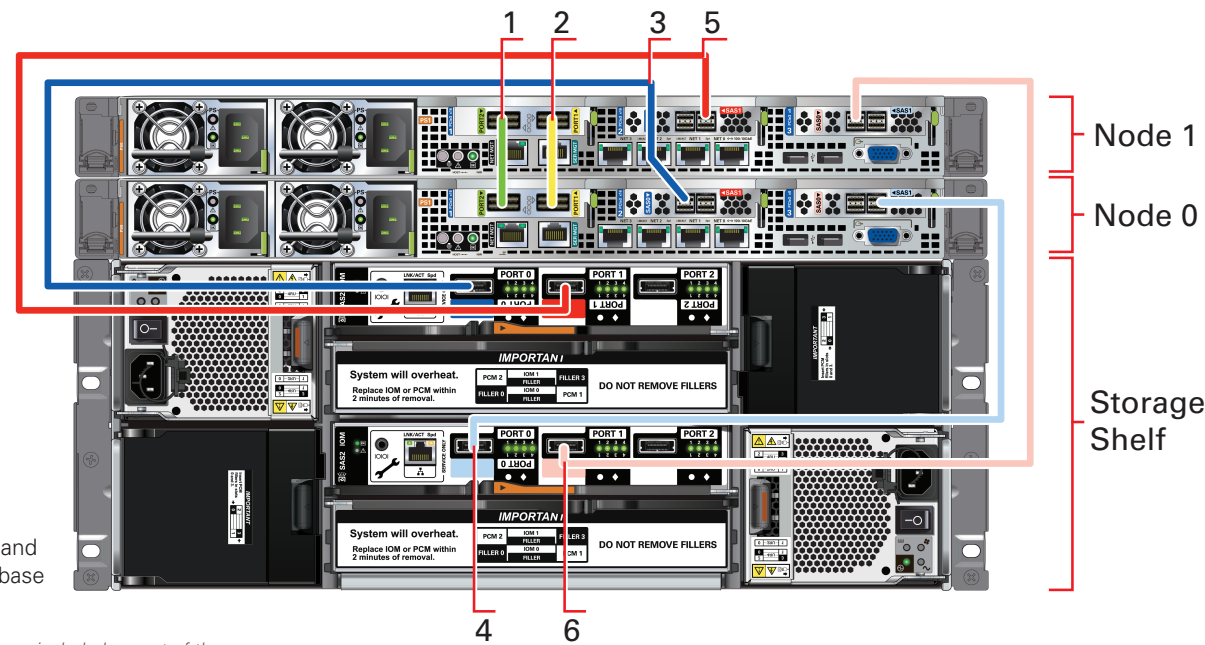


# Cabling the Interconnect and Storage for Oracle Database Appliance X5-2



Connect interconnect and storage to Oracle Database Appliance X5-2.

