

# Oracle® Enterprise Manager Ops Center

Use Complex Plans

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.

## Introduction

This guide describes how to combine simple plans and profiles to create complex plans.

Complex plans let you consistently perform multi-step procedures. Each complex plan contains one or more steps, which can be profiles or other plans. The plan specifies the targets on which these tasks are run and in what order.

For example, this guide uses an Install Server plan, which includes an OS Provisioning and OS Configuration profile to create a new OS, a custom monitoring profile to apply to the new OS, and an operational profile that creates a new directory on the OS and modifies its access. Other complex plans can perform tasks such as installing LDOMs on newly installed servers.

You will complete the following tasks:

- Create an OS Provisioning profile
- Create an OS Configuration profile
- Create a new monitoring policy
- Create an operational profile to create and modify a new directory
- Create a complex plan to install a server, including installing the OS, applying the monitoring policy, and applying the operational profile

See [Related Articles and Resources](#) for links to related information and articles about profiles and plans.

## What You Will Need

You will need the following:

- Oracle Enterprise Manager Ops Center Enterprise Controller and Proxy Controller installed on an Oracle Solaris 11 OS.
- One or more hardware assets
- Oracle Solaris 11 Software Update Library with Oracle Solaris 11.1 SRU 9.6 content: The examples in this guide use an Oracle Solaris 11.1 OS. Creating a complex plan using another OS requires an image for that OS, and does not

require that the Enterprise Controller or Proxy Controller be installed on Oracle Solaris 11.

- A user with the Plan/Profile Admin role

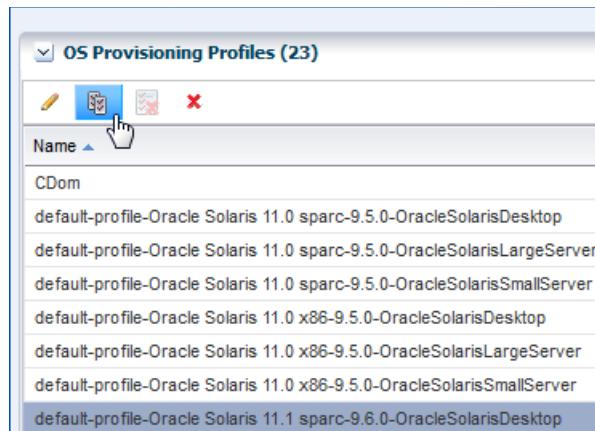
## Create an OS Provisioning Profile

You can use the default profiles, copy a default profile to create a new profile, or create a new profile. One of the advantages to copying a default profile is that the correct OS image, OS image version, and software group are pre-selected based on the image. This example shows how to copy a default profile to create a new profile. The default profile that we are copying is called default-profile-Oracle Solaris 11.1 SPARC-9.6-OracleSolarisDesktop.

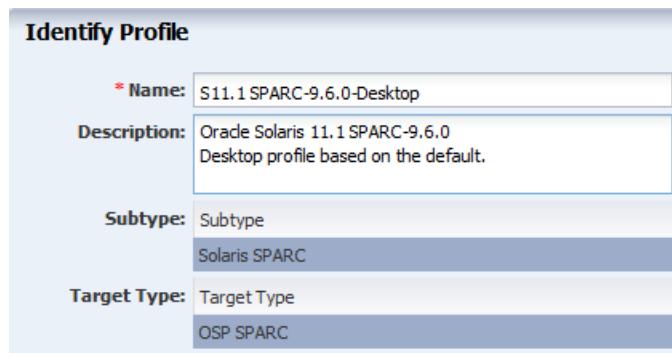
1. Expand **Plan Management** in the Navigation pane, then select **OS Provisioning** in the **Profiles and Policies** tree.

A list of OS profiles appears in the center pane. Resize the column to view the entire profile name.

2. Select the default profile for the image. In this case, default-profile-Oracle Solaris 11.1 SPARC-9.6-OracleSolarisDesktop. Click the **Copy Profile** icon in the center pane.

