Oracle® Enterprise Manager Ops Center

Create a Server Pool for Zones

12*c* Release 3 (12.3.0.0.0)

E60032-01

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

Introduction to Server Pools

Oracle Enterprise Manager Ops Center provides the facility to pool your like resources for maximum efficiency and performance. Server pool is a group of one or more homogenous virtualization servers that have access to the same storage and network resources. A server pool provides load balancing and high availability capabilities for all the members of the pool.

You can create a zones server pool in Oracle Enterprise Manager Ops Center. In this example, a zones server pool of the following configuration is created:

- Two virtualization servers provisioned with Oracle Solaris 11 OS are added to the server pool.
- The server pool uses the default network domain. The server pool is attached to network accessible to both virtualization servers.
- The server pool is associated with file system and static storage library for the use of storing zone metadata and zone storage.
- Set the server pool policy to place the zones on the global zones that have lowest relative load.
- Enable automatic load balancing to migrate the zones automatically whenever the threshold is exceeded.
- Administrator approval is required to migrate the zones.
- Automatic recovery of the zone is not enabled.

> **Note:** You cannot place kernel zones in a server pool in Oracle Enterprise Manager Ops Center 12*c* Release 3 (12.3.0.0.0).

See Related Articles and Resources for more detailed information about server pool policies.

What You Will Need

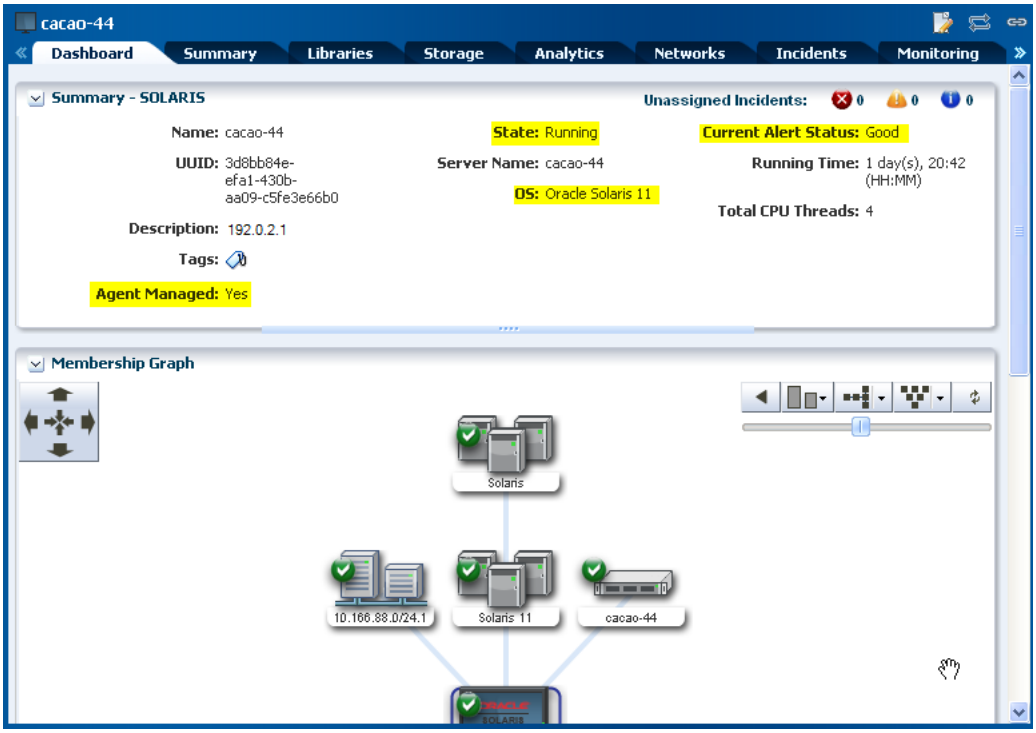
In this example, you need the following resources to create an Oracle Solaris Zones server pool:

- A user with the Virtualization Admin role.
- Two global zones that are running Oracle Solaris 11 OS of x86 architecture.
- The two servers are discovered and managed in Oracle Enterprise Manager Ops Center.
- The two servers are in healthy state and not placed in maintenance mode.
- The servers are not associated with any server pool.
- File system and Static block storage library accessible from both the virtualization servers. There must be no unmanaged file system attached to the global zones. You need a NAS library to store zone metadata and either a SAN or iSCSI library for zone storage.
- The networks to be attached to the server pool are in the default network domain.

Hardware and Software Configuration

The global zones of Oracle Solaris 11 OS that are discovered and managed in Oracle Enterprise Manager Ops Center appear in the UI.

