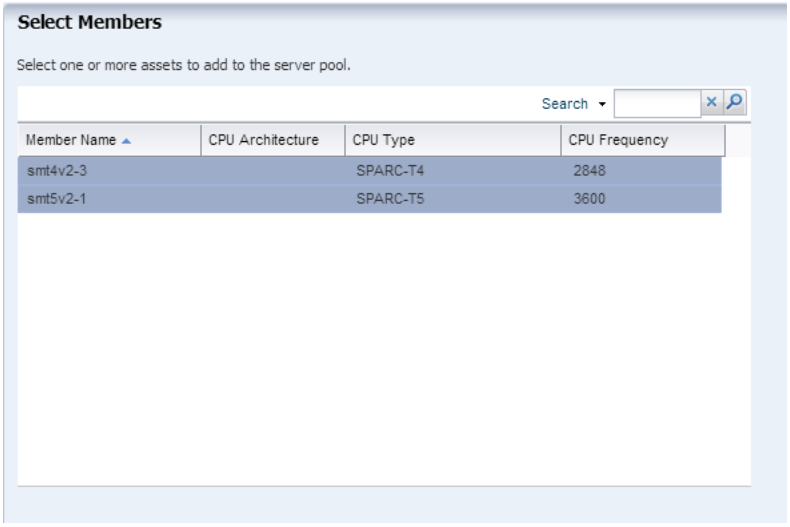
   The Create Server Pool wizard is displayed.
3. Specify the following server pool identification information:
   - Enter a name and description for the server pool.
   - Select Oracle VM Server - SPARC from the Virtualization Technology list.



Click **Next**.

4. Select the two Oracle VM Servers to be added to the server pool.

   Oracle VM Servers display the CPU architecture, type, and frequency.

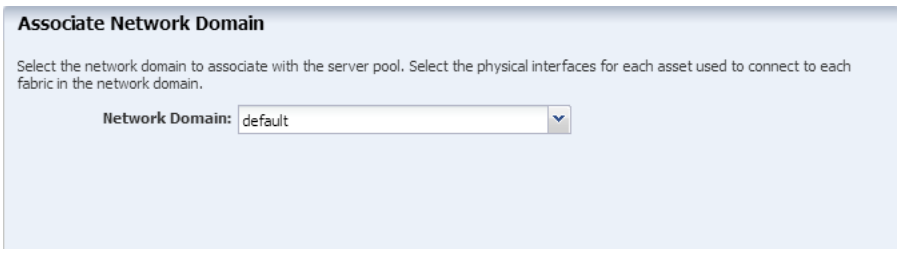


   Click **Next**.

5. Select whether the root domain and I/O domain resources are exclusive access for the logical domains only. You cannot create zones on the selected domains.

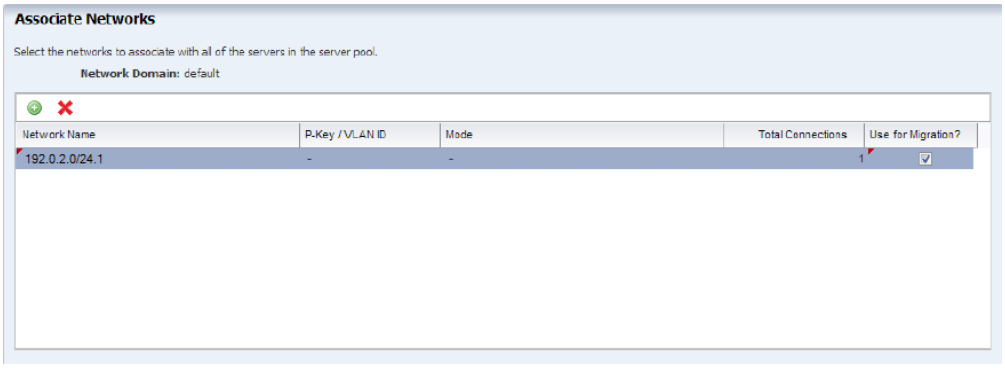
   Click **Next**.