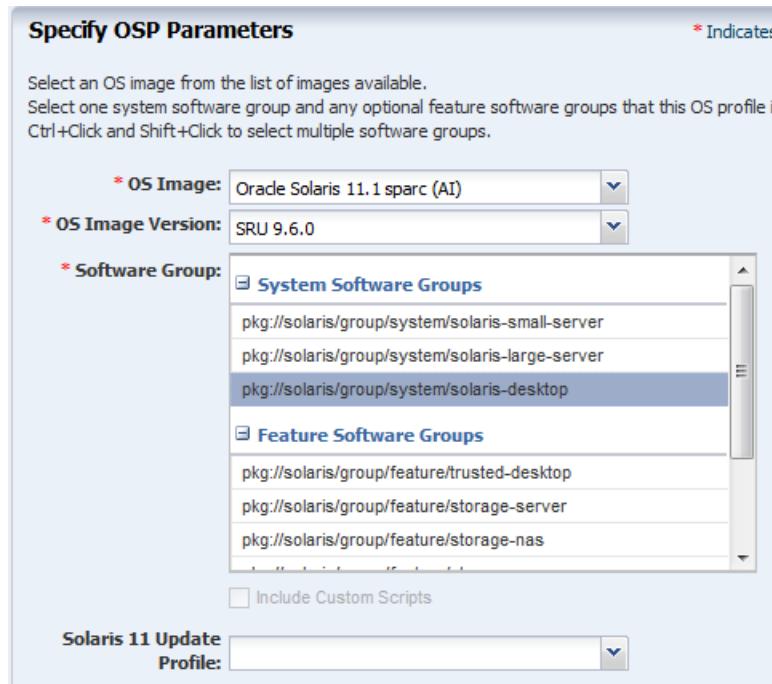


3. Rename the profile from the default profile name. Revise and expand the profile description, if needed. The subtype and target type are based on the image and are not editable. Click **Next**.

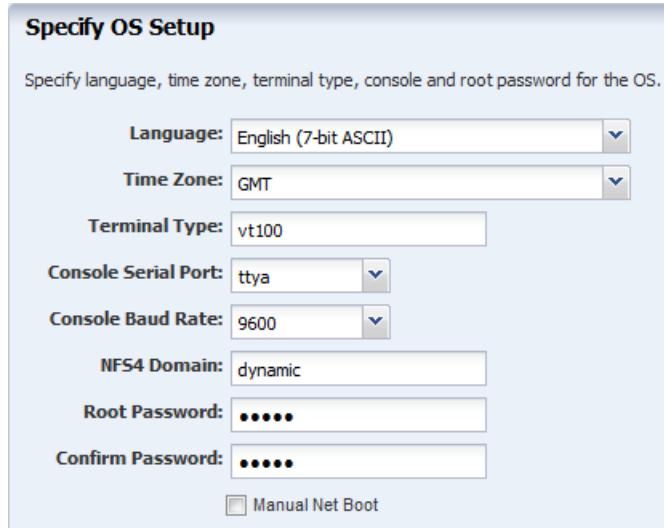


4. On the Specify OSP Parameters page, the OS image, OS Image Version, and Software group are already selected based on the image. This example does not

use a Solaris 11 Update Profile, but one can be used during this step to add additional packages to the new OS. Click **Next**.



5. Specify the OS Setup parameters. Edit the default values, as needed. Click **Next**.



- Language: Select a language from the list.
- Time Zone: Specify the time zone for the OS.
- Terminal Type: Select a terminal type from the list.
- Console Serial Port: To monitor the installation using a serial connection, select the correct console serial port device.
- Console Baud Rate: To monitor the installation using a serial connection, select the correct serial port device baud rate.

- NFS4 Domain: Enter the NFS4 domain name that the target system will use. The dynamic value for NFSv4 domain name enables the NFSv4 domain to be derived dynamically, at run time, based on the naming service configuration. You can also provide valid domain name to hard code the value for NFSv4 domain.
- Password: Enter the root password for the root user on systems provisioned using this profile. Re-enter the password for confirmation. The default password is *admin*.

6. Specify the User Account details, then click **Next**.

**Specify User Account**

Specify user account to be used for the OS.

Username:	admin
Full Name:	admin
Password:	*****
Confirm Password:	*****

7. Click **Next**. This example does not use an iSCSI Disk for OS provisioning.

**Specify iSCSI Disk Usage**

Specify if iSCSI disk is used for OS provisioning.

Use iSCSI Disk

8. Review and edit the default file system layout, then click **Next**.

This example uses the default file system layout. To specify changes to the default File System space, click the size field for the file system, and redefine.

**Specify File System Layout**

Specify the file systems that need to be created.

