ORACLE®
DATABASE APPLIANCE

Cabling the Interconnect and Storage for Oracle Database Appliance X4-2

Node 1
Node 0
Storage Shelf
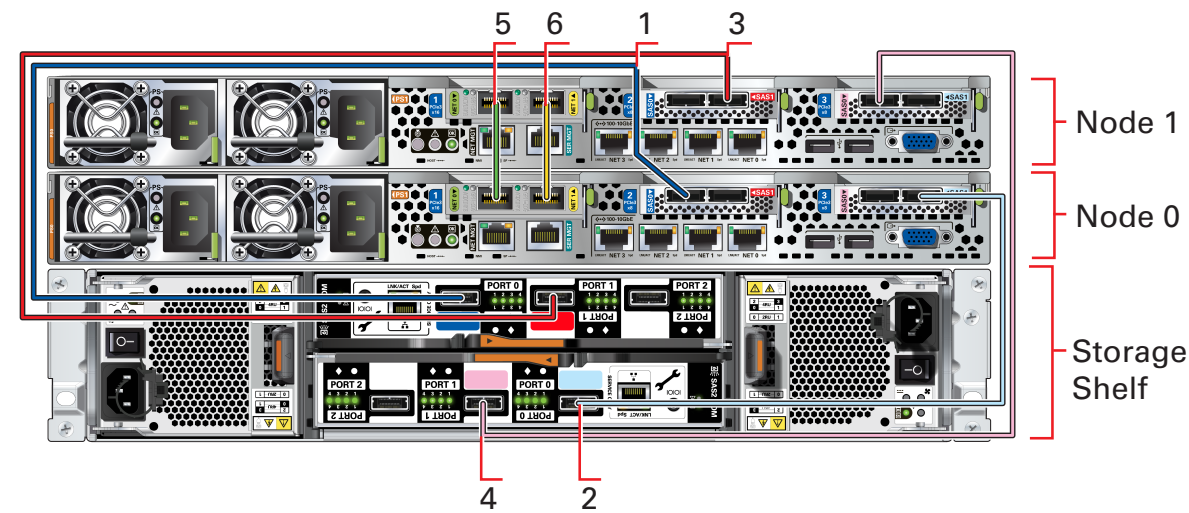
Connect interconnect and storage to Oracle Database Appliance X4-2.

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

Node 1
Node 0
Storage Shelf
Storage Expansion Shelf

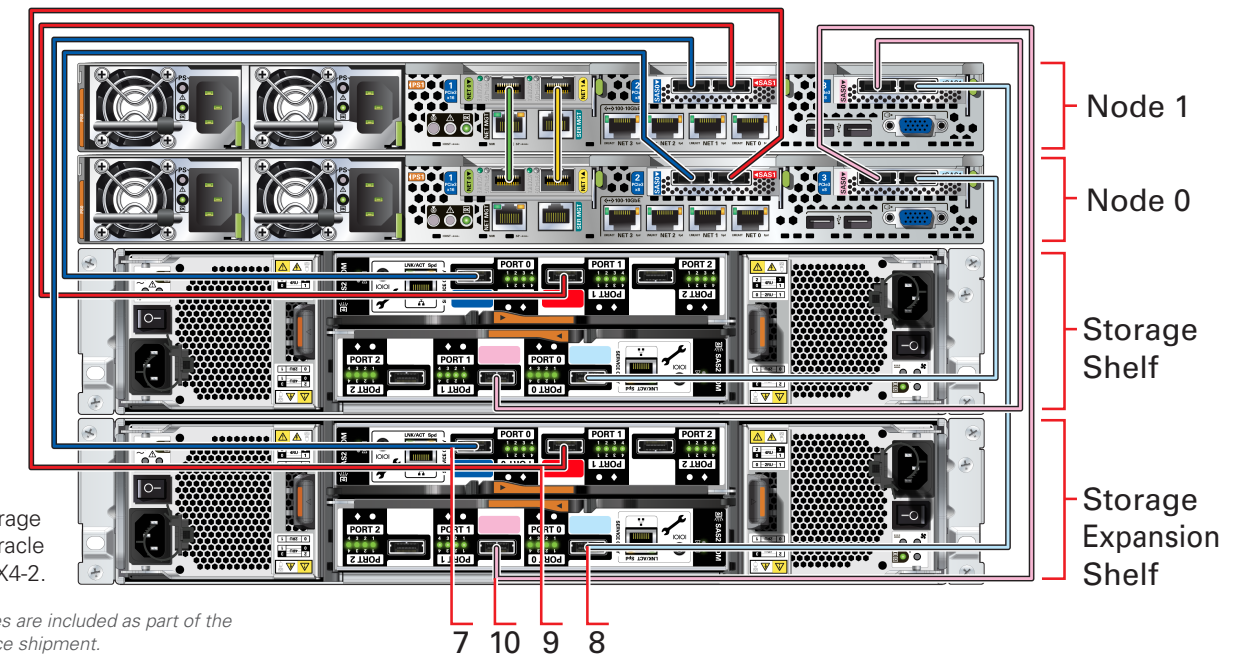Connect optional storage expansion shelf to Oracle Database Appliance X4-2.