6. Select the default network domain to be associated with the server pool.



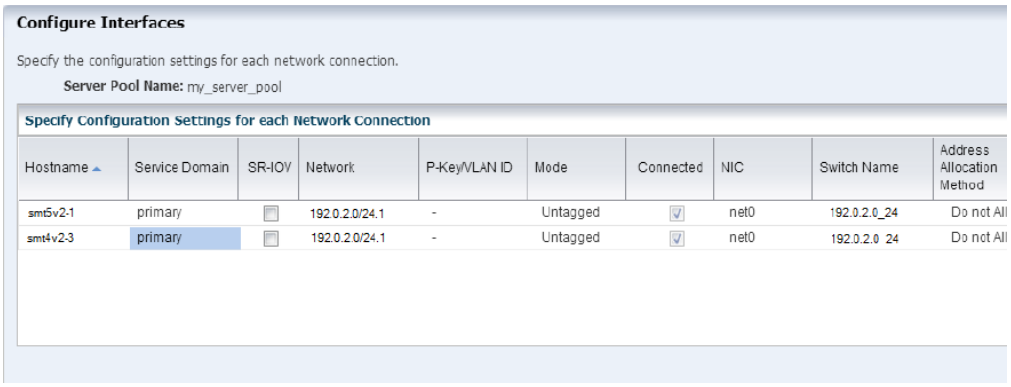
   Click **Next**.

7. Click the **Add Network** icon to add the networks that are declared and managed in Oracle Enterprise Manager Ops Center to associate with the servers in the server pool. Enter the number of connections to the network as 1.



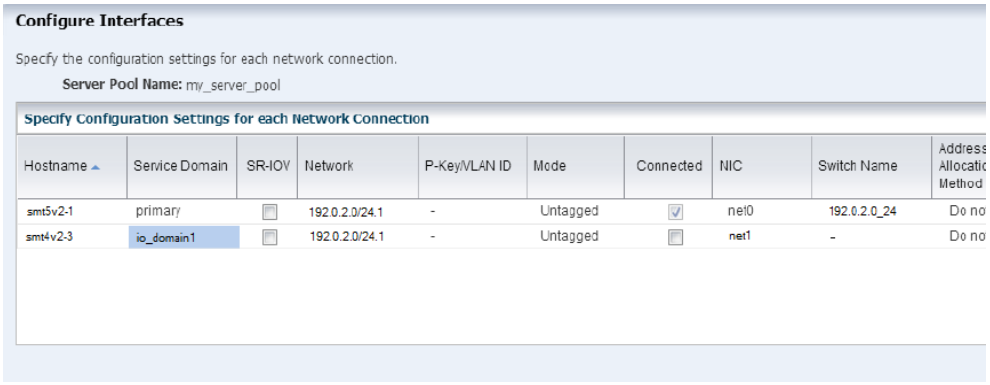
Click **Next**.

8. Specify the network configuration settings for each Oracle VM Server. Both the Oracle VM Servers are already connected to the selected network. The UI displays the already existing connection details to the network.



