

# Oracle® Enterprise Manager Ops Center

Create Oracle Solaris 10 Zones

12c Release 3 (12.3.0.0.0)

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

## Overview

This example shows you how to create a non-global zone on an Oracle Solaris 10 operating system. The non-global zone type is a whole root zone. The non-global zone configuration details are: shared IP zone, local storage and file system.

A whole root non-global zone uses a root file system that does not share components of the global zone's root file system. You can define the size of the root file system for the non-global zone. The default size for the root file system is eight (8) GBytes for whole root zones.

Profile and plan templates guide you through the steps needed to create a customized discovery profile and create zones plan for your organization. Your customized profiles and plans are saved in the Plan Management section. You can use and reuse the plans to manage assets and to create zones.

See [Related Articles and Resources](#) for links to related information and articles about different zone configurations, including choosing the type of storage library, complex network configurations, and server pools that enable you to migrate zones between pools.

## What You Need

Before creating zones, you must determine where to store the zone's metadata. Metadata includes the configuration of the zone's operating system, CPU, memory, and network. The storage library must have sufficient space to accommodate the metadata.

You can use the local filesystem on the virtual host's server, an NFS server, or a SAN network for the zone storage library. The metadata is stored on either a local filesystem or an NFS server. When you create a guest, you assign it to one of the storage libraries associated with its virtual host. The guest's data, which results from its operations, can reside in the same storage library or in a different storage library.

Before creating zones, you must determine where to store the zone's data and metadata.

When you create a zone, you assign it to one of the storage libraries associated with its virtual host:

- **Zone data:** The zone's data that results from its operations. You can store zone data in a local library, iSCSI or SAN storage library. For zone migration, store the zone data in a iSCSI or SAN storage library.
- **Zone metadata:** The zone's metadata is the configuration of the zone's operating system, CPU, memory, and network. The storage library must have sufficient space to accommodate the metadata. You can store metadata in a local library or in a NAS library. For zone migration, store the metadata in a NAS storage library.

You need the following to create an Oracle Solaris 10 zone:

- Discover and manage an Oracle Solaris 10 operating system.
- Prepare a global zone.
  - **Zone storage**

For local storage, nothing is required. The filesystem is always implemented as a ZFS filesystem.

To use zone migration, store the zone data in an iSCSI or SAN storage library and the zone metadata in a NAS storage library.
  - **Network**

You will need a network that is associated with the global zone and that is available for the zone. This example uses the default network that is created when you add the operating system.
  - **Available IP address**

When you use Shared IP mode, the global zone is sharing its IP link with the zone.
- **Credentials**

A password or SSH key to log in to the zone. This example uses a user name and password.
- **Appropriate roles and permissions**

You need the following Oracle Enterprise Manager Ops Center roles:

  - Asset admin: Discover and manage virtualization hosts.
  - Profile and plan admin: Create and manage zone profiles and plans.
  - Virtualization admin: Create and manage zones.

## Hardware and Software Configuration

In this example, you are creating a zone that has a shared IP mode network configuration. The storage library is the local filesystem. Each zone has a default local filesystem storage library named `/guests` where data and metadata for the host's guests are stored.

Configure the following:

- Install Oracle Solaris 10 operating system. This example uses Oracle Solaris 10 10/09.
- At least 5 GB File system and at least 6 GB virtual disk for Zone storage.
- Local storage for the zone metadata. This example uses the local library.