**File Systems (2)**

File System Type	Mount Point	Device	Size (MB)
swap	swap	rpool	4096
zfs	/	rootdisk.s0	Remaining unused space

9. Select **None**, then click **Next** to skip using a naming service.

**Specify Naming Services**

Specify the name service, the domain name, and the corresponding name server. If the name service is specified, the hostname would be automatically derived from it. Otherwise, the hostname will be generated by substituting the '.' in the target's IP address.

Name Service:  **NONE**  DNS  NIS  NIS+  LDAP

To use a naming service, select the service and complete the required fields.

10. Review the parameters and click **Finish** to create the OS Provisioning profile for provisioning Oracle Solaris 11 operating system.

**Summary**

Review the properties of the profile. Click **Finish** to save the profile.

**Name:** s11.1 sparc-9.6.0-OracleSolarisDesktop  
**Description:** OS Provisioning Profile for Oracle Solaris 11.1 sparc-9.6.0 Oracle Solaris Desktop. Standard desktop user and install parameters  
**Target Type:** OSP SPARC  
**OS Image:** Oracle Solaris 11.1 sparc (SRU 9.6.0) (A)  
**Software Group:** pkg://solaris/group/system/solaris-desktop  
**Language:** English (7-bit ASCII)  
**Time Zone:** GMT  
**Terminal Type:** vt100  
**Console Serial Port:** ttys  
**Console Baud Rate:** 9600  
**NFS4 Domain:** dynamic  
**Manual Net Boot:**   
**Solaris 11 Update Profile:**  
**Username:** admin  
**Full Name:** admin  
**Use iSCSI Disk:**

**File Systems (2)**

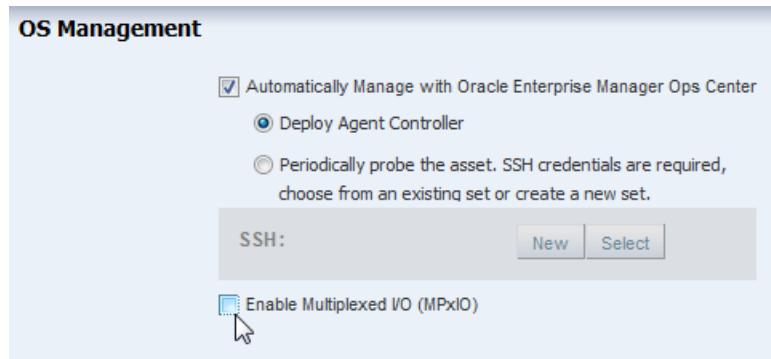
The profile appears in the center pane and in the Profiles and Policies section of **Plan Management**.

## Create an OS Configuration Profile

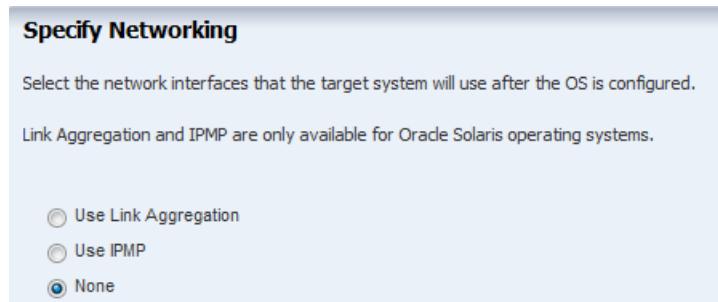
This example shows how to create an OS Configuration profile to define how the OS is managed (with or without an agent) and the networking options. The profile is not SRU-specific.

1. Expand **Plan Management** in the Navigation pane.
2. Select **OS Configuration** in the **Profiles and Policies** tree. A list of existing OS Configuration profiles appears in the center pane.
3. Click **Create Profile** in the Actions or center pane.
4. Name the profile and enter a profile description. Select **Solaris** and **OSP SPARC** as the Subtype and Target Type. Click **Next**.

5. The default setting is to automatically manage the OS with Oracle Enterprise Manager Ops Center and Deploy the Agent Controller. This option provides the most robust management capabilities. Deselect MPxIO for this example, as we do not want to enable SAN storage connectivity for the desktop system that is the target for this profile. Click **Next**.



