Oracle® Enterprise Manager Cloud Control

Managing Exalogic with Oracle Enterprise Manager

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This document describes the steps required to configure the Exalogic Guest Base Template and the Exalogic Network to meet the prerequisites required to deploy the Management Agent. It contains the following sections:

- Getting Started

- Meeting the Prerequisites

- Configuring the Exalogic Guest Base Template

- Configuring the Exalogic Network

- Creating a Virtual Server (vServer)

- Monitoring the agentpush.properties file in the OMS

- Deploying the Management Agent

- Documentation Accessibility

1 Getting Started

This section lists the steps involved in configuring the Exalogic Guest Base Template and the Exalogic Network.

Table 1   Getting Started

Step	Task
1.	Ensure that the prerequisites are met. See Meeting the Prerequisites.
2.	Configure the Exalogic Guest Base Template. See Configuring the Exalogic Guest Base Template.
3.	Configure the Exalogic Network. See Configuring the Exalogic Network.
4.	Create the vServer. See Creating a Virtual Server (vServer).
5	Modify the agentpush properties. See Monitoring the agentpush.properties file in the OMS.
6.	Deploy the Management Agent. See Deploying the Management Agent.

2 Meeting the Prerequisites

Before you configure the Exalogic Guest Base Template, ensure that the following prerequisites are met:

- A configured virtualized Exalogic 2.0.1 installation must be present.

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- Enterprise Manager 12c installation must be present.

- Root privileges required to mount and edit the Exalogic Guest Base Template.

- Exalogic Guest Base Template must be present.

- Oracle user account must have been defined on the Exalogic Guest Base Template.

3 Configuring the Exalogic Guest Base Template

The Exalogic Guest Base Template is an OS image in a certain format that can be used to create a vServer. By default, a server template is bound to a specific account. You can register a server template for public use within any account inside the Exalogic Virtual Data Center (vDC). All virtual servers (vServers) created in the Exalogic vDC use a Server Template.

Configuring the Exalogic Guest Base Template involves the following steps:

- Expanding the Disk Size

- Enabling sudo to Deploy the Management Agent

- Customizing the Base Image for Specific Exalogic Deployments

- Uploading and Registering the Exalogic Guest Base Template to the Exalogic Server

3.1 Expanding the Disk Size

The disk size of the Exalogic Guest Base Template needs to be expanded to accommodate the Management Agent. To expand the disk size of the Exalogic Guest Base Template, follow these steps:

1. Log into a 64bit Linux installation as an user with **root** privileges.

2. Visit https://edelivery.oracle.com/. Complete your registration information (Name, Company Name, Email Address and Country) and click on the download agreement. Select the following:

   - Product Pack: Oracle Fusion Middleware

   - Select Platform: Linux x86-64

3. Click **Go**. From the list of downloads, select Oracle Exalogic Elastic Cloud Software 11g Media Pack.

4. To download the Oracle Exalogic 2.0.1.0.0 Base Guest Template for Exalogic Linux x86-64 (64 bit), to a working directory referred to as the `template_directory`, follow the instructions as shown in the example below:

   - `unzip ../V32082-01.zip`

   - `tar xzf ../el_x2-2_base_linux_guest_vm_template_2.0.1.0.0_64.tgz`

   - `cd BASE` (Navigate to the `BASE` directory where the `System.img` file is located)

5. Next, use `Modifyjeos` to increase the disk space. To get started with Oracle Linux JeOS, visit Oracle Software Delivery Cloud and download Oracle Linux JeOS for x86 (32 bit) and x86_64 (64 bit). Follow the instructions below:

   - Visit Oracle Software Delivery Cloud.

   - Complete your registration information (Name, Company Name, Email Address and Country) and click on the download agreement.

- Select **Oracle Linux** from the Select a Product Pack pull-down menu.

- Select **x86 32-bit** or **x86 64 bit** from the Platform pull-down menu.

- Click **Go** and then select from the list of downloads, either:

  – Oracle Linux JeOS for Building Oracle VM templates for x86 (32 bit)

  – Oracle Linux JeOS for Building Oracle VM templates for x86_64 (64 bit)

- Download Linux JeOS for Building Oracle VM templates, unzip the files, and install `modifyjeos` according to the instructions in the Readme.txt.

6. Navigate to the directory that contains the `System.img` file. This is the `BASE` directory as specified in Step 4.

7. Enter the command to increase the disk size as shown in the example below:

   ```
   modifyjeos -f System.img -T 10240
   ```

   where `T` specifies the disk size in MB.

8. Enter the command to increase the Exalogic Guest Base Template swap size as shown in the example below:

   ```
   modifyjeos -f System.img -S 1024
   ```

   where `S` specifies the size of the swap partition in MB.