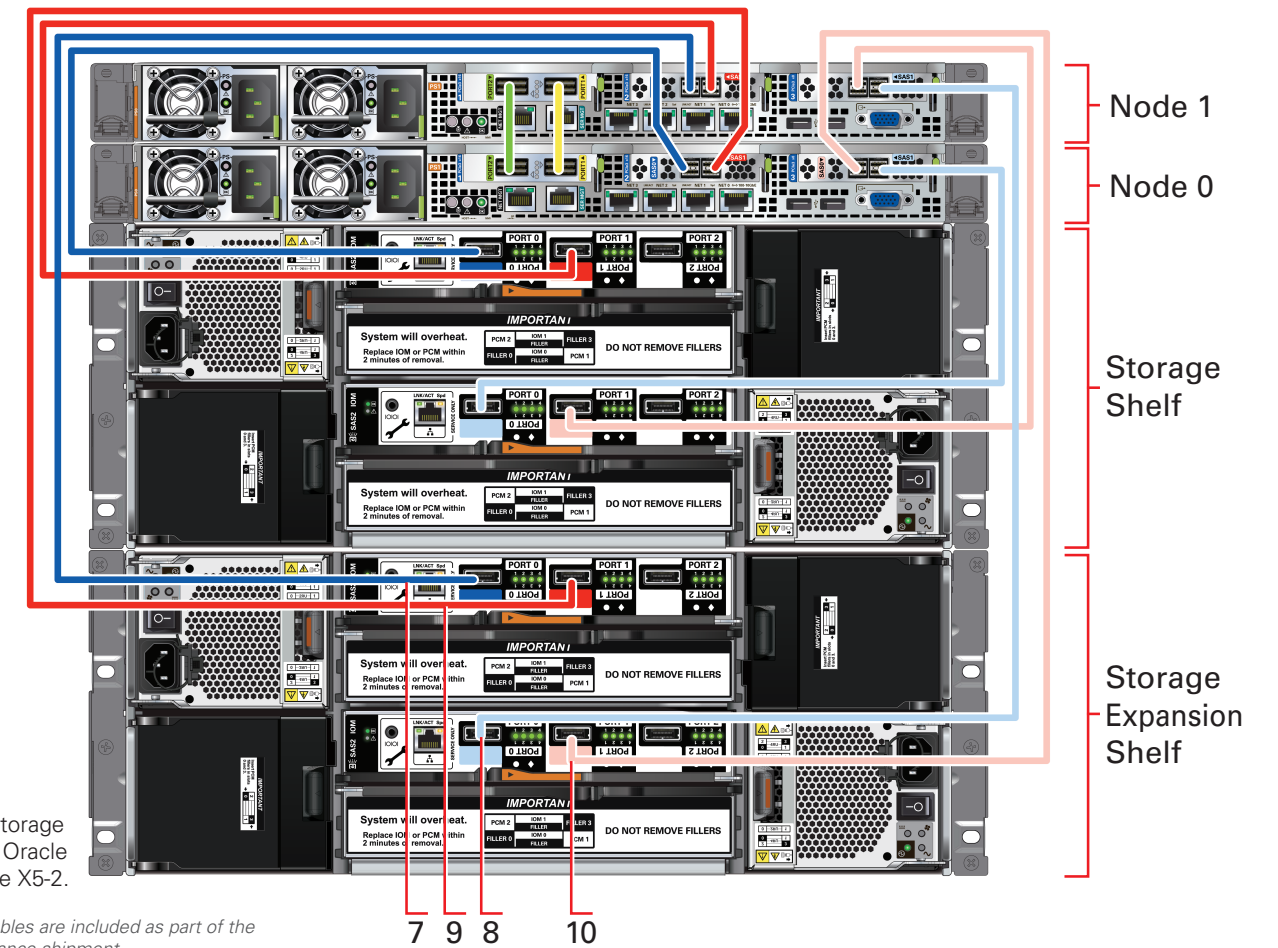
Note: The following cables are included as part of the Oracle Database Appliance shipment.

## Network

Purpose	Start - Compute Node 0	End - Compute Node 1
1. Connect green InfiniBand cable	Connect into green port (PORT2) in PCIe slot 1	Connect into green port (PORT2) in PCIe slot 1
2. Connect yellow InfiniBand cable	Connect into yellow port (PORT1) in PCIe slot 1	Connect into yellow port (PORT1) in PCIe slot 1

## Storage Shelf

Purpose	Start - Compute Node	End - Storage Shelf
3. Connect dark blue SAS cable	Connect into dark blue port (SAS0) in PCIe slot 2 in Node 0	Connect into dark blue port in top IO Module (PORT 0)
4. Connect light blue SAS cable	Connect into light blue port (SAS1) in PCIe slot 3 in Node 0	Connect into light blue port in bottom IO Module (PORT 0)
5. Connect dark red SAS cable	Connect into dark red port (SAS1) in PCIe slot 2 in Node 1	Connect into dark red port in top IO Module (PORT 1)
6. Connect light red SAS cable	Connect into light red port (SAS0) in PCIe slot 3 in Node 1	Connect into light red port in bottom IO Module (PORT 1)



Connect optional storage expansion shelf to Oracle Database Appliance X5-2.

Note: The following cables are included as part of the Oracle Database Appliance shipment.

