Oracle Private Cloud Appliance Quick Start Guide *(part 1)*

Appliance components

A ZFS Storage Appliance Controllers (2)

B Management Nodes (2)

C Compute Nodes (up to 25)

D Cisco Nexus 9336C-FX2 Leaf/Data Switches (2)

E ZFS Storage Appliance Disk Shelf

F Cisco Nexus 9348GC-FXP Switch

G Cisco Nexus 9336C-FX2 Spine Switches (2)

Verify Installation Requirements

Space requirements

A Receiving and unpacking:

	Packaged Base Rack with Shipping Pallet	Fully Populated Base Rack
Height	2159mm (85 in)	2000mm (78.74 in)
Width	1118mm (44 in)	600mm (23.62 in)
Depth	1543mm (62 in)	1197mm (47.12 in)
Weight	1118kg (2465 lbs)	1000kg (2204 lbs)

B Maintenance clearance:

	Access Requirement
Rear maintenance	914mm (36 in)
Front Maintenance	1232mm (48.5 in)
Top Maintenance	914mm (36 in)
Side panel removal	676mm (26.6 in)

NOTE: *Allow enough space to remove the shipping cartons. The minimum required depth for roll-off is 4.57m (15ft). Refer to the Oracle Rack Cabinet 1242 Getting Started Guide (E85665) included with the packaging for further details.*

C Access route to installation site:

|	With Shipping Pallet	Without Shipping Pallet
Minimum door height	2184mm (86 in)	2000mm (78.74 in)
Minimum door width	1118mm (44 in)	600mm (23.62 in)
Minimum elevator depth	1543mm (60.75 in)	1058.2mm (41.66 in)
Maximum incline	6 degrees	6 degrees
Loading capacity (elevator, pallet jack, floor)	1145kg (2520 lbs)	1145kg (2520 lbs)

Data center configuration

A Oracle recommends using raised flooring, able to support the total weight of the system including power distribution units (PDUs): 1145kg (2520lbs).

B Temperature, humidity and altitude:

	Operating Requirement	Non-operating Requirement	Optimum
Temperature	5°C to 32° (41°F to 89.6°F)	-40°C to 68°C (-40°F to 154°F)	21°C to 23°C (69.8°F to 73.4°F)
Relative humidity	10-90 percent, non-condensing	93 percent maximum	45-50 percent, non-condensing
Altitude	3000m (9840ft) maximum	12000m (39370ft)	max. ambient operating temperature derated by 1°C per 300m of elevation beyond 900m

C Provide adequate ventilation and cooling:

- Make sure that the capacity of the air conditioning equipment is sufficient for the new system hardware.
- Respect the maintenance clearance at the front and back of the system for optimum airflow. The air intake is at the front, and the air outlet is at the back.
- Install perforated floor tiles (approximately 400 CFM/tile) in front of the rack for cold air intake. Use four tiles for a fully populated rack, three tiles for 8-16 compute nodes, or one tile for 8 or fewer compute nodes.
- Cover empty rack units with filler panels to avoid adverse effects on airflow and cooling.
- Ensure that ventilation openings, such as cabinet doors for both the inlet and exhaust, are unobstructed.
- Take care to prevent recirculation of exhaust air. Manage cables to minimize interference with the exhaust.
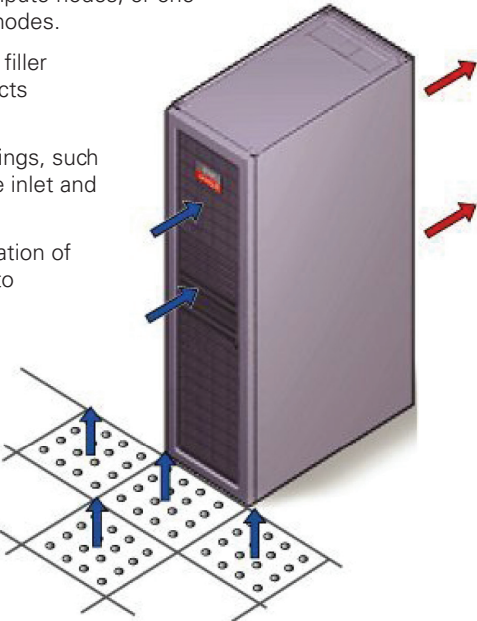
Power requirements

Each rack has two preinstalled power distribution units (PDUs). The PDUs accept different power sources. You must specify the type of PDU that is correct for your data center.