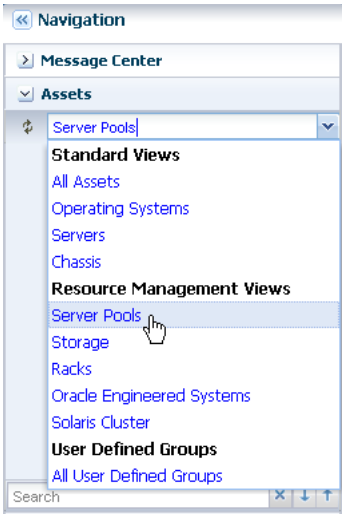
To view the global zone's state, current alert status, agent status, and OS version, go to the Dashboard tab, as shown in the graphic:



Creating a Zones Server Pool

Oracle Enterprise Manager Ops Center launches a wizard to capture all the requirements of a server pool. This procedure describes how to select and enter the details for creating a zones server pool.

1. Select **Server Pools** in the Resource Management Views.



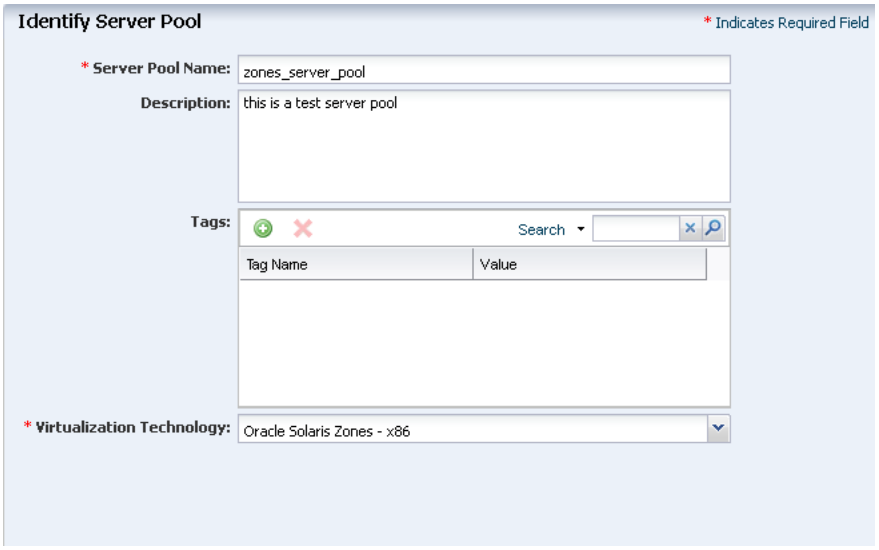
2. Click **Create Server Pool** in the Actions pane.

   The Create Server Pool Wizard is displayed.

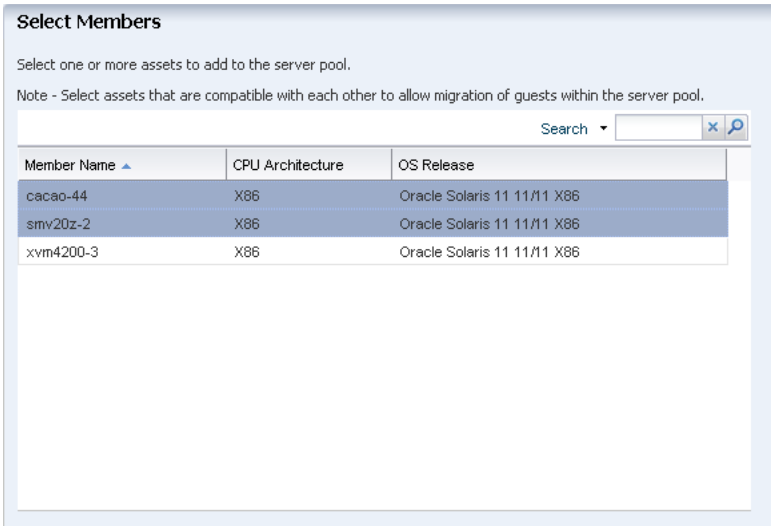
3. Enter the following details in the server pool identification:

   - A name and description for the server pool.
   - It is optional to enter tags for the server pool. In this example, do not enter the tags.
   - Select Oracle Solaris Zones - x86 in the list of Virtualization Technology.

   Click **Next** to continue.



4. From the list of compatible managed global zones, select the two global zones to add to the server pool and click **Next**.