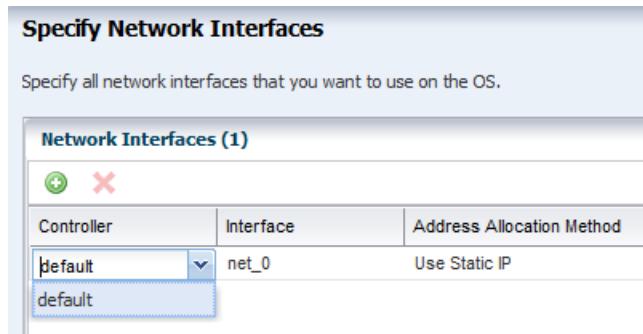
6. Select **None** for the Networking Services and click **Next**.



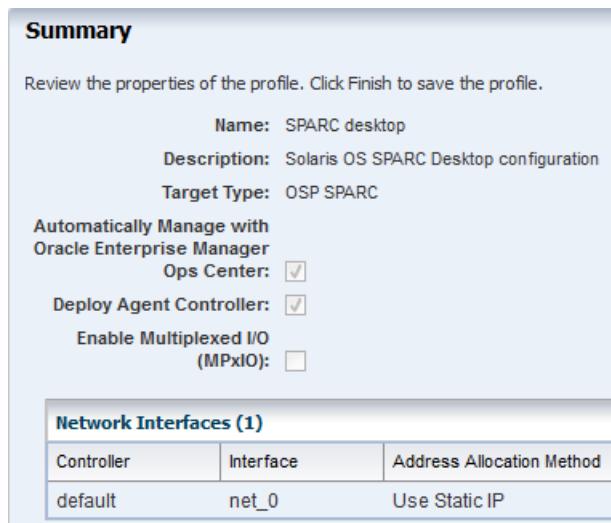
7. Select a network interface that you want to use in the configuring process and Click **Next**.

The network interface is the interface that you want to use on the operating system. This example uses the default net\_0 interface and Static IP Address

Allocation. You define the IP address when you apply the OS provisioning plan to a target.



8. Review the summary of the parameters selected for configuring Oracle Solaris 11 operating system, then click **Finish** to create the OS Configuration profile.



Expand the Plan Management section. In the section OS Configuring of Profiles and Policies section you can select the OS configuration profile to view its details in the center pane.

## Creating a Monitoring Policy

A monitoring profile sets the monitoring parameters for an asset. Oracle Enterprise Manager Ops Center generates an alert for an asset if one of the monitored properties, such as the file system usage or CPU usage, exceeds the values specified in the monitoring profile.

By default, pre-generated monitoring profiles are applied to assets. However, you can create modified versions of these profiles and apply them to assets. In this example, you copy the default OS monitoring policy and edit the file system usage threshold to create a new policy.

1. Expand **Plan Management** in the Navigation pane, then click **Monitoring Policies**.
2. Select the OC - Operating System policy, then click the **Copy Policy** icon.

3. Enter a name and description for the new policy, then click **Next**. In this example, we use the name Operating System - Group 1.

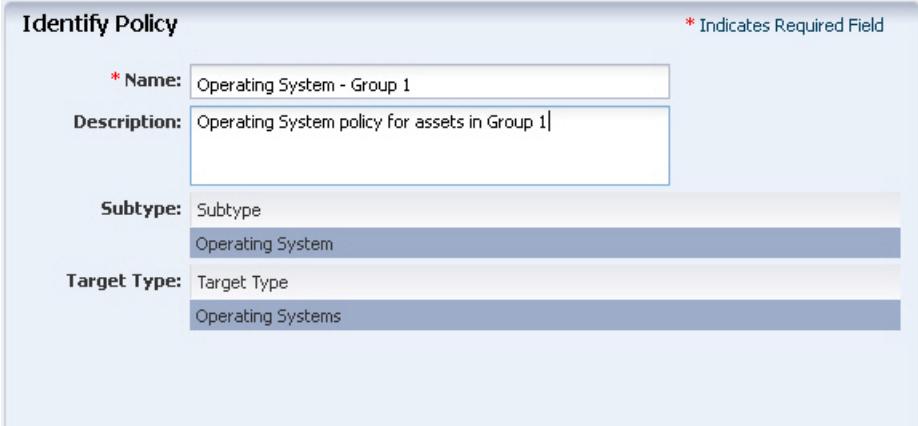
**Identify Policy** \* Indicates Required Field