## Creating an Oracle Solaris 10 Zone

The following tasks in this example:

1. [Add an OS to the User Interface](#)
2. [Create an Oracle Solaris 10 Whole Root Zone Profile and Plan](#)
3. [Apply the Plan to Create a New Zone](#)

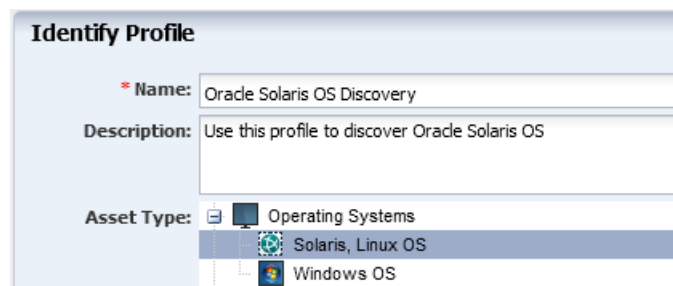
### Add an OS to the User Interface

Use a Discovery profile to add an asset to the Oracle Enterprise Manager Ops Center UI. The following task shows you how to create and run a new Discovery profile to add an Oracle Solaris 10 operating system to the UI.

1. Expand **Plan Management**, scroll down to **Profiles and Policies**, then click **Discovery**.



2. Click **Create Profile** in the Actions pane.
3. Enter a name for the discovery profile, and select **Solaris/Linux OS** as the type of asset to be discovered. Click **Next**.



4. Click **Next** to skip adding tags.
5. Do not specify IP addresses at this time. Click **Next**.
6. Define the discovery credentials and management option.
  - To use previously defined credentials, click **Select** and choose from the list
  - To create a new set of credentials, click **New** to launch a pop-up wizard.

- a. For new credentials, enter a name and description that identifies the credential. Enter the root user name and password for the system, then click **OK** to return to the Discovery Credentials page.

- b. In the Management section of the Discovery Credentials page, select **Deploy Agent Controller** to install Agent Controller on the asset.

7. Click **Finish** to create the Discovery profile. The new profile appears in the center pane.

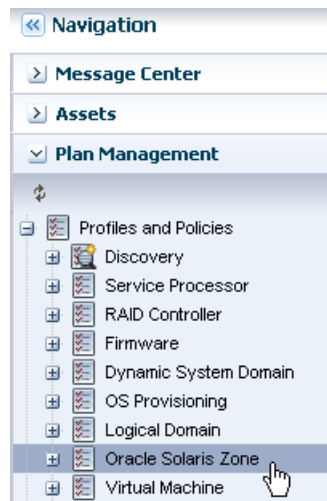
8. Double-click the new Discovery profile, then click **Add Assets** in the Action pane.
9. Enter the host name or IP address, then click **Add Now**.

A job is launched to discover and manage the asset.

## Create an Oracle Solaris 10 Whole Root Zone Profile and Plan

A zone profile defines the zone configuration details and creates a deployment plan that you can use to deploy the profile to create a zone. You can reuse the plan to create additional identical zones, or you can use it to create new plans. You can edit the zone configuration details at any time.

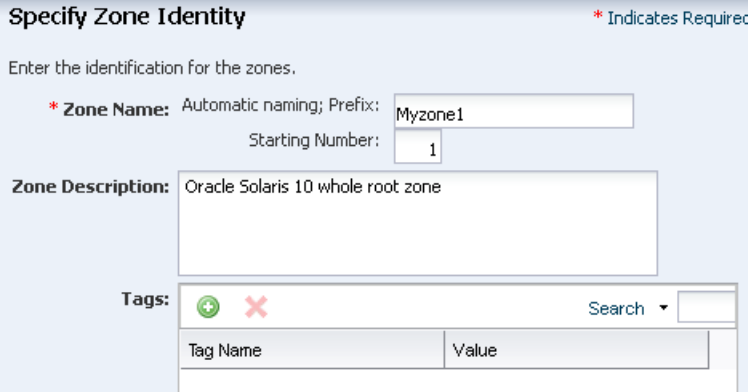
1. Expand **Plan Management**, scroll down to the Profiles and Policies section, then select **Oracle Solaris Zone**.



2. Click **Create Profile** in the Actions pane.
3. Enter a name and description for the profile, then select **Oracle Solaris 10** from the Subtype list.

4. To identify the zones that are created with this profile, add a zone prefix name and a number to start the series. Do not add any tags for the zone.