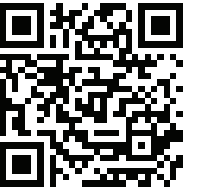
## Storage Expansion Shelf

Purpose	Start - Compute Node	End - Storage Expansion Shelf
7. Connect dark blue SAS cable	Connect into dark blue port (SAS0) in PCIe slot 2 in Node 1	Connect into dark blue port in top IO Module (PORT 0)
8. Connect light blue SAS cable	Connect into light blue port (SAS1) in PCIe slot 3 in Node 1	Connect into light blue port in bottom IO Module (PORT 0)
9. Connect dark red SAS cable	Connect into dark red port (SAS1) in PCIe slot 2 in Node 0	Connect into dark red port in top IO Module (PORT 1)
10. Connect light red SAS cable	Connect into light red port (SAS0) in PCIe slot 3 in Node 0	Connect into light red port in bottom IO Module (PORT 1)

Note: The network cabling diagram on this page supports copper public networking and uses InfiniBand for the interconnect between the two servers. Support for fiber public networking is optional. See the documentation for instructions on replacing the InfiniBand PCIe cards with 10GbE SFP+ PCIe cards and the associated cabling instructions.

# Preparing to Deploy Oracle Database Appliance X5-2

You can also scan the Quick Response Code with your mobile device to read the documentation.



## 1 Set Up the Hardware and Register with My Oracle Support

- A Ensure that the system hardware is set up and mounted properly as specified in the instructions in the *Oracle Database Appliance Owner's Guide*, found on: [www.oracle.com/pls/topic/lookup?ctx=dba21](http://www.oracle.com/pls/topic/lookup?ctx=dba21)
- B Verify that your shipment contains the correct power cables for your location.
- C Oracle Database Appliance includes the network cables for the interconnect between the two servers. Public network cables are not included in Oracle Database Appliance shipments.
- D Obtain your hardware Support Identifier (SI) from your hardware vendor.
- E Add the hardware SI and new software licenses that you received with Oracle Database Appliance to your My Oracle Support profile. Each SI registration may take up to 24 hours.

*Note: You cannot obtain software or support from Oracle without registered hardware and software SIs.*

## 2 Planning the Network Configuration

- A Collect the following network and cluster information from your network administrator:
  - Generic network information
    - Domain name (for example, example.com)
    - Domain name server addresses
    - **(Optional)** Network Time Protocol server addresses
  - Cluster network information
    - Single Client Access Name (SCAN) and two addresses (for example, hrsys-scan and 192.0.2.16, 192.0.2.17)
    - Netmask for public network (for example, 255.255.252.0)
    - Gateway for public network (for example, 192.0.2.1)

## 3 Planning the Network Configuration, Continued

- B Collect the following cluster node information from your network administrator:
  - Node 0 network information
    - Public name and address (for example, hrsys0 and 192.0.2.18)
    - VIP name and address (for example, hrsys0-vip and 192.0.2.19)
  - Node 1 network information
    - Public name and address (for example, hrsys1 and 192.0.2.20)
    - VIP name and address (for example, hrsys1-vip and 192.0.2.21)

*Note: Public, VIP, and SCAN IP addresses must be on the same subnet.*

*Note: For Oracle Database Appliance Virtualized Platform, your network administrator must provide extra IP addresses for dom0, ODA\_BASE, and the virtual machines.*

## 4 Set Up Oracle ILOM Configuration (Optional)

Configure Oracle Integrated Lights Out Manager (Oracle ILOM) for managing Oracle Database Appliance independently of the operating system.

Collect the following information for your Oracle ILOM network:

- Oracle ILOM name and address for Node 0 (for example, hrsysilom1 and 10.0.0.3)
- Oracle ILOM name and address for Node 1 (for example, hrsysilom2 and 10.0.0.4)
- Netmask for management network (for example, 255.255.255.0)
- Gateway for management network (for example, 10.0.0.1)

## 5 Plan the Software and Database Configuration Choices

- A Plan your software installation choices as follows:
  - Configuration type: Custom
  - System name (for example, hrsys)
  - Region (for example, America)
  - Time zone (for example, America/Los\_Angeles)
  - Deployment type (for example, Oracle Real Application Clusters)
  - Disk group redundancy: High (triple-mirrored) or Normal (double-mirrored)
  - Database backup (for example, External). Local appliance internal backups utilize 60% of available disk space for archive logs and backup, external backups utilize 20% of available disk space for archive logs.
- B Prepare to enter information for the following fields:
  - Database Name (for example, hrdb)
  - DB Class (for example, Small)
  - Database Language (for example, English)
  - Database Block Size (for example, 8192)
  - Database Character Set (for example, AL32UTF8)
  - Database Territory (for example, America)