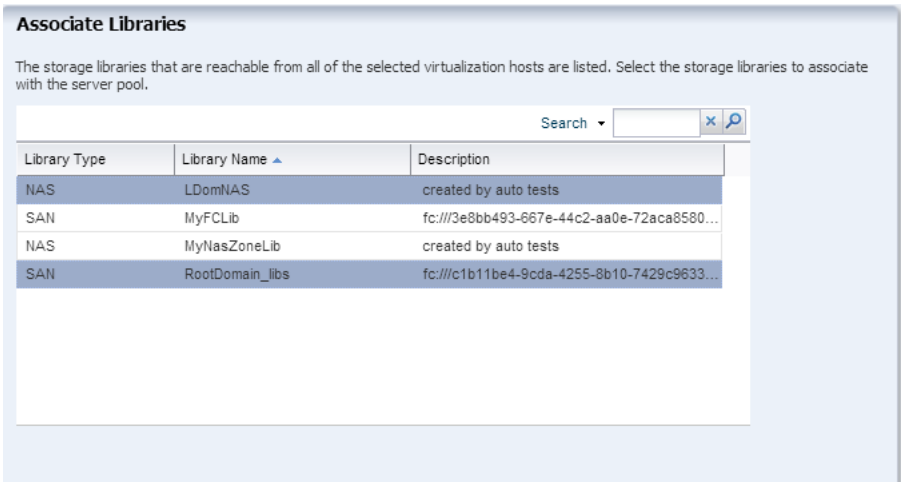
You can select to either retain the existing connection or modify the configuration to make a new connection. A new connection is made to the *smtv4v2-3* system. The new connection details for the system are as follows:

- The service domain is selected as the I/O domain in the system which will provide the network interface.
- The NIC list is populated with the interfaces from the I/O domain. Select the NIC from the available list.
- Leave the Switch Name blank for the switch name to be created with default naming pattern.
- Do not provide any IP address when the network connection is from domains other than primary.



Click **Next**.

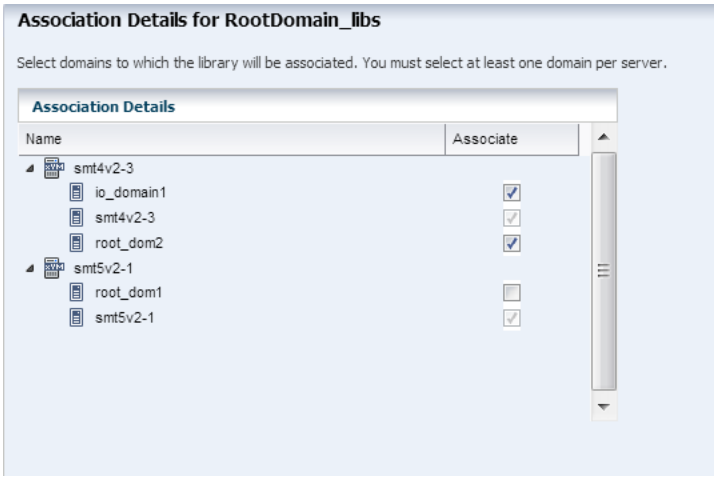
9. Storage libraries that are reachable from the selected members of the pool are displayed. Select a NAS and a SAN storage library to be associated with the server pool.



Click **Next**.

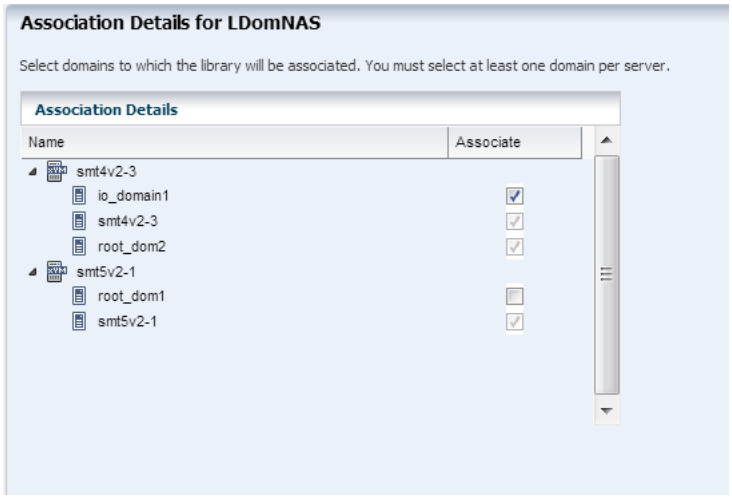
10. The Oracle VM Servers has root domains and I/O domains. You have the option to define the association of the library with the domains. You must select at least one domain per server to which you associate the library. The domains to which the library is already associated are displayed with the **Associate** option selected.