3.2 Enabling sudo to Deploy the Management Agent

To enable sudo, log in as user with root privileges and follow the instructions as shown in the example below:

1. `/sbin/kpartx -av System.img`

2. `mount -o loop /dev/mapper/loop0p2 /mnt`

3. In the `sudoers` file, change the following entries:

   ```
   Defaults ! visiblepw to Defaults visiblepw
   ```

   ```
   Defaults requiretty to Defaults ! requiretty
   ```

4. After the root `ALL=(ALL) ALL` entry in the sudoers file, add the complete entry shown below:

   ```
   oracle ALL=(root) /usr/bin/id,/*/ADATMP_
   [0-9][0-9][0-9][0-9]-[0-9][0-9]-[0-9][0-9]_
   [0-9][0-9]-[0-9][0-9]-[0-9][0-9]-[AP]M/agentdeployroot.sh, /*/*/ADATMP_
   [0-9][0-9][0-9][0-9]-[0-9][0-9]-[0-9][0-9]_
   [0-9][0-9]-[0-9][0-9]-[0-9][0-9]-[AP]M/agentdeployroot.sh,/*/*/*/ADATMP
   _[0-9][0-9][0-9][0-9]-[0-9][0-9]-[0-9][0-9]_
   [0-9][0-9]-[0-9][0-9]-[0-9][0-9]-[AP]M/agentdeployroot.sh,/*/*/*/*/ADAT
   MP_[0-9][0-9][0-9][0-9]-[0-9][0-9]-[0-9][0-9]_
   [0-9][0-9]-[0-9][0-9]-[0-9][0-9]-[AP]M/agentdeployroot.sh
   ```

3.3 Customizing the Base Image for Specific Exalogic Deployments

To customize the base image, you must copy the Exalogic identifier to the Exalogic Guest Base Template by following the steps shown in the example below:

1. `mkdir -p /mnt/var/exalogic/info/`

2. `scp <user>@<dom0_ip>:/var/exalogic/info/em-context.info`
   `/mnt/var/exalogic/info/em-context.info`

3. `umount /mnt`

4. `/sbin/kpartx -d System.img`

5. `tar -pczvf template_name.tgz template_directory`

Note: This procedure lists the steps required to copy the Exalogic Identifier to the Exalogic Base Image Template. It must be performed for each Exalogic on a separate fabric. The Exalogic Identifier (present in the `em-context.info` file) is specific to each Exalogic Fabric. The resulting Exalogic Server Templates must be used with the same rack from which the corresponding `em-context.info` file was copied.

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6. Save the configured file.

3.4 Uploading and Registering the Exalogic Guest Base Template to the Exalogic Server

Upload and register the configured Exalogic Guest Base Template to the Exalogic server by following the steps listed in http://docs.oracle.com/cd/E18476_01/doc.220/e25258/proc.htm#BABFFDDA.

After the modified Exalogic Guest Base Template has been uploaded, follow instructions in Configuring the Exalogic Network section to configure the Exalogic network. After the network has been configured, create an Exalogic vServer using the above template within Exalogic Control. See Creating a Virtual Server (vServer) for details.

4 Configuring the Exalogic Network

After you have uploaded and registered the configured Exalogic Guest Base Template, you need to configure the Exalogic Network and create a new Virtual Local Area Network (VLAN).

Prerequisites

- All vServers must be a part of the VLAN that is to be used for communication between OMS and the Management Agent.

- The Oracle Management Service (OMS) must have access to the VLAN being used for communication between OMS and the Management Agent.

- All vServers must have publicly available host names (and corresponding IPs) that are accessible from the OMS.

To configure the Exalogic network, follow these steps:

1. The following steps are typically performed by a network administrator:

   - Identify all the available IPs on the external network with which the Guest VMs will be configured.

   - Identify the VLAN to be used for communication between the OMS and the Management Agent. If it is a tagged network then get the VLAN ID as well. The VLAN ID is added in Step 3 below.

2. Create external Ethernet over InfiniBand (EoIB) networks to isolate public traffic for different Accounts in the Exalogic Control. Follow instructions in http://docs.oracle.com/cd/E18476_01/doc.220/e25258/proc.htm#BABHHEGG

3. Assign external EoIB networks to the Account. This step makes the external networks available to users belonging to the selected Account. To perform this step, you must identify the Account(s) for which the external EoIB networks are to be assigned. Follow instructions listed in http://docs.oracle.com/cd/E18476_01/doc.220/e25258/proc.htm#BEJBAIGF.

5 Creating a Virtual Server (vServer)

Create the virtual server (vServer) with an interface on the configured Enterprise Manager external network by following steps listed in http://docs.oracle.com/cd/E18476_01/doc.220/e25258/proc.htm#CHDIHDEI.

> **Note:** The IP address for the network is assigned when the vServer is created. Once the vServer is created, a new interface cannot be assigned.

After the IP address has been created, do the following:

- Configure the DNS by editing the `/etc/resolve.conf` file.
- Log into the running vServer as user with root privileges, set the password for the Oracle user account and follow the instructions to deploy the Management Agent.

6 Monitoring the agentpush.properties file in the OMS

Modify the agentpush.properties file present in the `<OMS_HOME>/sysman/prov/agentpush/agentpush.properties` directory.

Change:

```
oracle.sysman.prov.agentpush.pdpShellOutEnabled=true to
oracle.sysman.prov.agentpush.pdpShellOutEnabled=false
```

> **Note:** This step needs to be performed for all OMS instances.

7 Deploying the Management Agent

After the Exalogic network has been configured, deploy the Management Agent by following instructions listed in http://docs.oracle.com/cd/E24628_01/install.121/e22624/install_agent.htm.

8 Documentation Accessibility

For information about Oracle's commitment to accessibility, visit the Oracle Accessibility Program website at http://www.oracle.com/pls/topic/lookup?ctx=acc&id=docacc.

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