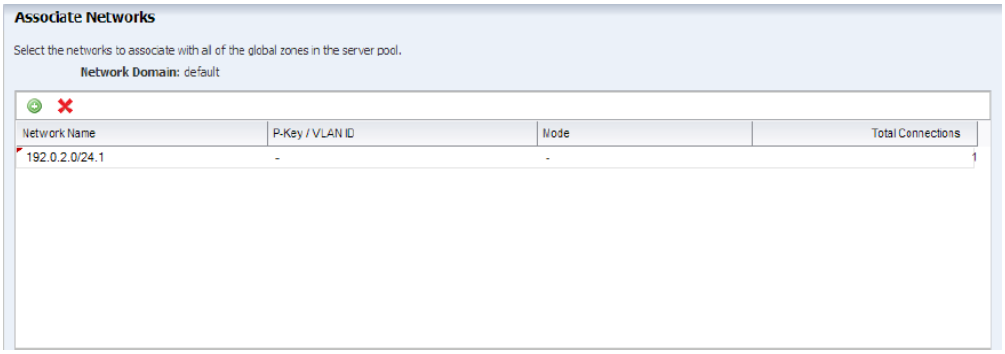
5. Select the default network domain to associate with the server pool.

   For default network domain, you are not required to establish the connection between the server and the network fabrics. You can directly proceed to attach the networks and configure the interfaces of the servers. Click **Next**.

6. Select the networks from the list to attach to all the selected global zones of the server pool.

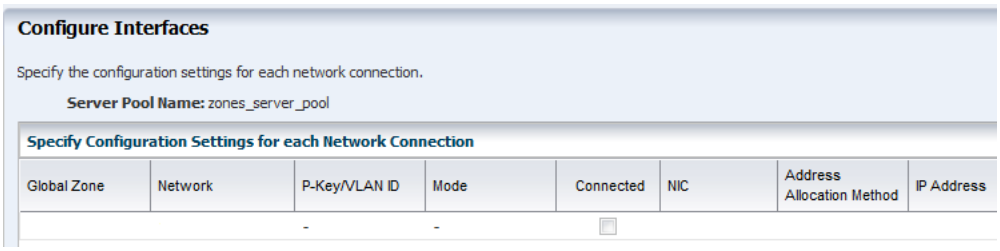
   For Oracle Solaris 11 OS, the network is always attached to it in exclusive IP mode. This is because the zones that will be created on Oracle Solaris 11 OS are exclusive IP zones by default. You can connect to multiple networks and make multiple connections to each network for Oracle Solaris 11 OS. You must have sufficient NICs to cater to the number of network connections. In this example, the server pool is connected to the management network of the global zones and the number of network connections is also limited to one (1).

   Click **Next**.



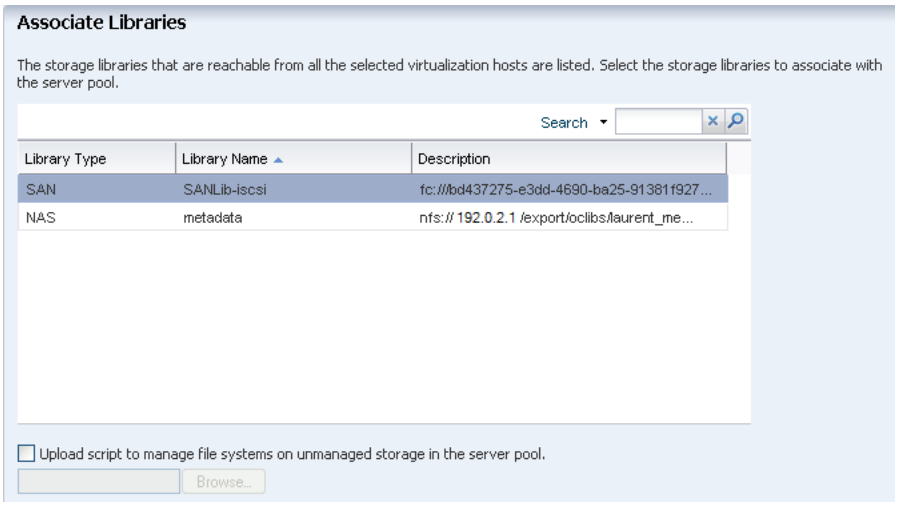
7. The selected network in the previous step is already connected to the selected global zones, therefore the configuration settings for the network connection are not displayed.

   Click **Next** to continue.



8. The storage libraries that are accessible from the selected global zones are listed. Select the storage libraries that you want to associate with the server pool.

   In this example, select the SAN and NAS storage library, and click **Next**.



9. Set the server pool policy as follows:

   - Select the Placement Policy to place the zone on the global zone with lowest relative load.

     Set the CPU Utilization threshold value to be 85% for 10 minutes.