Each zone created uses the prefix name appended with a sequential number. For example, if the prefix name is Myzone and the number to start from is 1, the zone names are Myzone1, Myzone2, and Myzone3.



**Specify Zone Identity** \* Indicates Required

Enter the identification for the zones.


\* **Zone Name:** Automatic naming; Prefix:   
Starting Number:

**Zone Description:**

**Tags:**   Search

Tag Name	Value
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5. Select **Native, Whole Root Zone**, then click **Next**.



**Specify Zone Installation Source**

Select the type of zone:

Native, Whole Root Zone  
 Native, Sparse Root Zone  
 Branded Zone

**Architecture:**  SPARC  x86

**Branded Zone Image:**

**Host ID Prefix:**


**Starting Number:**

**Machine Type:**

6. Select the Shared CPU model and define one CPU share. Set the memory thresholds and verify that the locked memory threshold value is less than or equal to the physical memory threshold.

- The zone uses the default root file system, which is the zone path. Do not define additional file systems. Click **Next**.

**Specify Zone File Systems**

The zone will be created with a default root file system which defines the zone path. Click the  icon to add file systems to the zone.

**Note** - The root file system mount point cannot be modified.

**File Systems**

File System	Managed Storage	Mount Point	Reserved (GB)	Quota (GB)	Access
/	<input checked="" type="checkbox"/>		8.00	8.00	Read/Write

- In this example the zone uses the local library. Edit the required disk size, as needed. Click **Next**.

**Specify Zone Storage**

Select the library and specify the virtual disks that will make up for the zone's storage. The virtual disks are bound to the actual storage during the execution of the profile.

**Storage for the metadata Library:** Local  file:///guests

**Storage Disks**

Library Type	Library Name	Virtual Disk Name	Volume Group	Required Size(GB)
Local	file:///guests	vdisk0		9

- Add the network that you want to connect to the zone and the number of connections. The network is not bound until you execute the plan.

10. Define the language, time zone, terminal-type, and root password for the zone.
  - Accept the default value, `dynamic`, for the NFSv4 Domain Name.
  - Provide the root password.
  - Set the boot properties for the new zone. You can set the zone to boot after it is created or whenever the global zone boots.
  - Select the option to **Deploy the agent for management**.

11. Select a Name Service or select None, then click **Next**.

12. Click **Finish** to create the zone profile and associated deployment plan.

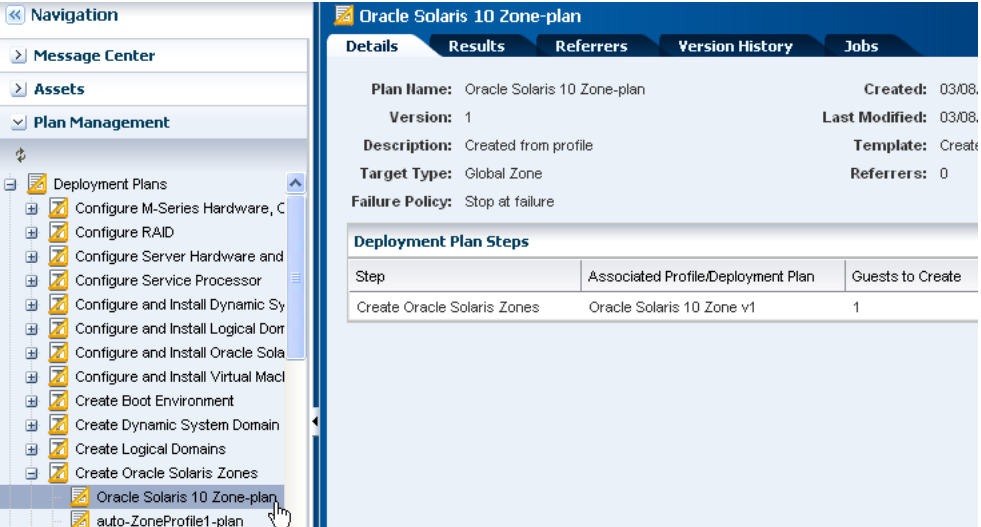
The zone profile and the corresponding deployment plan appear in the list of Oracle Solaris Zone Profiles and Oracle Solaris Zone Plans.