## 6 Plan for Oracle Auto Service Request and Oracle Cloud File System Size

- A **(Optional)** To configure Oracle Auto Service Request (Oracle ASR) be prepared to provide the following:
    - Proxy server name to use for your deployment
    - Proxy server port
    - Proxy username
    - Proxy password
    - Oracle online account username
    - Oracle online account password
  - B **(Optional)** Configure External Oracle ASR Manager
    - Oracle ASR Manager IP/host name
    - Oracle ASR Manager port
    - Your My Oracle Support account user name and password
- For more information about Oracle ASR, see: [www.oracle.com/technetwork/systems/asr/overview/index.html](http://www.oracle.com/technetwork/systems/asr/overview/index.html)
- C To change the default name and size of Oracle Cloud File System, be prepared to provide the following:
    - Name of file system (default name is /cloudFs)
    - Size of file system (default size is 50 GB)

## 7 Download the Software

- A **(Recommended)** Download Oracle Appliance Manager Configurator: <http://www.oracle.com/technetwork/database/database-appliance/overview/index.html>
  - (i) Run the configurator, preferably on a computer that is on a network that is local to where you plan to install Oracle Database Appliance.
  - (ii) Enter and validate your configuration choices with the configurator. This creates a configuration file that you can use during actual deployment. You can also run Oracle Appliance Manager Configurator directly from Oracle Database Appliance during deployment.
- B Follow the instructions in My Oracle Support Note 888888.1: [support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1](http://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1)
  - (i) Download the latest software (Oracle Database Appliance End-User Bundle) to a local computer on the network.
  - (ii) Download the latest Oracle Database Appliance patch bundle, which you must apply before or after deployment, and review the README files.

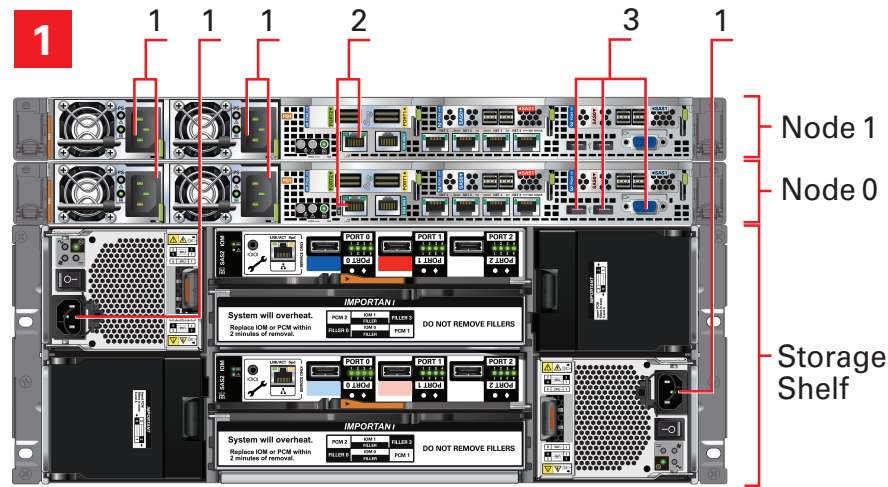
*Note: For information about the configuration options such as Deployment Type, Database Class, or any of the other options, refer to Oracle Appliance Manager Configurator online help.*

## 8 Review Oracle Database Appliance Information

- Review the most recent version of this poster in the Oracle Database Appliance online documentation library: [www.oracle.com/pls/topic/lookup?ctx=dba21](http://www.oracle.com/pls/topic/lookup?ctx=dba21)
- Review the Oracle Database Appliance FAQs and online demos on Oracle Technology Network: [www.oracle.com/technetwork/server-storage/engineered-systems/database-appliance/index.html](http://www.oracle.com/technetwork/server-storage/engineered-systems/database-appliance/index.html)
- Review the Oracle Database Appliance Information Center, which is contained in My Oracle Support Note 1417713.2: [support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1417713.2](http://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1417713.2)
- Review the latest information about Oracle software and hardware products: [www.oracle.com](http://www.oracle.com)

# Oracle Database Appliance X5-2 Bare Metal Setup

You can also scan the Quick Response Code with your mobile device to read the documentation.