**\* Name:** Operating System - Group 1

**Description:** Operating System policy for assets in Group 1

**Subtype:** Subtype  
Operating System

**Target Type:** Target Type  
Operating Systems



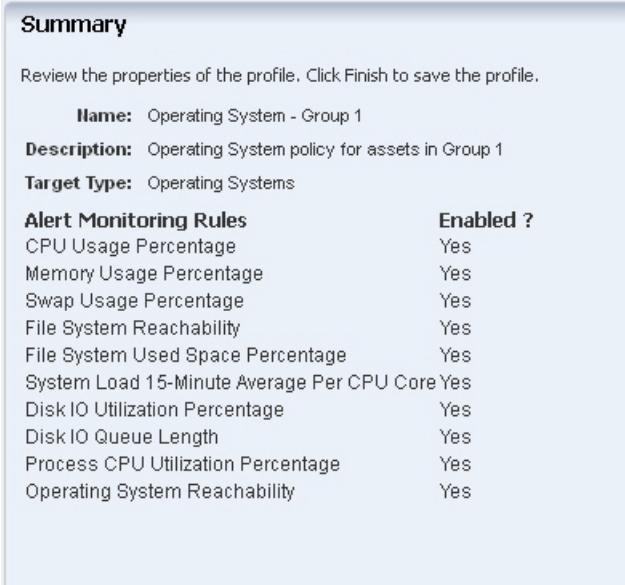
4. Review the details, then click **Finish**.

**Summary**

Review the properties of the profile. Click **Finish** to save the profile.

**Name:** Operating System - Group 1  
**Description:** Operating System policy for assets in Group 1  
**Target Type:** Operating Systems

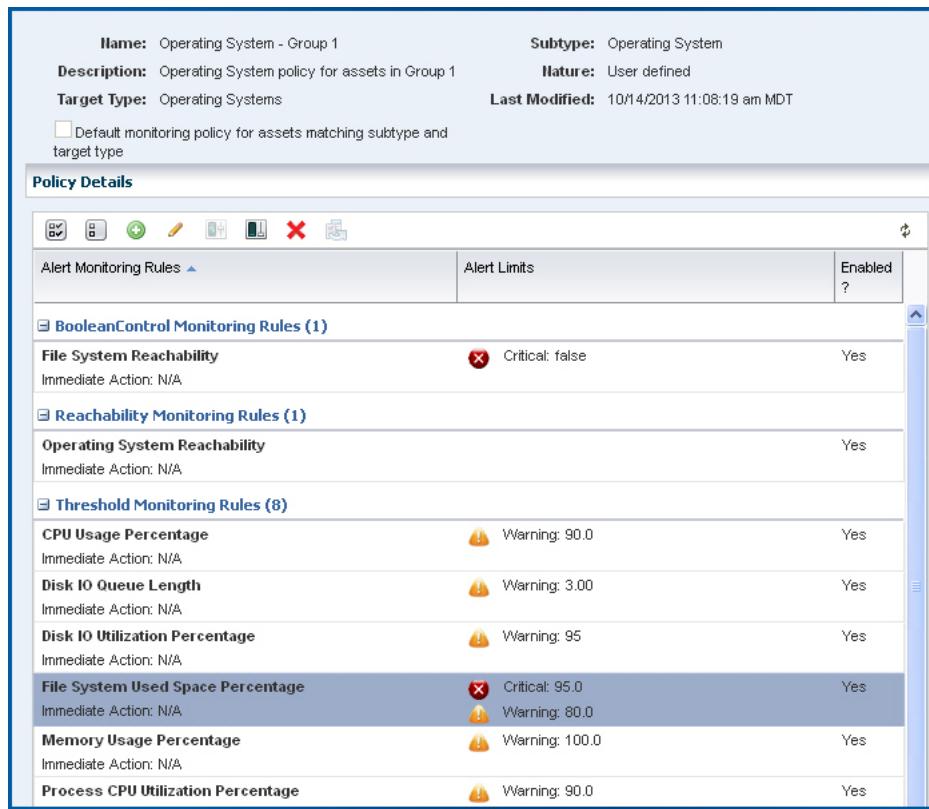
<b>Alert Monitoring Rules</b>	<b>Enabled ?</b>
CPU Usage Percentage	Yes
Memory Usage Percentage	Yes
Swap Usage Percentage	Yes
File System Reachability	Yes
File System Used Space Percentage	Yes
System Load 15-Minute Average Per CPU Core	Yes
Disk IO Utilization Percentage	Yes
Disk IO Queue Length	Yes
Process CPU Utilization Percentage	Yes
Operating System Reachability	Yes



The new policy is displayed in the Monitoring Policies section.

