

Installing the OVA

Prerequisites

- Log in to the IP address of a VMware ESXi server running 6.5 and above via a web browser with your user credentials (username and password).
- Ensure that you meet the VMware server machine (VM CPU and memory) requirements as listed below.
  - 24 GB memory
  - 4 vCPUs
  - Hard disk: 450 GB

To install the OVA:

Attention From IoT FND 4.12 onwards, use the following credentials for SSH access after installing OVA. The existing credentials username/password (root/cisco123) is disabled for 4.12 and later releases:

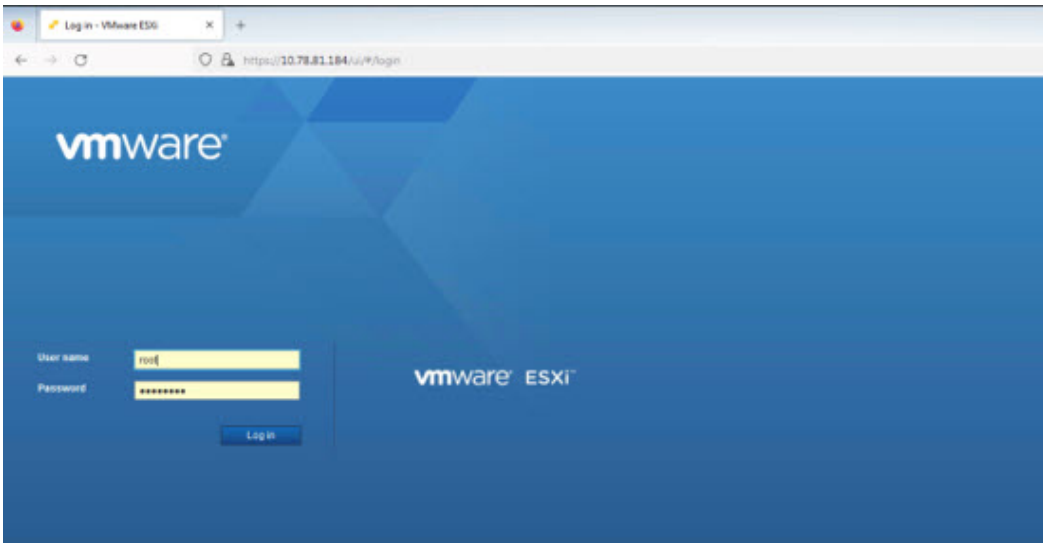
- Username: fnduser
- Password: C!sco123

See Step 10 for guidelines to reset the default password.

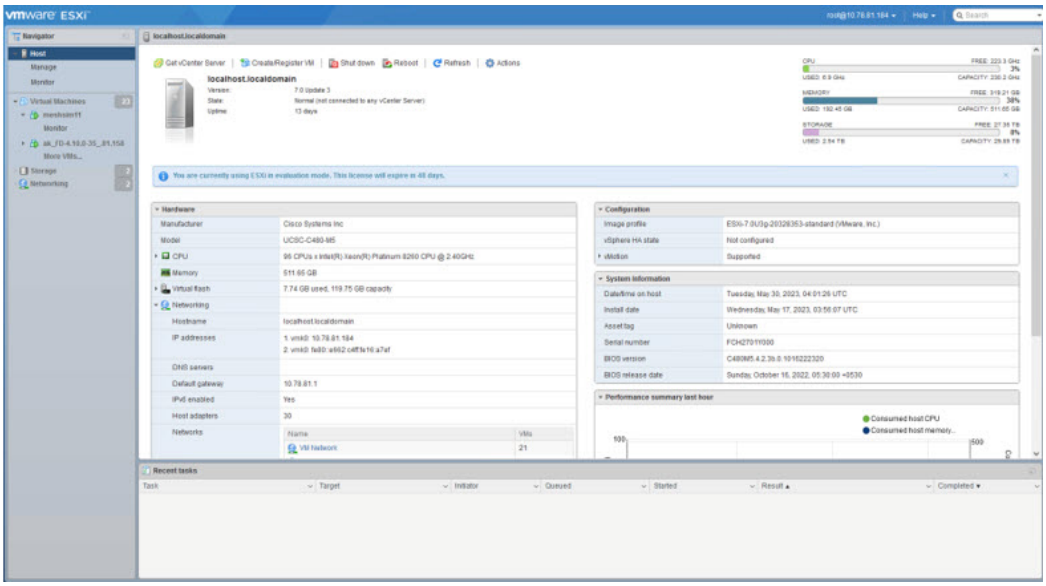
Procedure

Step 1 Log in to the IP address of a VMware ESXi server running 6.5 and above via a web browser with your user credentials (username and password).