## Connect the Power and Public Network Cables

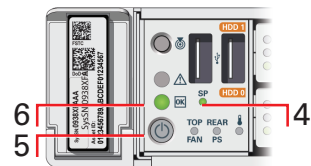
**Important:** Follow the instructions on Page 1 to cable the server nodes, storage system(s) and interconnect before proceeding. On both nodes, connect:

- A Power to the power supply unit (PSU) (1)
- B (Optional) Ethernet to network management for Oracle Integrated Lights Out Manager (Oracle ILOM) (2)
- C (Optional) On Node 0 only, connect keyboard and mouse to USB and video display to VIDEO (3)

## 2 Start Up the Systems

Connect power to the power supply.

- A Turn on power to the storage shelf and optional storage expansion shelf.
- B On each node, after the green SP OK LED (4) is steady ON, push the power button (5).
- C Wait for the green Power OK LED (6) to turn steady ON. The Power OK LED might blink for several minutes. Do not repeatedly push the power buttons.



## 3 Validate Storage

To ensure that the storage cabling is properly configured, log into the console as `root` with the password `welcome1` and run the following `oakcli validate` command:

```
/opt/oracle/oak/bin/oakcli validate -c storagetopology
```

## 4 Configure the Network

Configuring the network enables you to use `scp` to copy files to Oracle Database Appliance. Consult with your network administrator to obtain the information that you need to complete the initial configuration.

- A Log in to the console as `root` with the password `welcome1`.
- B Configure the network using the command:
 

```
/opt/oracle/oak/bin/oakcli configure firstnet
```
- C Select the Global option and then enter the domain name, DNS servers, network interface, IP addresses for nodes, netmask, and gateway when prompted.

## 5 Download Oracle Database Appliance End-User Bundle

- A From a browser on an external client, log on to My Oracle Support. Identify the latest software version by reading the following note: <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1>
- B To determine if your Oracle Appliance Manager software version is current, run the following command: `/opt/oracle/oak/bin/oakcli show version -detail`. If your version is out of date, then update your base image as described in the following note: <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1>
- C Download the End-User Bundle zip file from this URL: <https://updates.oracle.com/download/12978712.html>
- D Use `scp` to copy the Oracle Database Appliance End-User Bundle to a location on Node 0 (for example, to `/tmp`).
- E (Optional) Copy the configuration file created by Oracle Appliance Manager Configurator to a location on Node 0 (for example, to `/tmp`).

## 6 Unpack Oracle Database Appliance End-User Bundle

Use the `oakcli unpack -package` command. For example, at the `[root@oak1]#` prompt, type: `/opt/oracle/oak/bin/oakcli unpack -package /tmp/p12978712_xxxxx_Linux-x86-64.zip`

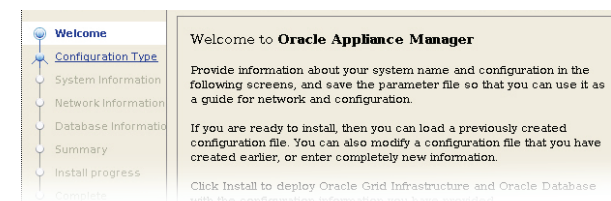
### Typical and Custom Installations

The Configuration Type window enables you to select a Typical or a Custom Configuration. Selecting **Custom** enables you to:

- (Optional) Configure NTP servers (the default is Cluster Time Synchronization Service)
- (Optional) Configure and set up Oracle ILOM
- (Optional) Specify additional network interfaces (two additional bonded 10 GB interfaces, one additional 10 GB interface)
- (Optional) Configure Oracle Auto Service Request
- (Optional) Resize the `/cloudfs` file system (the default is 50 GB)

## 7 Deploy the Oracle Software

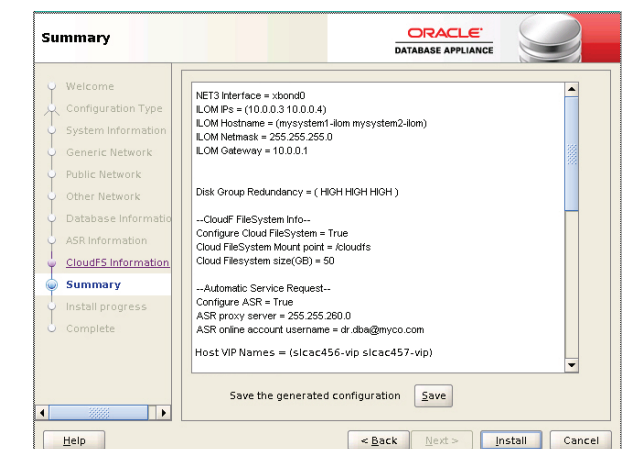
- A Type `startx` to start X Window Manager software.
- B Enter the following command: `[root@oak1]# /opt/oracle/oak/bin/oakcli deploy`
  - The Oracle Appliance Manager Welcome screen opens.
  - (Optional) If you saved a configuration file using the Oracle Appliance Manager Configurator, then click **Browse** to load the file.
  - Click **Next**.