**5. Select the new policy.**

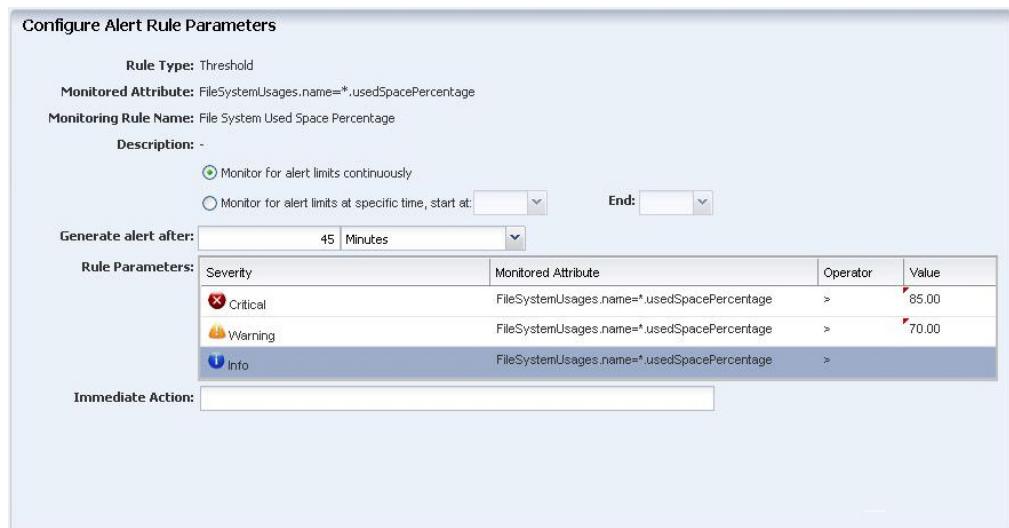
The policy details are displayed.



<b>Name:</b> Operating System - Group 1	<b>Subtype:</b> Operating System																																																																																																																																												
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**6. Select the File System Used Space Percentage rule and click Edit Alert Monitoring Rule Parameters.**

**7. Edit the value of the Critical Threshold to 85% and the value of the Warning Threshold to 70%, then click Apply.**



Configure Alert Rule Parameters			
Rule Type: Threshold			
Monitored Attribute: FileSystemUsages.name=*.usedSpacePercentage			
Monitoring Rule Name: File System Used Space Percentage			
Description: -			
<input checked="" type="radio"/> Monitor for alert limits continuously			
<input type="radio"/> Monitor for alert limits at specific time, start at: <input type="text"/> End: <input type="text"/>			
Generate alert after:	45	Minutes	<input type="button"/>
<b>Rule Parameters:</b>			
Severity	Monitored Attribute	Operator	Value
	FileSystemUsages.name=*.usedSpacePercentage	>	85.00
	FileSystemUsages.name=*.usedSpacePercentage	>	70.00
	FileSystemUsages.name=*.usedSpacePercentage	>	0.00
Immediate Action: <input type="text"/>			