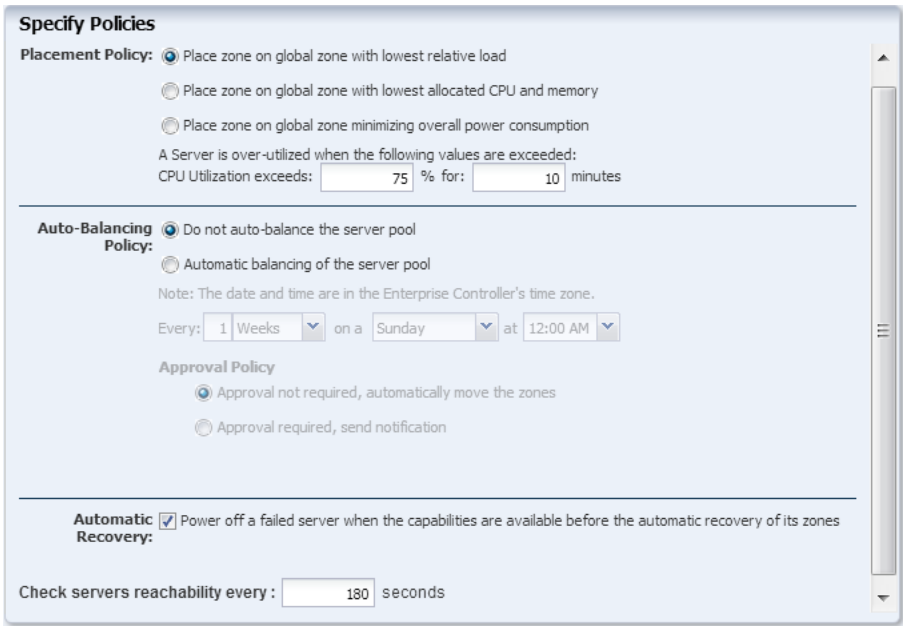
   - Select the Automatic balancing of the server pool option.

     Set the balancing to occur everyday at 12:00 a.m.

Select Approval required, send notification option. This will ensure that the zones are migrated with your approval.

- Deselect the automatic recovery option.

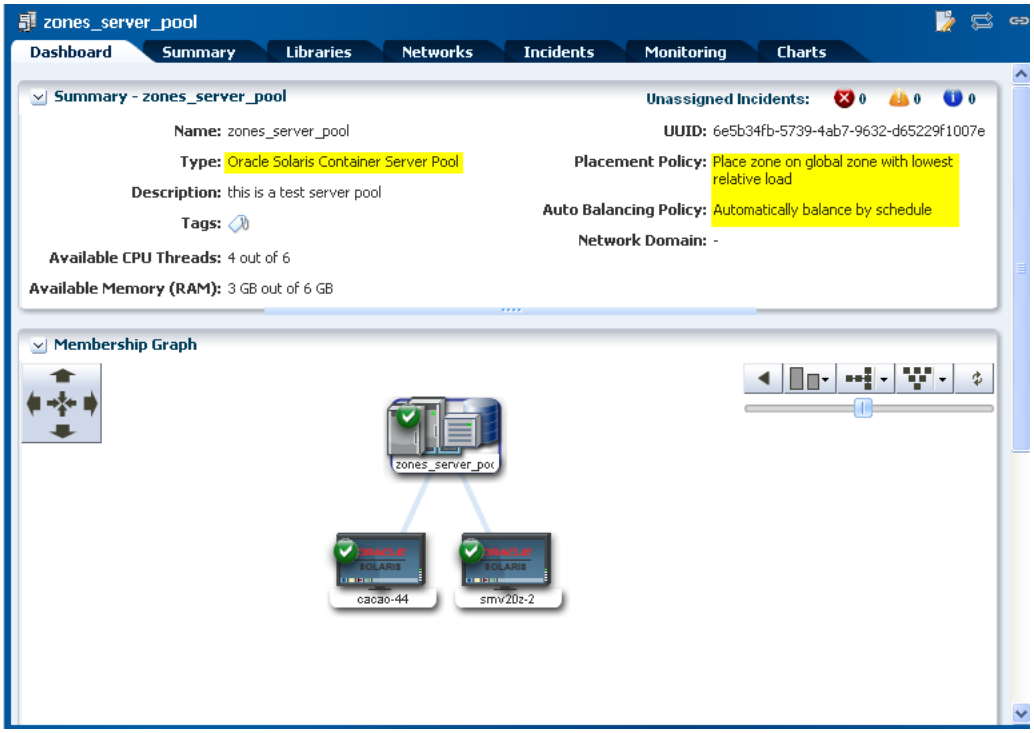
Click **Next** to view the summary.