- C The Configuration Type screen opens. Make your selection for each configuration and click **Next**.
- D Enter the requested information as each subsequent screen appears.

## 8 Complete Oracle Database Appliance Deployment

Click **Install** to begin deployment when the configuration information is complete.

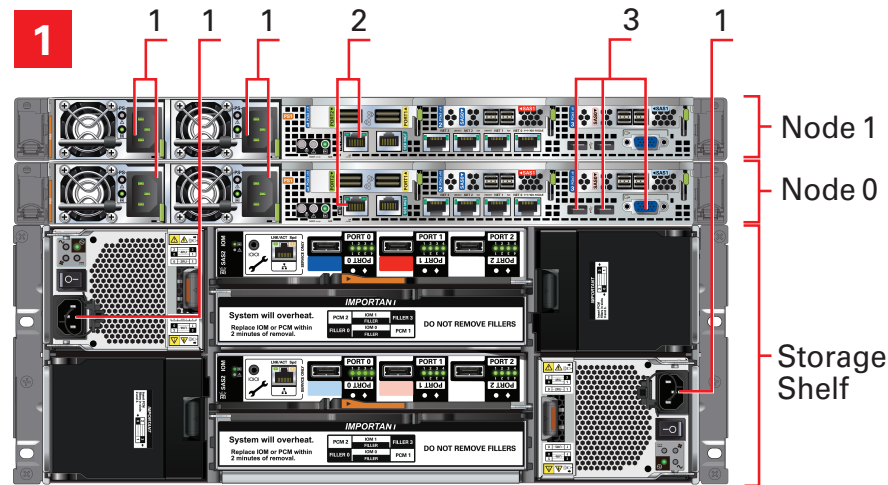


The deployment takes about 1 hour to finish.



# Oracle Database Appliance X5-2 Virtualized Platform Setup

You can also scan the Quick Response Code with your mobile device to read the documentation.



## Connect the Power and Public Network Cables

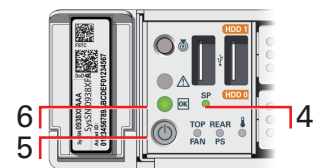
**Important:** Follow the instructions on Page 1 to cable the server nodes, storage system(s) and interconnect before proceeding. On both nodes, connect:

- A Power to the power supply unit (PSU) (1)
- B (Optional) Ethernet to network management for Oracle Integrated Lights Out Manager (Oracle ILOM) (2)
- C (Optional) On Node 0 only, connect keyboard and mouse to USB and video display to VIDEO (3)

## 2 Start Up the Systems

Connect power to the power supply.

- A Turn on power to the storage shelf and optional storage expansion shelf.
- B On each node, after the green SP OK LED (4) is steady ON, push the power button (5).
- C Wait for the green Power OK LED (6) to turn steady ON. The Power OK LED might blink for several minutes. **Do not repeatedly push the power button.**



## 3 Verify Virtual Machine Image

Check that Oracle Virtual Machine Image is installed.

- A Log in to dom0 as root with the password welcome1.
- B Confirm that you have Oracle Virtual Machine image for Oracle Database Appliance installed by running the following oakcli show env\_hw command:
 

```
/opt/oracle/oak/bin/oakcli show env_hw
```
- C If the resulting output does not include the string VM-Dom0 or the command fails with any other error, then you need to install the Oracle Database Appliance Virtualized Platform image.

*Note:* To install the Oracle Database Appliance Virtual Platform image follow the instructions in My Oracle Support Note 1520579.1 <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1520579.1>

## 4 Configure the Network

Configuring the network enables you to use scp to copy files to Oracle Database Appliance. Consult with your network administrator to obtain the information that you need to complete the initial configuration.