    This step will be repeated for all the libraries selected in the previous step. In this example, the association details are specified for the NAS library.



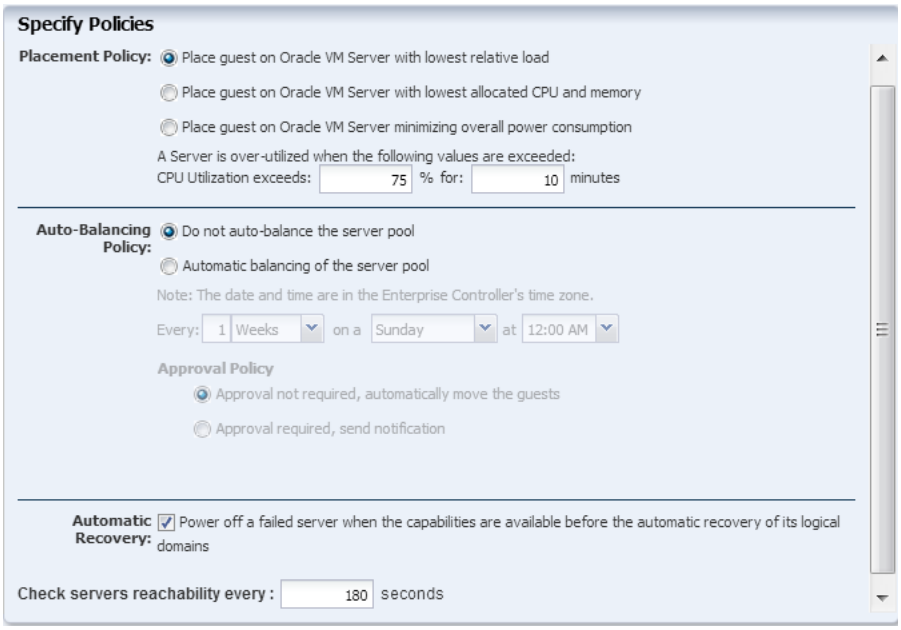
Click **Next**.

11. Select the domains to which the NAS library will be associated.



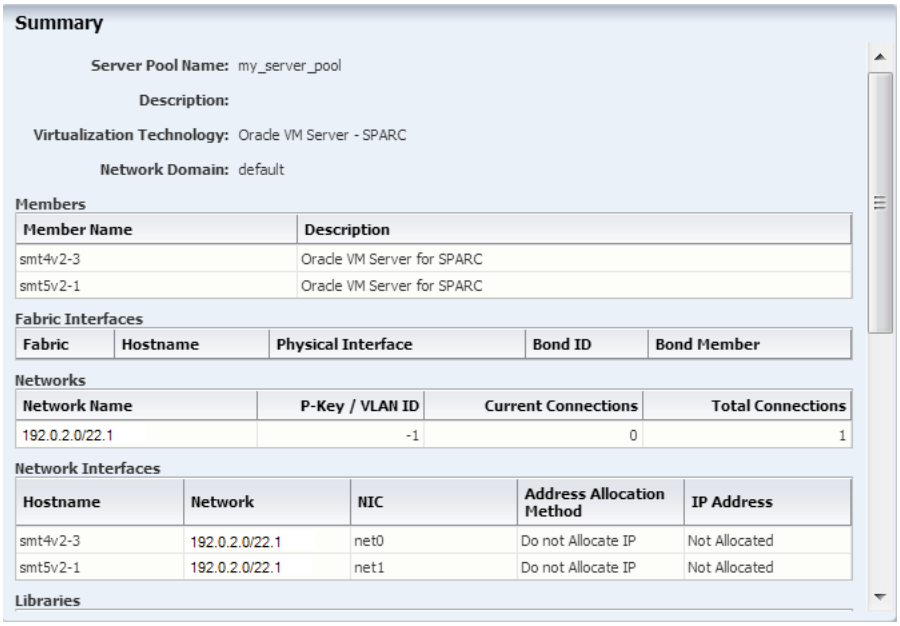
Click **Next**.