A Verify that the PDUs installed are correct for your data center power source: 15, 22 or 24kVA for low or high voltage.

B PDU power cords are 4m (13.1ft) long, and up to 1.5m (4.9ft) is routed within the rack cabinet. AC power receptacles must be within 2m (6.6ft) of the rack.

C Use dedicated AC breaker panels for all power circuits that supply power to the PDU.

D Use dedicated AC breaker panels for all power circuits that supply power to the compute nodes. Compute nodes require electrical circuits to be grounded to the Earth.

NOTE: *Circuit breakers are supplied by the customer. One circuit breaker is required for each power cord.*

E In addition to circuit breakers, provide a stable power source, such as an uninterruptable power supply (UPS) to reduce the possibility of component failures.

F Racks are shipped with grounding-type power cords (three-wire). Always connect the cords to grounded power outlets. Verify the correct grounding method for your location.

Network requirements

A The default uplink configuration consists of a total of four physical 10GbE SFP+ cable connections in a crossed pattern. Each of the two spine Cisco Nexus 9336C-FX2 switches – item "G" in the image in the top left corner – **must** have ports 5/1 and 5/2 connected to a pair of next-level data center switches.

B A terminal or workstation with a web browser **must** be connected to the management network.

C The following network configuration details are required:

	Your Entry	Description
Domain Name		Data center network
Region and Time Zone		Location and time zone where the system is installed
DNS IP address		IP address of one to three Domain Name Servers
NTP server IP address		IP address of your Network Time Protocol server
Default Gateway		IP address of the default gateway in your data center network
Management Node 1		IP address of the first management node in your data center network
Management Node 2		IP address of the second management node in your data center network
Management Virtual IP		IP address providing access to the master management node
Management VLAN		VLAN ID of the management network, if applicable

NOTE: *All internal rack connections are pre-cabled, including non-populated rack units. Cabling should not be modified in any way.*

Oracle Private Cloud Appliance Quick Start Guide *(part 1)*

1 Prepare installation site

A Review the safety guidelines. Refer to the section "Review Safety Guidelines" in the *Oracle Private Cloud Appliance Installation Guide.*

B Prepare the location where the Private Cloud Appliance will be installed.
- Thoroughly clean and vacuum the area in preparation for the installation.
- Note problems or peculiarities at the site that require special equipment.
- Confirm that space, flooring, power supply and climate control meet all requirements. (See Verify Installation Requirements.)
- Operate the air conditioning system for 48 hours to bring the room conditions to the appropriate level.
- Ensure that all tools required for unpacking and installation are present. For a list of required tools, refer to the section "Tools Required for Unpacking and Installation".

C Unpack the Private Cloud Appliance.
- Refer to the *Oracle Rack Cabinet 1242 Getting Started Guide (E85665)* included with the packaging when unpacking the Private Cloud Appliance.
- Follow local laws and guidelines to recycle the packaging properly.
- Save the shipping brackets used to secure the rack to the shipping pallet. You can use these shipping brackets to secure the rack permanently to the installation site floor – **not** for bracing or anchoring the rack during seismic events.
- Verify that the hardware configuration corresponds to your order. Refer to the Customer Information Sheet (CIS) on the side of the packaging.

D Move the Private Cloud Appliance to the installation site.
- Ensure that the rack doors are closed and secured.
- Push the system from the back of the rack to the installation site. To avoid damage, do not push on the perforated panel.
- Steer the rack by moving the rear casters; the front casters do not pivot.

CAUTION: *Prior to moving the rack, always make sure that all four leveling and stabilizing feet are raised and out of the way.*

CAUTION: *A fully populated base rack weighs 1000kg (2204lbs). It is preferred that at least three people push and guide the rack, keeping everyone out of the path of the moving rack.*
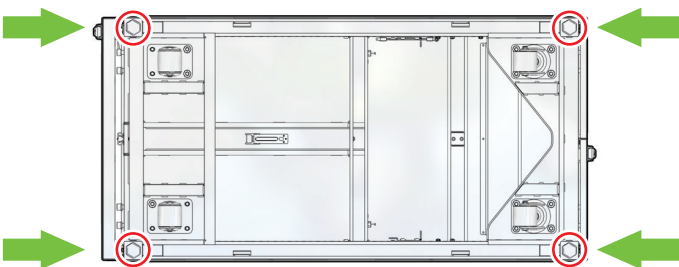
E When the rack is at the installation site, verify that no components or connections have become dislodged or disconnected during transport.

