Oracle® Enterprise Manager Ops Center

Creating and Administering a Boot Environment for Oracle Solaris 11

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

Introduction

A boot environment is a bootable instance of an Oracle Solaris 11 operating system image plus any other application software packages installed into that image. System administrators can maintain multiple boot environments in their system, and each boot environment can have different software version installed.

Oracle Solaris 11 uses the `beadm` utility and ZFS file systems, where the swap and dump volumes are shared within the pool. For unshared file systems, ZFS is the only supported file system for boot environments on Oracle Solaris 11. With the ZFS-based boot environment, the boot environments are clones of the existing ZFS partitions. This saves disk space and you do not need to reserve disk partitions for additional boot environments.

A new boot environment is created whenever the kernel or system packages are installed or updated. This results in high disk space utilization levels. When a boot environment is created in the global zone, it creates the following:

- A Boot Environment of the source boot environment is created
- The currently active boot environment in all of the non-global zones is cloned and associated with the global zone boot environment that was just created.

When a global zone boot environment is activated, the active boot environment data set that is associated with that boot environment in each non-global zone is mounted and activated. Only one non-global zone boot environment that is associated with a global zone boot environment can be active. When a global zone boot environment is deleted, all corresponding zone-specific boot environments are also deleted. When a non-global zone is deleted, all corresponding boot environments are deleted. The boot environments for other zones are not deleted.

With Oracle Solaris 11 operating system, a new boot environment is created whenever you make a change to the OS (such as applying an OS update).

When creating a boot environment for Oracle Solaris 11 operating system, an agent-managed operating system is not mandatory. You can use either agent-managed or agentless Oracle Solaris 11 operating system. Enterprise Controller and Proxy Controller must be running on Oracle Solaris 11 operating system.

This example describes how to create a boot environment for an agent managed Oracle Solaris 11 operating system using the Create New Boot Environment option from the Actions pane.

See Related Articles and Resources for links to related information and articles.

What You Will Need

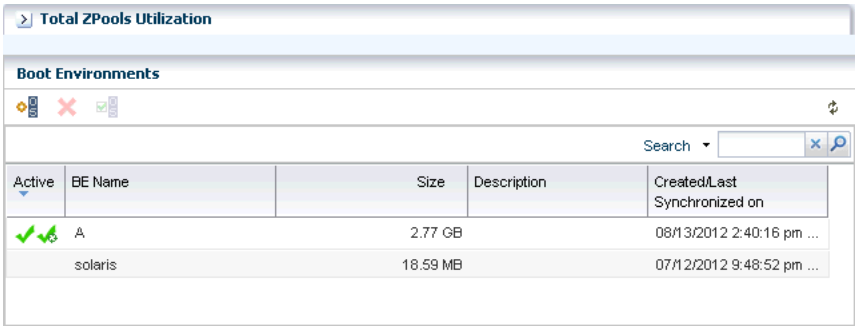
You will need the following to create the boot environment for Oracle Solaris 11 operating system:

- An agent-managed or agentless Oracle Solaris 11 operating system.
- An Asset administrator role and an Update administrator role to complete the procedure for creating boot environment.
- Check the disk space that is available for the creation of the boot environment for Oracle Solaris 11 operating system.

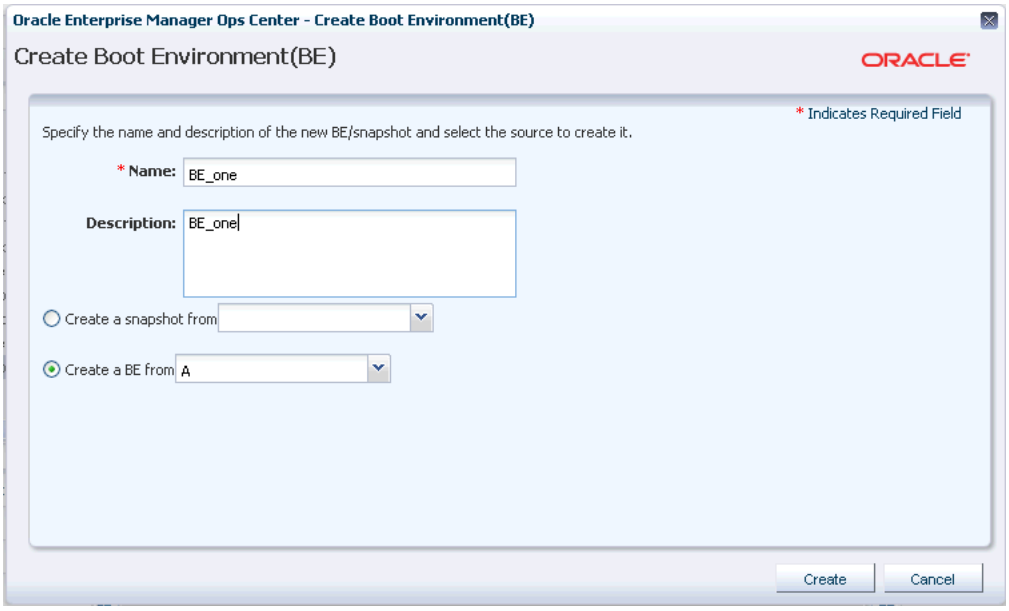
Create a Boot Environment for Oracle Solaris 11