- A Log in to dom0 as root with the password welcome1.
- B Configure the network using the command:
 

```
/opt/oracle/oak/bin/oakcli configure firstnet
```
- C Select the Global option and then enter the domain name, DNS servers, host names, network interface, IP addresses for nodes, netmask, and gateway when prompted.

## 5 Deploy ODA\_BASE and Validate Storage

- A From a browser on an external client, log on to My Oracle Support. Identify the latest software version by reading the following note: <https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=888888.1>
- B Download the ODA\_BASE template from this URL: <https://updates.oracle.com/download/16186172.html> and copy the template to the /OVS directory on dom0
- C Deploy ODA\_BASE using the command:
 

```
/opt/oracle/oak/bin/oakcli deploy oda_base
```
- D When prompted for Location, enter the full path name for the ODA\_BASE template that you downloaded and copied, for example
 

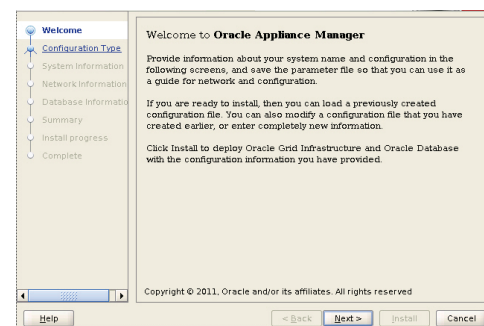
```
/OVS/templateBuild-2014-04-19-02-33.tar.gz
```
- E Select the number of cores and amount of memory allocated to ODA\_BASE.
- F To ensure that the storage cabling is properly configured, connect to ODA\_BASE using VNC with Dom0 for the hostname and 5900 for the Port. Log in as root with the password welcome1 and run the following oakcli validate command:
 

```
/opt/oracle/oak/bin/oakcli validate -c storagetopology
```

## 6 Deploy the Oracle Software on ODA\_BASE

- A Connect to ODA\_BASE using VNC with the hostname for Dom0 and Port as 5900.
- B Type startx to start X Window System.
- C Enter the following command:
 

```
/opt/oracle/oak/bin/oakcli deploy
```
- D The Oracle Appliance Manager Welcome window opens.
- E Click Next.



## 7 Deploy the Oracle Software on ODA\_BASE, Continued

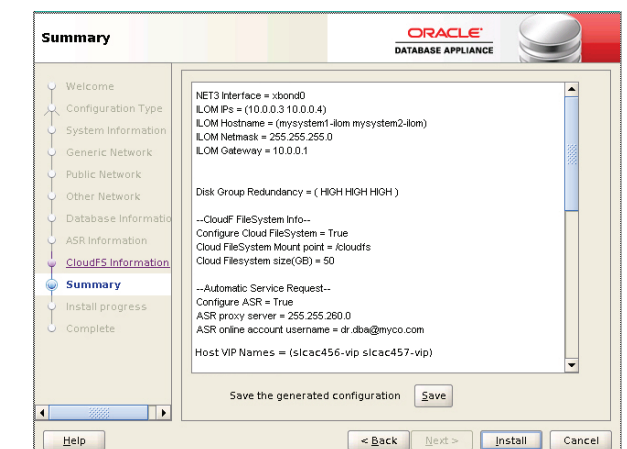
- F The Configuration Type window opens. Make your selection for each configuration option and click Next.
- G Enter the requested information on the remaining windows.

*Note:* Select Custom to configure options that have default values in Typical configurations, such as:

- Normal disk redundancy
- NTP servers
- Oracle ILOM
- Additional network interfaces
- Oracle Auto Service Requests (Oracle ASR)
- Size of the /cloudfs file system (default is 50 GB)

## 8 Complete Oracle Database Appliance Deployment

Click **Install** to begin deployment when the configuration information is complete.



The deployment takes about 1 hour to finish.

For more information about Oracle Database Appliance, go to Oracle Technology Network: [oracle.com/technetwork/server-storage/engineered-systems/database-appliance/index.html](http://oracle.com/technetwork/server-storage/engineered-systems/database-appliance/index.html)  
 For more information about deployment, go to: [oracle.com/pls/topic/lookup?ctx=dba21](http://oracle.com/pls/topic/lookup?ctx=dba21) You can also scan the Quick Response Code with your mobile device to read the documentation.