If necessary, re-attach components and cables properly.

F Allow the rack system to climatize for at least 24 hours before powering on the equipment.
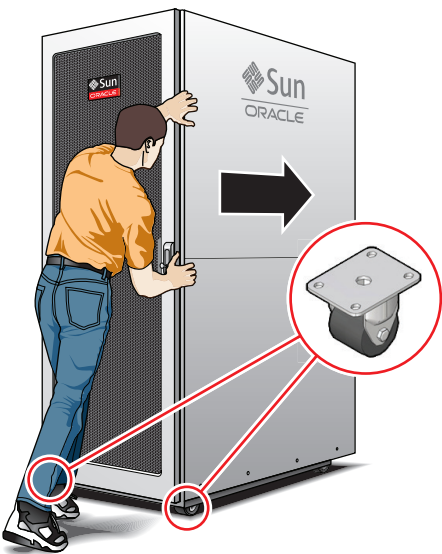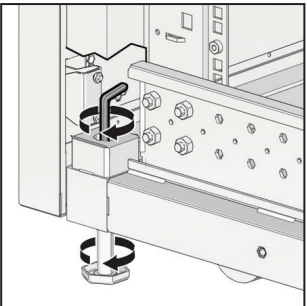

Install Hardware in Allocated Space

2 Stabilize the appliance

A Locate the four leveling feet at the bottom corners of the rack.

B Use a 6mm hex wrench to lower the leveling feet to the floor.

C Lock the leveling feet using an 18mm open wrench.

The casters and feet must share the load to increase footprint and improve stability.
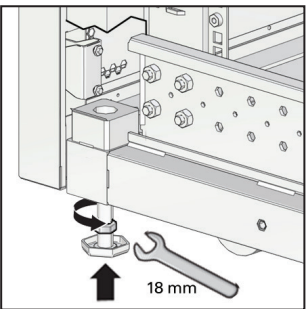

18 mm

CAUTION: *If the rack needs to be moved, make sure that the leveling feet are fully retracted and out of the way.*

WARNING: *If the shipping brackets are used to attach the rack to the data center floor, note that these shipping brackets are NOT for use for bracing or anchoring the rack during seismic events*
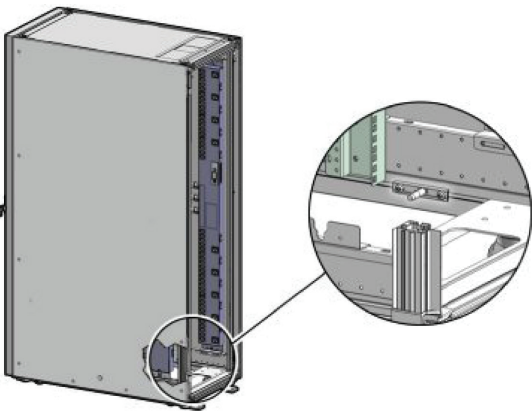
3 Attach a ground cable (optional)

A Ensure that the ground cable makes metal-to-metal contact with the attachment point. Remove paint or coating if necessary.

B Attach the ground cable to one of the attachment points at the bottom rear of the system frame.

NOTE: *An additional chassis earth ground cable (not supplied) enables electrical current leakage to dissipate more efficiently.*

Oracle Private Cloud Appliance Quick Start Guide *(part 2)*

ORACLE®
Private Cloud
Appliance

Power On Appliance for the First Time

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4 ### Connect the appliance to the power source

A Review the safety guidelines.
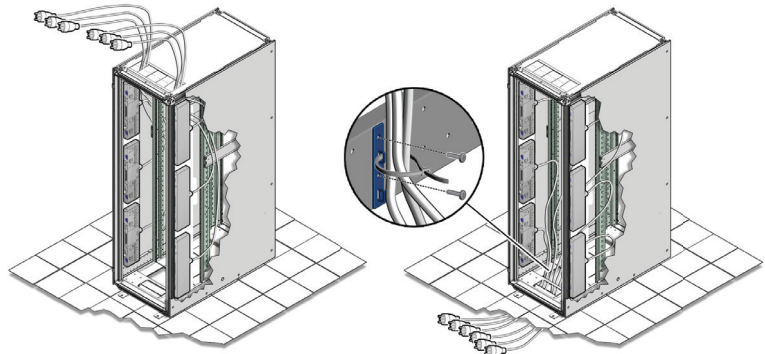Refer to the Section "Review Safety Guidelines" in the *Oracle Private Cloud Appliance Installation Guide.*

B Visually inspect the appliance.