The steps to create a profile for boot environment for Oracle Solaris 11 are:

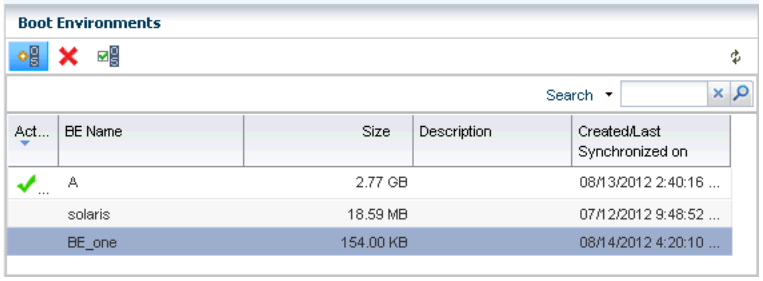
1. Expand **Assets** in Navigation pane.
2. Select an agent managed Oracle Solaris 11 operating system from the Assets.
3. Select the **Boot Environments** tab in the center pane. It shows the boot environments for the selected Oracle Solaris 11 operating system.



4. Select **Create New Boot Environment** option from the Actions pane to open the wizard or **Create BE** icon in the boot environment table to launch the wizard.
5. Enter the following details and click **Create**.
   - Enter the name of the Boot Environment.
   - Enter the description for the Boot Environment.
   - Select **Create a BE from** and select the active boot environment from the menu to create a boot environment.



It then runs a job to create the boot environment. You can view the newly created boot environment in the **Boot Environments** tab of the center pane.



What's Next?

After you create a boot environment, you can do the following:

- Update the Boot Environment
- Monitor the Boot Environment
- View the Boot Environment
- List Existing Boot Environments and Snapshots
- Manage the Boot Environment
- Change the Default Boot Environment

Update the Boot Environment

You can update an alternate boot environment by deploying a Software Deployment / Update deployment plan and selecting the alternate boot environment as the target. Before you update an alternate boot environment, you must have a Software Deployment / Update plan. You can also update a boot environment from an Update Profile.

Monitor the Boot Environment

You define the monitoring rules and thresholds in the Monitoring tab. The following rules apply to boot environments:

- Number of Boot Environments
- Boot Environment Usage Percent in a ZPool

Each rule has two defined thresholds:

- Warning
- Critical

View the Boot Environment

You can view the active boot environment and the inactive boot environment in the Boot Environments tab and in the Summary tab.

For Oracle Solaris 11, there is always one boot environment by default. Hence, the Boot Environment tab is always displayed.

List Existing Boot Environments and Snapshots

You can view the information about snapshots, file systems, associated zone BE's, boot environments, and datasets in the Boot Environments tab in the center pane.

Manage the Boot Environment

You can do the following while managing the boot environment:

- Activate: When activate is performed on a group, you have the option to activate the most recently created boot environment on all versions of Oracle Solaris operating systems in the group. You can also pick and choose which boot environment to activate on which host. You can view the active boot environment and the inactive boot environment in the Boot Environments tab and in the Summary tab.
- Delete: You can delete a boot environment, by deleting all associated snapshots and unshared file systems. If there are non-global zone boot environments associated with the global zone boot environment, you can delete them too. Shared file systems are not deleted.

Change the Default Boot Environment

You can change an inactive boot environment into an active boot environment. Only one boot environment can be active at a time. The newly activated boot environment becomes the default boot environment upon restart.

Related Articles and Resources

- For more information about Oracle Solaris 11, see the documentation at http://docs.oracle.com/cd/E23824_01/index.html
- For more information about Updating Oracle Solaris 11, see the Operating System Updates chapter in the *Oracle Enterprise Manager Ops Center Operate Reference*.

- For more information about boot environment for Oracle Solaris 11, see the Operating System Management chapter in the *Oracle Enterprise Manager Ops Center Operate Reference*.
- For end-to-end examples, see the workflows and how to documentation in the library. For deployment tasks, go to http://docs.oracle.com/cd/E59957_01/nav/deploy.htm and for operate tasks go to http://docs.oracle.com/cd/E59957_01/nav/operate.htm.

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