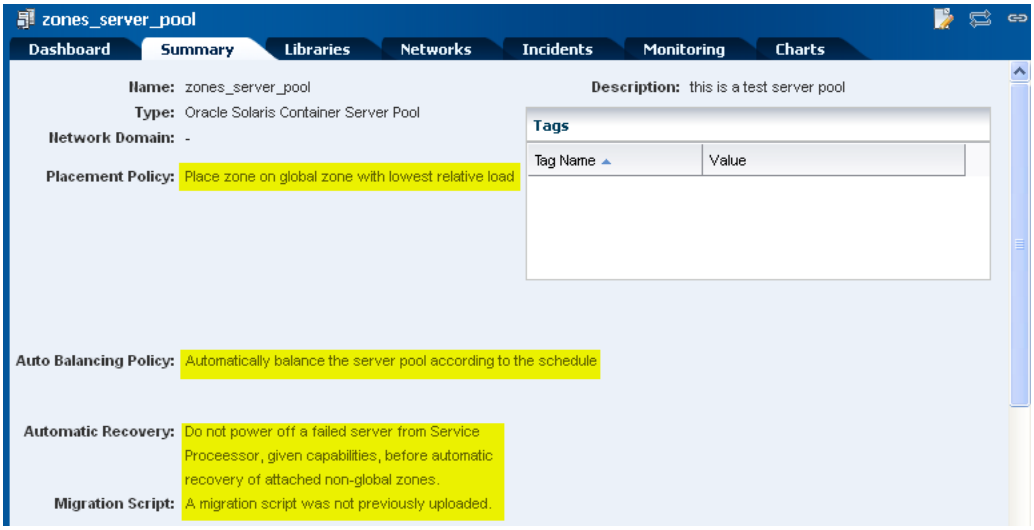
10. Review the information and click **Finish** to create the server pool.

The new server pool appears in the Server Pools list.

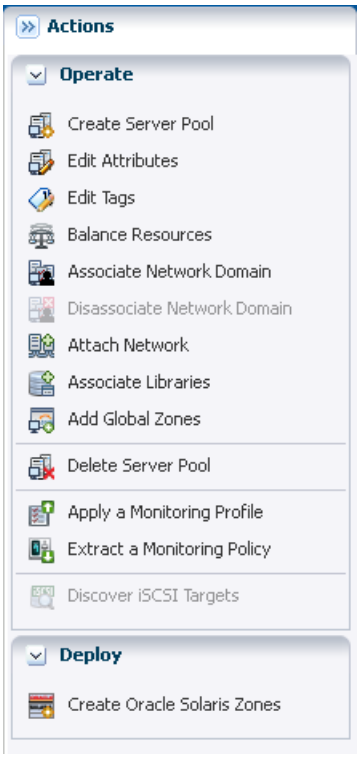
You can view the server pool dashboard for the policies selected as shown in the following figure:



Select the server pool Summary tab to view the settings as seen in the Dashboard. From here, you can also edit the server pool configuration.



The Actions pane lists the options that are available to manage the server pool, such as editing the attributes, editing the tags, balancing the resources, associating the network domain, attaching networks, associating libraries, and adding global zones.



When you have networks configured with VLAN ID, you can set the tagging mode for the global zones added to the server pool.

What's Next?

You can manage the server pools and create zones in the server pool. Oracle Enterprise Manager Ops Center provides the following options to manage the server pool configuration and state:

- Associate Network Domain
- Attach Network
- Associate Libraries
- Add Global Zones
- Balance Resources
- Apply Monitoring Profile
- Create Oracle Solaris Zones

In this server pool, you can create zones using the option Create Oracle Solaris Zones. According to the placement policy of the server pool, the zones are placed in a global zone with lowest relative load. Refer to *Oracle Enterprise Manager Ops Center Creating Oracle Solaris 11 Zones* for an example of how to create zones.

In Oracle Enterprise Manager Ops Center, the average load on each server for the last 10 minutes are obtained by default for CPU, memory, and system load usage. For each server, a quadratic average of these values are calculated. The server with the lowest value is selected and the zone is placed on that server.

Related Articles and Resources

Refer to the following documentation resources for more information:

- *Oracle Enterprise Manager Ops Center Virtualize Reference*
- *Oracle Enterprise Manager Ops Center Creating Oracle Solaris 11 Zones*
- *Oracle Enterprise Manager Ops Center Command Line Interface*
- Oracle Enterprise Manager Ops Center 12c documentation at http://docs.oracle.com/cd/E59957_01/index.htm.
- Deploy How To Library at http://docs.oracle.com/cd/E59957_01/nav/deploy.htm.
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