- Check the rack for damage and loose or missing screws.
- Check that cables are securely connected.
- Verify that power cables with appropriate connectors for your power source have been supplied.
- Check the floor tile arrangement for cable access and airflow.
- Check the airflow that leads in to the front of the system. (See **Verify Installation Requirements.**)

C Connect the power cords.

- Open the rear door.
- Remove the cable ties from the power cords.
- Route the power cords to the facility receptacles either above the rack or below the flooring.

- Secure the power cords in bundles.
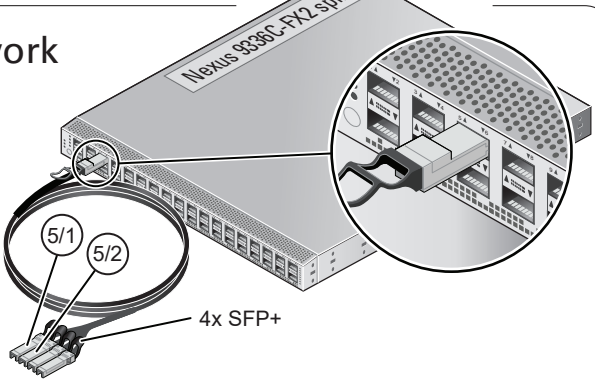- Plug the power distribution unit (PDU) power cords into the facility receptacles.

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5 ### Connect the appliance to the network

A On each spine Cisco Nexus 9336C-FX2 switch, cross-connect **ports 5/1 and 5/2** to your (next-layer) 10GbE data center switches.

WARNING: If these four required cable connections cannot be made, **DO NOT** proceed to the next step. Provisioning will fail without proper data center connectivity.
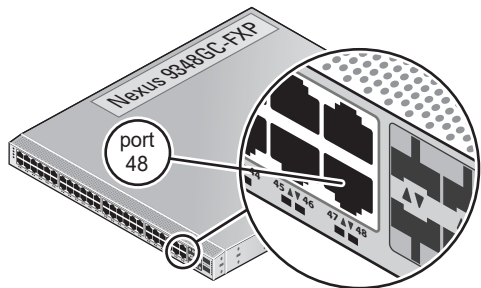
B Connect a workstation with a web browser directly to the management network using an Ethernet cable plugged into **port 48** of the Cisco Nexus 9348GC-FXP Switch.

C Configure the workstation's wired network connection to use the IP address **192.168.4.254**.
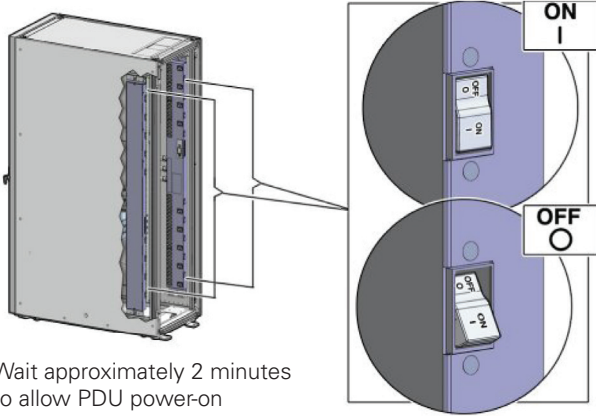
Note: *For advanced network configuration options, refer to the Oracle Private Cloud Appliance Administrator's Guide.*

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6 ### Power on the appliance

A Switch on all PDU circuit breakers located on the rear of the main PDU inside the rack. The circuit breakers are on the rear of the system cabinet.
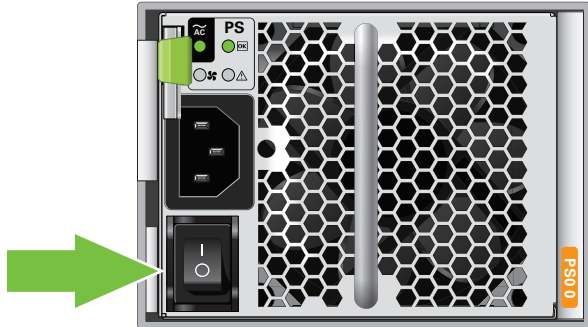

B Wait approximately 2 minutes to allow PDU power-on configuration to complete.