12. Select the placement and auto balancing policy:
    - Place the guest on Oracle VM Server with lowest relative load.
    - Do not auto balance the server pool.

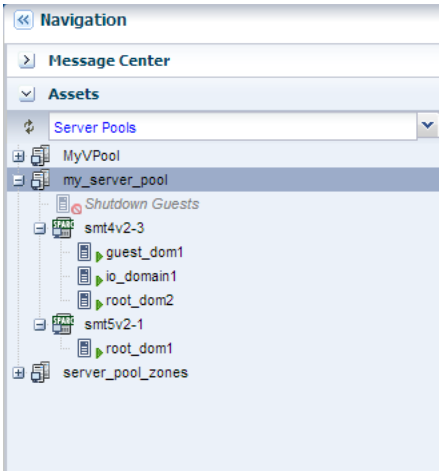


Click **Next**.

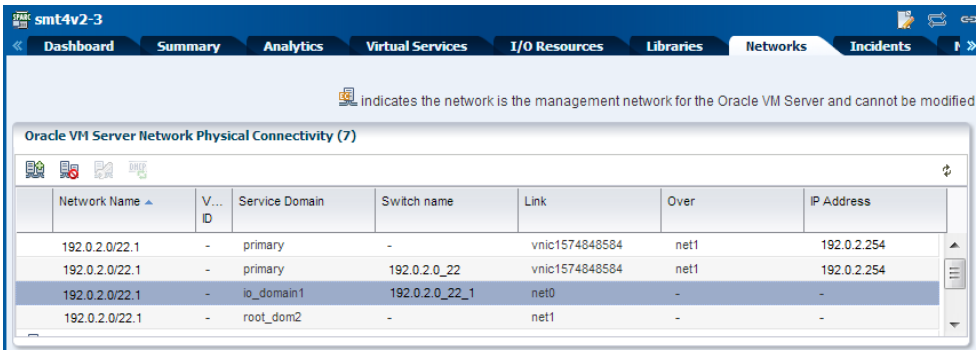
13. Review the server pool information, then click **Finish** to create the server pool.



The server pool is created and listed in the Server Pools list in the UI:



The network connection for the Oracle VM Server *smt4v2-3* was provided from the I/O domain. You can view the Oracle VM Server network connection in which the network is connected using the I/O domain interface and the virtual switch is created for the network.



When you are attaching networks configured with VLAN ID to the server pool, you can select the tagging mode for the server pool members. For more information about using the tagging mode, refer to O*racle Enterprise Manager Ops Center Feature Reference Guide*.

What's Next?

After creating the server pool for Oracle VM Server for SPARC, the next step is to manage the resources in the server pool. Oracle Enterprise Manager Ops Center provides the following management features:

- Edit server pool parameters
- Add virtualization hosts
- Associate network domains
- Attach networks
- Associate libraries
- Create logical domains
- Migrate logical domains
- Balance resources

- Delete server pool

Related Articles and Resources

Refer to the following resources for more information about managing Oracle VM server for SPARC in Oracle Enterprise Ops Center:

- *Oracle Enterprise Manager Ops Center Feature Reference Guide*
- *Oracle Enterprise Manager Ops Center Feature Reference Appendix Guide*
- *Oracle Enterprise Manager Ops Center Command Line Interface Guide*
- *Oracle Enterprise Manager Ops Center Configuring and Deploying Oracle VM Server for SPARC*
- *Oracle Enterprise Manager Ops Center Configuring and Installing Guest Domains*

See Oracle Enterprise Manager Ops Center 12c documentation at http://docs.oracle.com/cd/E40871_01/index.htm.

See Deploy How To Library at http://docs.oracle.com/cd/E40871_01/nav/deployhowto.htm.

See Operate How To Library at http://docs.oracle.com/cd/E40871_01/nav/operatehowto.htm.

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