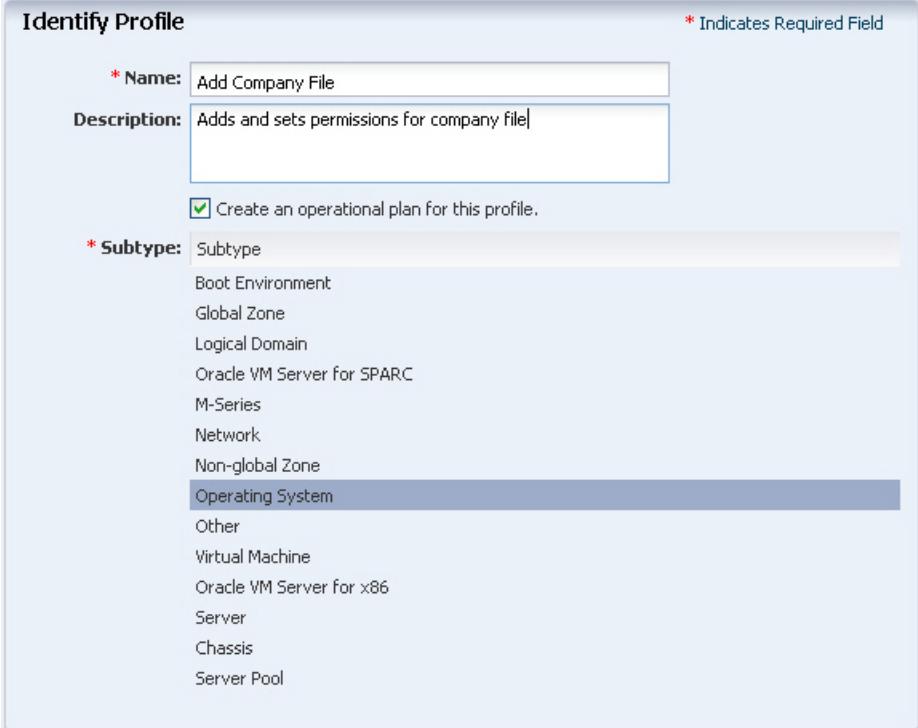
## Creating an Operational Profile

An Operational Profile performs specific operations, defined by a shell script, on a target system.

An operational profile can carry out any action that can be included in a shell script, such as deploying thresholds onto a managed resource, or performing state changing actions such as shutting down all logical domains and then shutting down an Oracle VM Server for SPARC. The scripts in an operational profile can run on any managed system that contains a remote agent. These scripts are executed with root permissions.

Perform the following steps to create an operational profile. In this example, the operational profile will create a new directory, then modify the directory's permissions.

1. Expand **Plan Management** in the Navigation pane, then click **Operational Profiles**.
2. Click **Create Profile**.
3. Name the new profile and add a description. In this example, use the name Add Company File. Select the Operating System subtype, then click **Next**.



The screenshot shows the 'Identify Profile' dialog box. At the top right, there is a note: **\* Indicates Required Field**. The 'Name' field is filled with 'Add Company File'. The 'Description' field contains the text 'Adds and sets permissions for company file'. Below these fields is a checkbox labeled 'Create an operational plan for this profile', which is checked. The 'Subtype' dropdown is set to 'Operating System', which is highlighted with a blue selection bar. A list of other subtypes is visible: Boot Environment, Global Zone, Logical Domain, Oracle VM Server for SPARC, M-Series, Network, Non-global Zone, Other, Virtual Machine, Oracle VM Server for x86, Server, Chassis, and Server Pool.

4. Define the script, then click **Next**.
  - a. Select the Remote Shell type.
  - b. Define the time out parameters.
  - c. Enter the script in the Script field:

```
#!/bin/bash
mkdir /var/tmp/company
chmod 776 /var/tmp/company
```

5. The Specify Additional Variables page is displayed. Click **Next**.
6. The Summary page is displayed. Review the profile, then click **Finish**.

### Summary

Review the properties of the profile. Click **Finish** to save the profile.