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

Storage Shelf

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

Network

Purpose	Start - Compute Node 0	End - Compute Node 1
5. Connect green Twinax cable	Connect into green port (Net0) in PCIe slot 1	Connect into green port (NET0) in PCIe slot 1
6. Connect yellow Twinax cable	Connect into yellow port (Net1) in PCIe slot 1	Connect into yellow port (NET1) in PCIe slot 1

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 twinax cables for the interconnect between the two servers. Additional cat-6 cables included to support optional fiber public networking will be leftover. See the documentation for further information and cabling instructions.

Hardware and Software, Engineered to Work Together

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Preparing to Deploy Oracle Database Appliance X4-2

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 *Oracle Database Appliance Owner's Guide*, found on:
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 virtualization, your network administrator must provide extra IP addresses for dom0, dom1, and 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

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/server-storage/engineered-systems/database-appliance/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:
https://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.
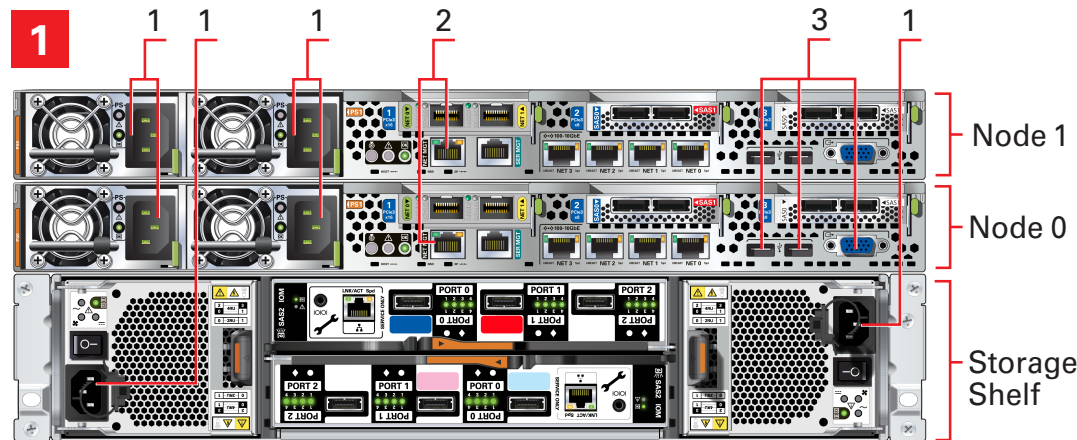
Note: For information about the configuration options such as Deployment Type, Database Class, or any of the other options, refer to Oracle Appliance Manager Configurator online help.

8 Review Oracle Database Appliance Information

- Review the most recent version of this poster in the Oracle Database Appliance online documentation library:
http://www.oracle.com/pls/topic/lookup?ctx=dba21
- Review the Oracle Database Appliance FAQs and online demos on Oracle Technology Network:
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:
https://support.oracle.com/CSP/main/article?cmd=show&type=NOT&id=1417713.2
- Review the latest information about Oracle software and hardware products:
http://www.oracle.com

Hardware and Software, Engineered to Work Together

ORACLE®

Oracle Database Appliance X4-2 Bare Metal Setup

1

Node 1
Node 0
Storage Shelf

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 Configure Network and Validate Storage