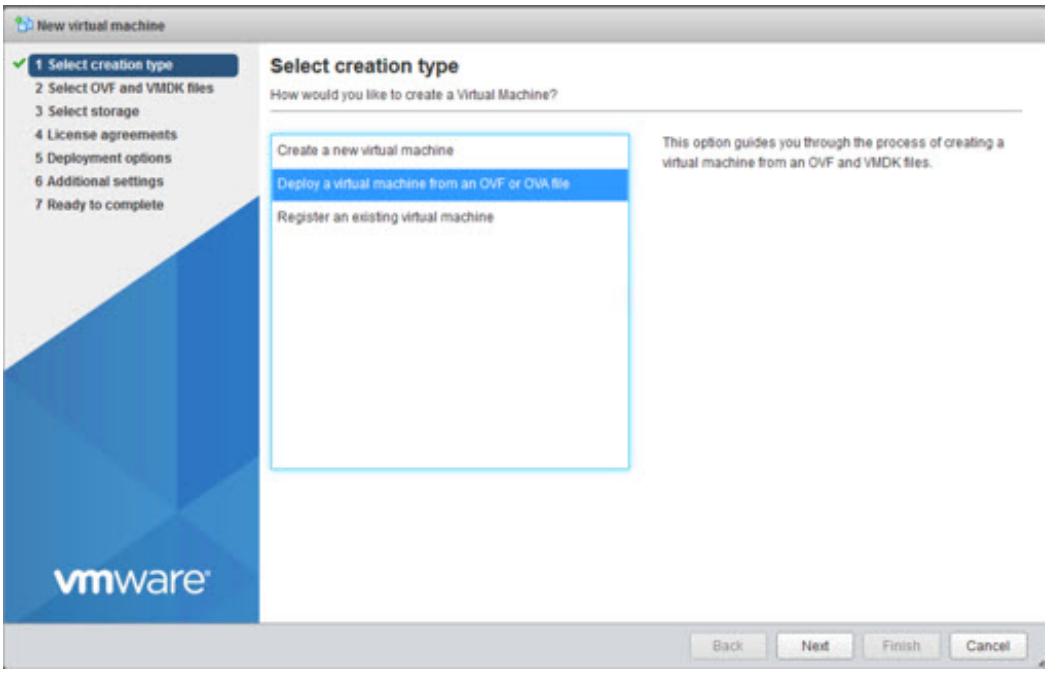
a) Enter the ESXi IP address in the URL.
b) Provide the ESXi root login credentials and click **Log In**.