**Name:** Add Company File

**Description:** Adds and sets permissions for the company file

**Target Type:** All Assets

**Script Type:** RemoteShell

**Time out:** 3600 Seconds

**Script:**

```
#!/bin/bash
mkdir /var/tmp/company
chmod 776 /var/tmp/company
```

**Additional Variables:**

Variable Name	Input at Execution	Value	Hint
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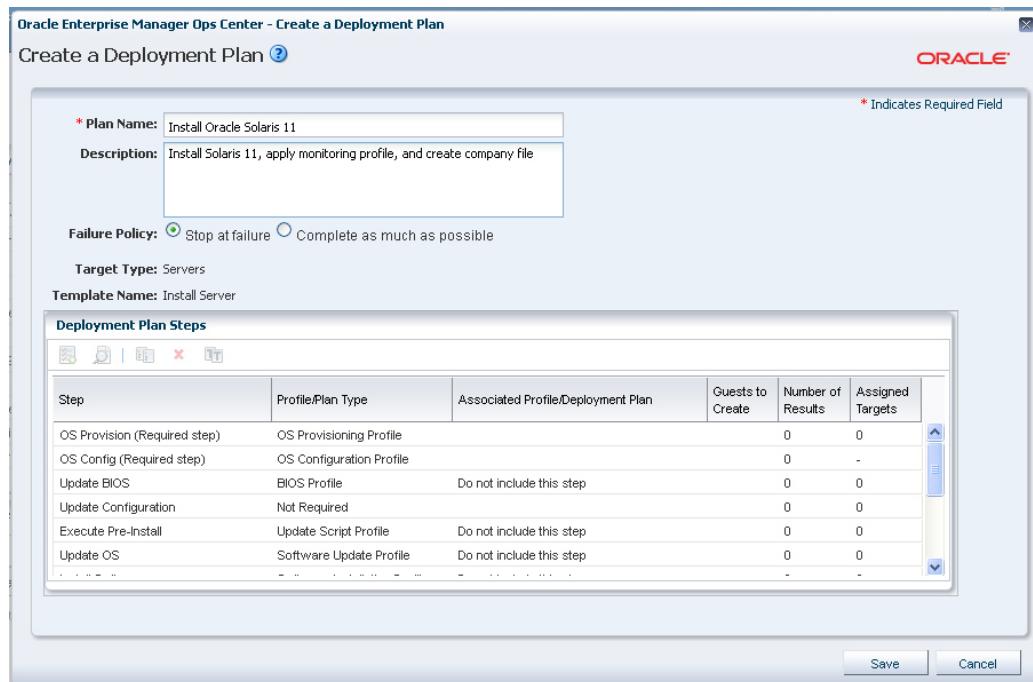
## Creating a Complex Plan

A complex plan combines multiple existing profiles and plans into a larger job.

In this example, we will create an Install Server plan, which will run first the OS Provisioning plan that we edited, followed by the edited monitoring profile, followed by the operational profile to add a directory and modify its permissions.

Perform the following steps to create this plan:

1. Expand **Plan Management** in the Navigation pane, then click **Install Server** in the Deployment Plans section.
2. Click **Create Plan from Template** in the Actions pane.
3. Name the new plan and add a description. Select Stop at Failure for the failure policy.



4. In the OS Provision (Required step) row, select the S11.1SPARC-9.6.0-Desktop OS Provisioning profile.

Step	Profile/Plan Type	Associated Profile/Deployment Plan	Guests to Create	Number of Results	Assigned Targets
OS Provision (Required step)	OS Provisioning Profile	S11.1 SPARC-9.6.0-Desktop v1 (Solaris S...	0	0	
OS Config (Required step)	OS Configuration Profile		-	-	
Update BIOS	BIOS Profile	Do not include this step	0	0	
Update Configuration	Not Required		-	0	
Execute Pre-Install	Update Script Profile	Do not include this step	0	0	
Update OS	Software Update Profile	Do not include this step	0	0	

5. In the OS Config (Required step) row, select the SPARC desktop OS Configuration plan.

6. In the Operation row, select the Add Company File operational profile.

Deployment Plan Steps						
Step	Profile/Plan Type	Associated Profile/Deployment Plan	Guests to Create	Number of Results	Assigned Targets	
Install Software	Software Installation Profile	Do not include this step	0	0		
Update Software	Software Update Profile	Do not include this step	0	0		
Execute Post-Install	Update Script Profile	Do not include this step	0	0		
Operation	Operational Profile	Add Company File v1 (Operating System)	0	1		
Monitoring	Monitoring Policy	Do not include this step	0	0		
Create Oracle Solaris Zones	Oracle Solaris Zone Profile	Do not include this step	1	-	-	

7. In the Monitoring row, select the Operating System - Group 1 monitoring profile.

Deployment Plan Steps						
Step	Profile/Plan Type	Associated Profile/Deployment Plan	Guests to Create	Number of Results	Assigned Targets	
Install Software	Software Installation Profile	Do not include this step	0	0		
Update Software	Software Update Profile	Do not include this step	0	0		
Execute Post-Install	Update Script Profile	Do not include this step	0	0		
Operation	Operational Profile	Add Company File v1 (Operating System)	0	1		
Monitoring	Monitoring Policy	Operating System - Group 1 v1 (Operatin...	0	1		
Create Oracle Solaris Zones	Oracle Solaris Zone Profile	Do not include this step	1	-	-	

8. Review the plan, then click **Save**.

## Related Articles and Resources

See the [Create Plans and Profiles](#) in *Oracle Enterprise Manager Ops Center Configure Reference* for information about plans and profiles. This document is available in the Oracle Enterprise Manager Ops Center Documentation Library at [http://docs.oracle.com/cd/E59957\\_01/index.htm](http://docs.oracle.com/cd/E59957_01/index.htm).

See 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 more information about using profiles and plans in your environment.

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