A Select your public network configuration. When the following prompt appears after initial startup, enter `Yes` for fiber, otherwise enter `No` for copper (default) or just click `Enter`:

```
Do you want to use Fiber cards for  public network?
[yes: Fiber cards will be configured for public network]
[no : Copper cards will be configured for public network]

Please enter yes | no :
```

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

```
/opt/oracle/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, host names, 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**.

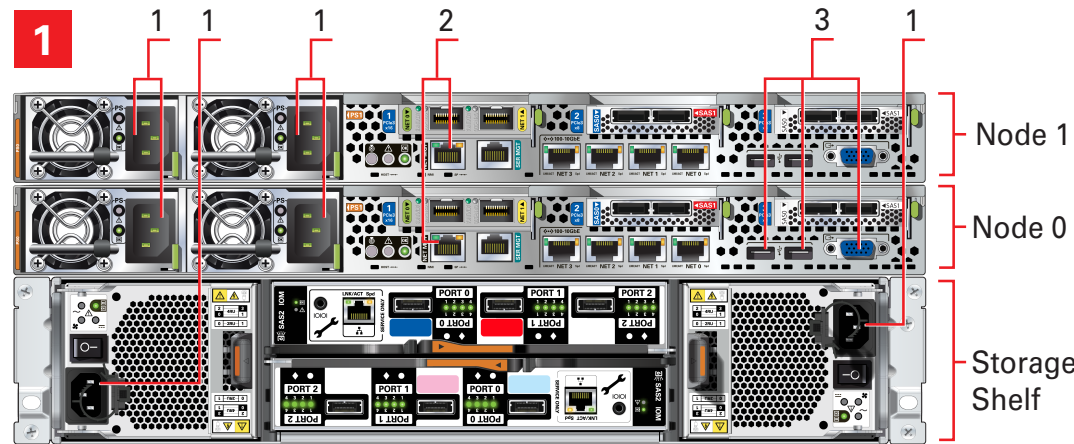D Enter the requested information as each subsequent screen appears.

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.

Hardware and Software, Engineered to Work Together

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Oracle Database Appliance X4-2 Virtualized Platform Setup

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

1

Node 1
Node 0
Storage Shelf

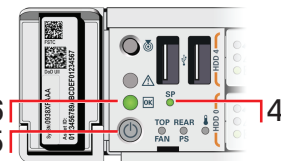### Connect the Power and Public Network Cables

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 Configure Network and Verify Virtual Machine Image

A Select your public network configuration. When the following prompt appears after initial startup, enter `Yes` for fiber, otherwise enter `No` for copper (default) or just click `Enter`:

```
Do you want to use Fiber cards for  public network?
[yes: Fiber cards will be configured for public network]
[no : Copper cards will be configured for public network]

Please enter yes | no :
```

B Check that Oracle Virtual Machine Image is installed

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

  `/opt/oracle/bin/oakcli show env_hw`

- 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 Virtual Machine image.

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
   `/opt/oracle/oak/bin/oakcli deploy oda_base`
   command.

D When prompted for Location, enter the full path name for the ODA_BASE template that you downloaded and copied, for example
   `/OVS/templateBuild-2013-01-31.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/bin/oakcli validate -c storagetopology`

6 Deploy the Oracle Software on ODA_BASE

A Connect to dom1 using VNC with dom0 as hostname 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.
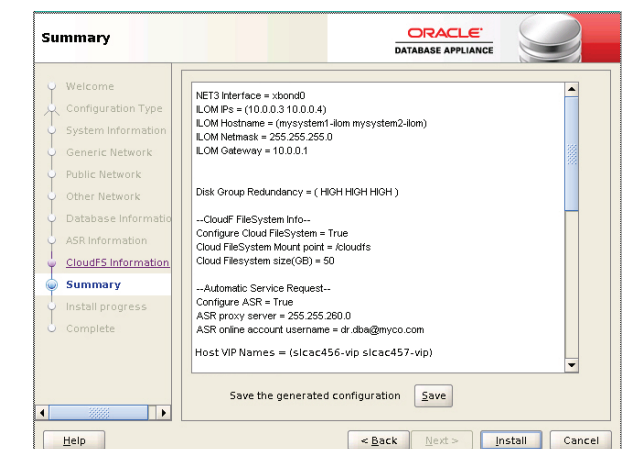
The deployment takes about 1 hour to finish.

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