## Apply the Plan to Create a New Zone

Use the plan that you created in [Create an Oracle Solaris 10 Whole Root Zone Profile and Plan](#) to create a zone, and then view the new zone in the UI.

1. Expand **Plan Management**, expand **Deployment Plans**, then select the Oracle Solaris Zone plan that you created in the previous section.



The screenshot shows the Oracle Solaris 10 Zone-plan interface. On the left is a navigation pane with a tree view under 'Plan Management' > 'Deployment Plans'. The 'Oracle Solaris 10 Zone-plan' is selected. The main area shows the 'Details' tab for the selected plan.

**Oracle Solaris 10 Zone-plan Details**

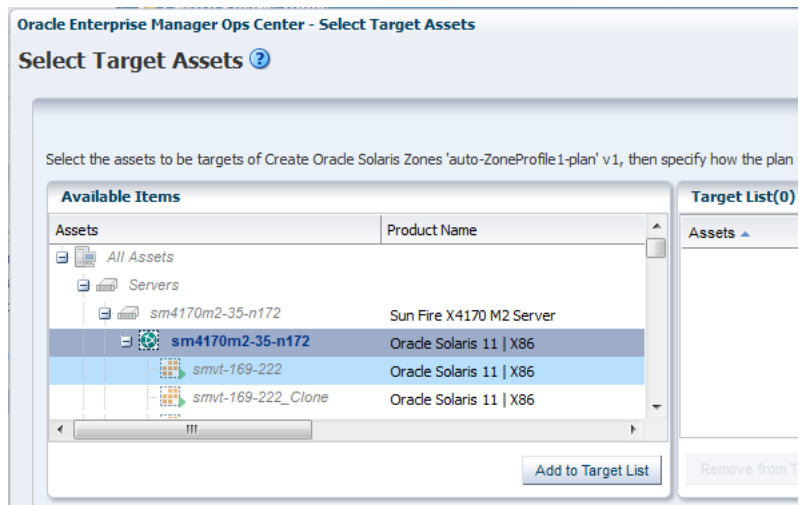
<b>Plan Name:</b> Oracle Solaris 10 Zone-plan	<b>Created:</b> 03/08/2011
<b>Version:</b> 1	<b>Last Modified:</b> 03/08/2011
<b>Description:</b> Created from profile	<b>Template:</b> Create Oracle Solaris 10 Zone-plan
<b>Target Type:</b> Global Zone	<b>Referrers:</b> 0
<b>Failure Policy:</b> Stop at failure	

**Deployment Plan Steps**

Step	Associated Profile/Deployment Plan	Guests to Create
Create Oracle Solaris Zones	Oracle Solaris 10 Zone v1	1

2. Click **Apply Deployment Plan**.

3. Select the target from the list of Available Items, then click **Add to Target List**.



4. Specify the Zone Identity. The fields are populated with the information from the profile.

Specify Zone Identity \* Indicates Required

Enter the identification for the zones.

\* Zone Name: Automatic naming; Prefix:   
 Starting Number:

Zone Description:

Tags:   Search

Tag Name	Value

5. Select local storage as the library to save the zone metadata. Click **Next**.



6. Select the shared zone IP stack. In Networks, select a network and IP range, then click **Next**.

**Specify Zone Networks**

Specify the IP stack type and IP address range for the zones.

**Zone IP Stack:**  Exclusive  Shared

**Networks**

Networks	Number of Connections	Address Allocation Method	IP Range
203.0.113.0/24	1	Use Static IP	203.0.113.