Note: *Appliance infrastructure components without power switches are powered on together with the PDUs.*
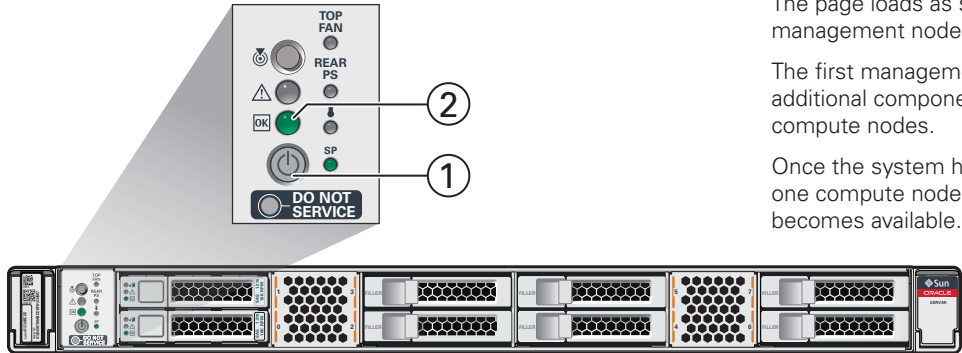
C Make sure that the circuit breakers on the ZFS Storage Appliance Disk Shelf are in the On ("I") position.

Note: *The image shows the circuit breaker on the left power supply. The circuit breaker of the right power supply must also be switched on.*

D Press the Power button (1) located on the front of the first management node (in rack unit 5).

E Wait approximately 5 minutes to allow the management system to power on completely. When complete, the Power/OK LED (2) illuminates and remains a steady green.

F On the workstation, browse to the Private Cloud Appliance Dashboard at: **https://192.168.4.216**.

The page loads as soon as the web server on the management node is running. It has a built-in refresh interval.

The first management node automatically powers on additional components and starts the provisioning of the compute nodes.

Once the system has discovered and provisioned at least one compute node, the Hardware View in the web interface becomes available.

As compute nodes are provisioned, their status changes to green, indicating that they are ready.

Note: *The provisioning of the first compute node is completed approximately one hour after the first management node is powered on. The provisioning of a full base rack takes up to five hours.*


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Oracle Private Cloud Appliance Quick Start Guide *(part 2)*

Configure Appliance

7 Log in to the Dashboard

A   Using the browser on the workstation, connect to the Oracle Private Cloud Appliance Dashboard at *https://192.168.4.216.*

B   Log in to the Dashboard.
The default user name is *admin*; the password is *Welcome1.*

C   Open the Hardware View.

Wait for the indication that all components are up and running and all compute nodes have completed the provisioning process.
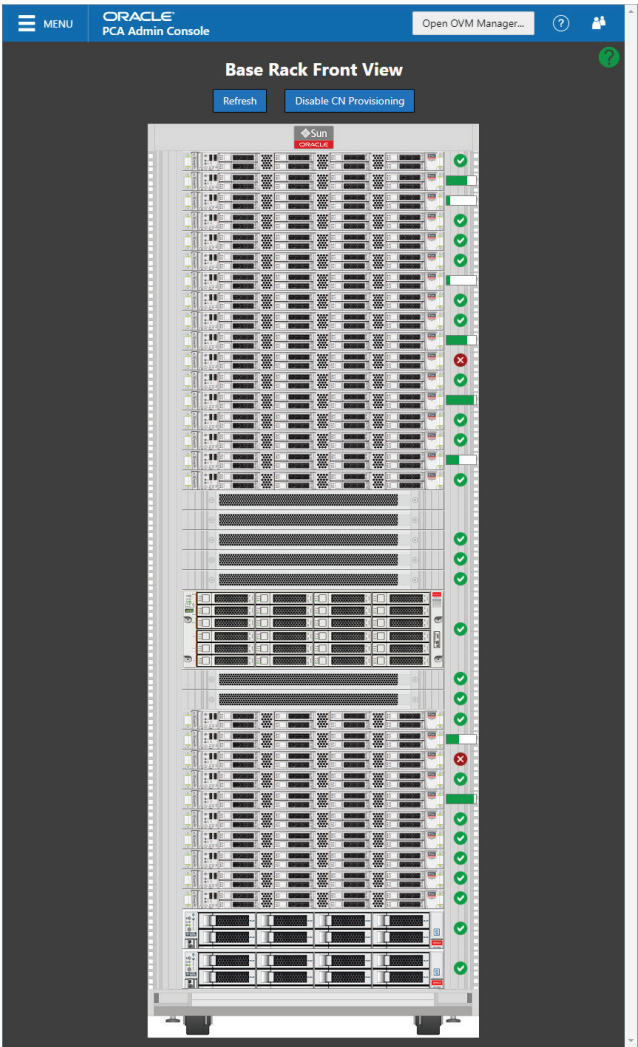
8 Configure system parameters