7. The Network Resource Assignments page shows the shared network and IP address.
  - **Host name:** You can change the zone's host name to be different from the zone name, which might be useful when you are using a naming server.
  - **Network Connections:** You can add, modify, or delete network connections. For example, you can have Network1 and Network2. When you create two zones you can connect Myzone1 to Network1 and Network 2 and connect Myzone2 to Network1 and remove Network2.
  - **IP address:** The IP address for a set of zones appears in a range. You can enter the IP addresses in a comma delimited list.



**Network Resource Assignments**

Specify the NICs and the individual IPs.

**Target:** myhost

**Host Name**

**Networks for Zone Myzone1**

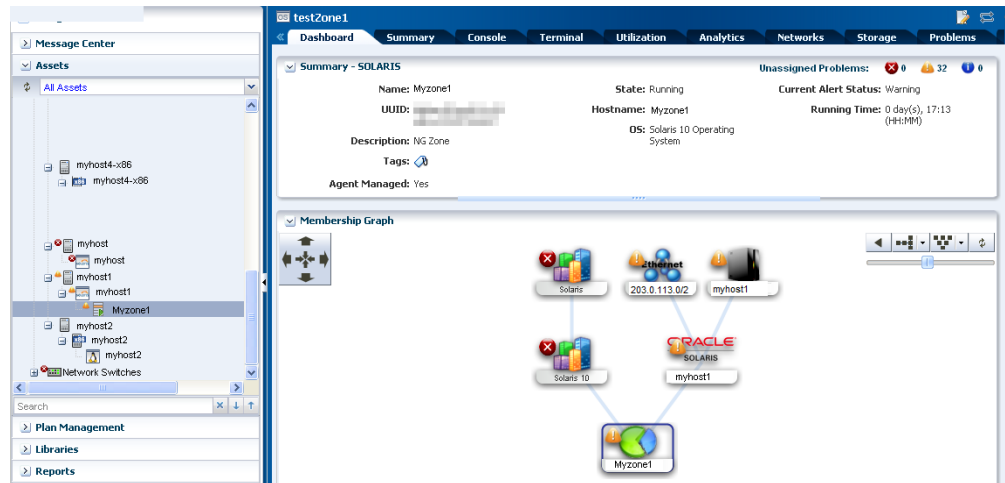
 

Networks	VLAN ID	NIC	Address Allocation Method	IP Address
203.0.113.0/24	-	nge0	Use Static IP	203.0.113.4

8. Schedule when you want the job to run. For this example, click **Now**.

9. Click **Apply** to run the job.

When the job finishes successfully, the new zone appears in the Asset tree. Click the asset to see the dashboard.



## What's Next?

After creating a zone, you can perform various operations, such as boot, reboot, shut down, and halt on the zone. You can use the plan to create additional zones. The Analytics feature enables you to manage zone performance. You can view the CPU and memory utilization for each zone, and an historical view of the top consumers.

## Related Articles and Resources

The Oracle Enterprise Manager Ops Center 12c Release 3 documentation is available at [http://docs.oracle.com/cd/E59957\\_01/index.htm](http://docs.oracle.com/cd/E59957_01/index.htm).

See the following for more information:

- For in-depth information about zones, see the Oracle Solaris Zones documentation at [http://docs.oracle.com/cd/E23824\\_01/html/821-1460/index.html](http://docs.oracle.com/cd/E23824_01/html/821-1460/index.html).
- For information about zones, server pools, and the resources that support them, see the *Oracle Enterprise Manager Virtualize Reference*.

See the Deploy How To library at [http://docs.oracle.com/cd/E59957\\_01/nav/deploy.htm](http://docs.oracle.com/cd/E59957_01/nav/deploy.htm) and the Operate How To library at [http://docs.oracle.com/cd/E59957\\_01/nav/operate.htm](http://docs.oracle.com/cd/E59957_01/nav/operate.htm) for deployment and operational examples.

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