A   Using the Dashboard, configure the system's network environment parameters.

B   Open the Network Environment window and replace the default configuration with the required settings for your data center. You collected this information in the **Network Requirements** section near the beginning of this *Quick Start Guide*.

- In the *Management Nodes* tab, enter the reserved IP addresses and host names for both management nodes. Also enter the shared virtual IP address for the management node cluster. It ensures that you always connect to the management node with the master role.

- In the *Data Center Network* tab, enter the management network domain name, netmask, default gateway and NTP server. If applicable, enter the management VLAN ID. Otherwise, make sure that Management Network VLAN is deselected.

- In the *DNS* tab, enter up to three DNS servers. One entry is mandatory.

D   Enter the current appliance password and click Apply Changes. During network reconfiguration, connectivity is lost temporarily.

E   Reconnect to the Private Cloud Appliance Dashboard at the new virtual IP address of the management node cluster: *https://<virtual_ip>:7002/dashboard.*

F   If an update is available for the factory-installed appliance software, you may download the package from My Oracle Support (https://support.oracle.com). Refer to the section "Update" in the *Oracle Private Cloud Appliance Administrator's Guide.*

G   Complete the configuration process. For security reasons, always replace default passwords. For detailed instructions, refer to the *Oracle Private Cloud Appliance Administrator's Guide.*
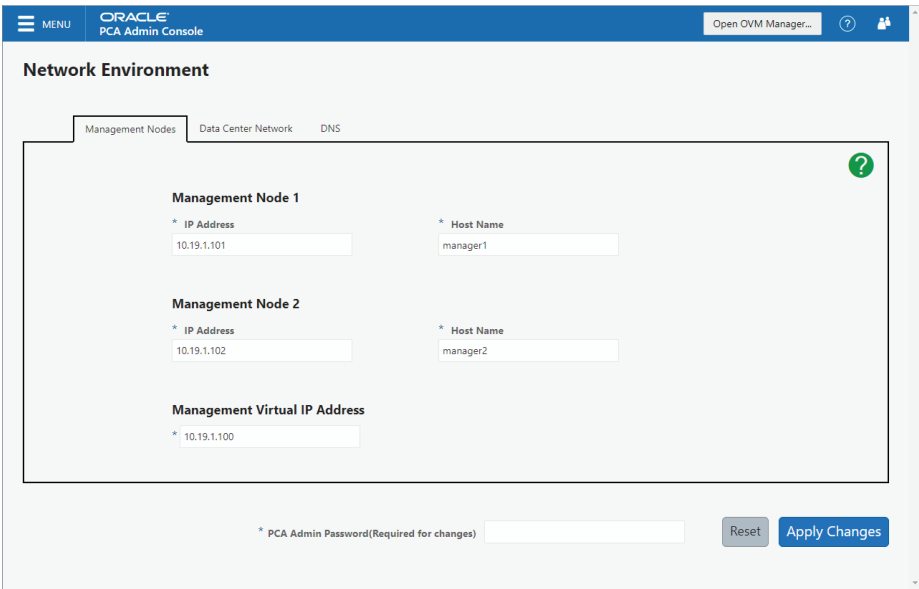
9 What's next?

Additional Resources
For more detailed instructions and information about safely using, maintaining, updating and expanding the system, refer to the online product documentation library.

Oracle Help Center
For up-to-date product information, downloads and documentation, visit the Oracle Private Cloud Appliance product pages.
Enter this URL: http://www.oracle.com/technetwork/server-storage/private-cloud-appliance/, or scan the QR code.

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