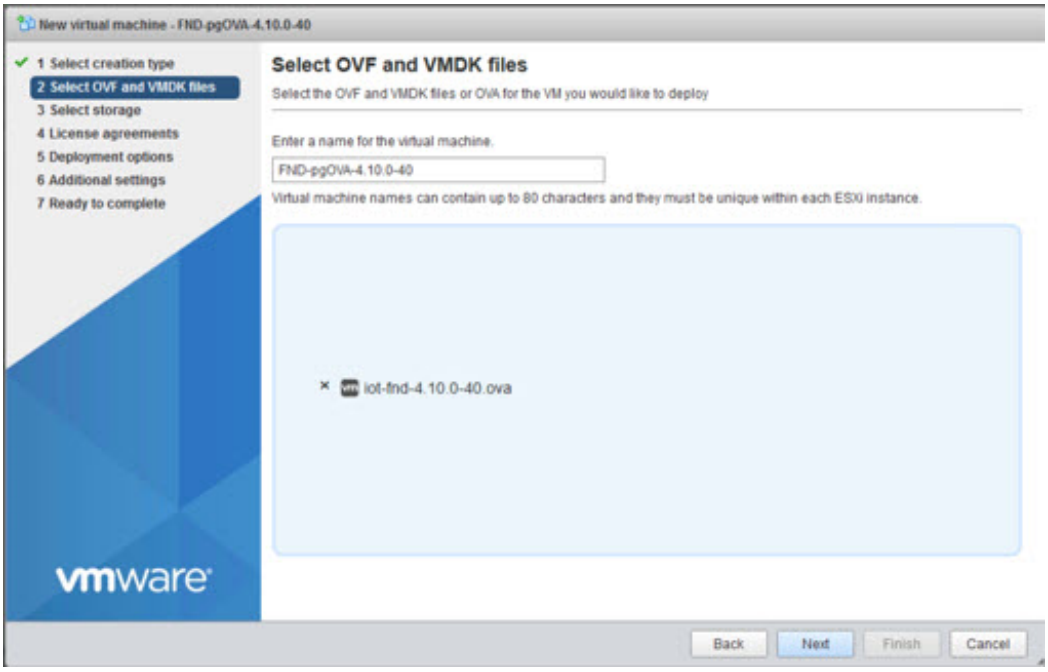
Step 2 In the Host page, select **Create/ Register VM**.



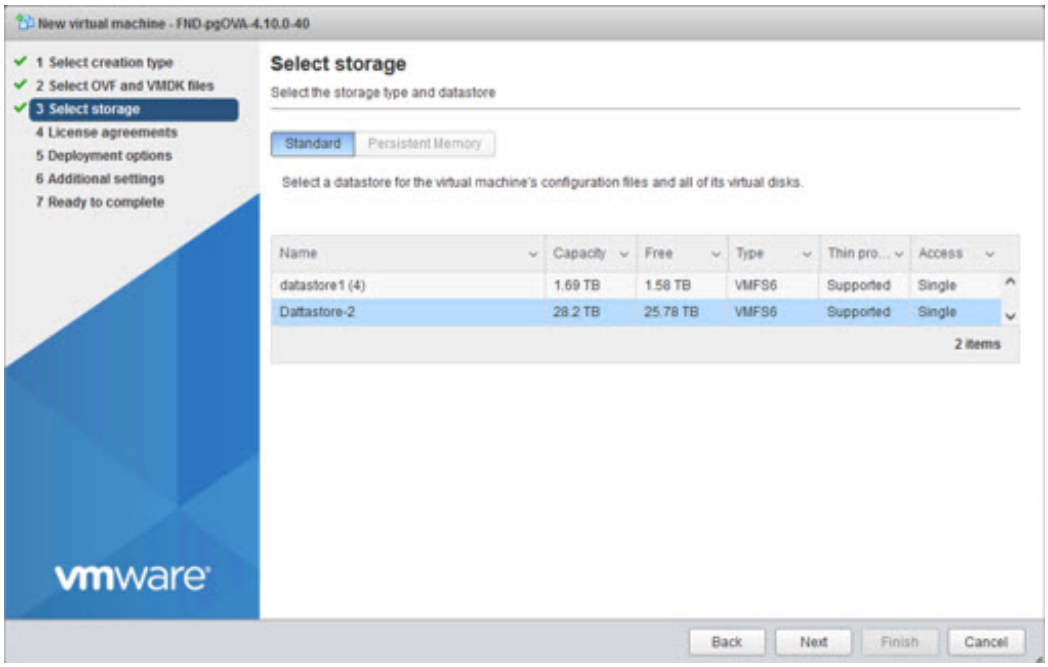
Step 3 In the New virtual machine window, select **Deploy a virtual machine from an OVF or OVA file** in Select creation type tab and click **Next**.



Step 4 In the Select OVF and VMDK files tab, provide a name for the virtual machine and browse to an OVF package from the internet or a file accessible from your computer (for example, iot-fnd-4.10.0-40.ova). Click **Next**.



Step 5 Select a storage location for the virtual machines from the listed options (example - Datastore-2).



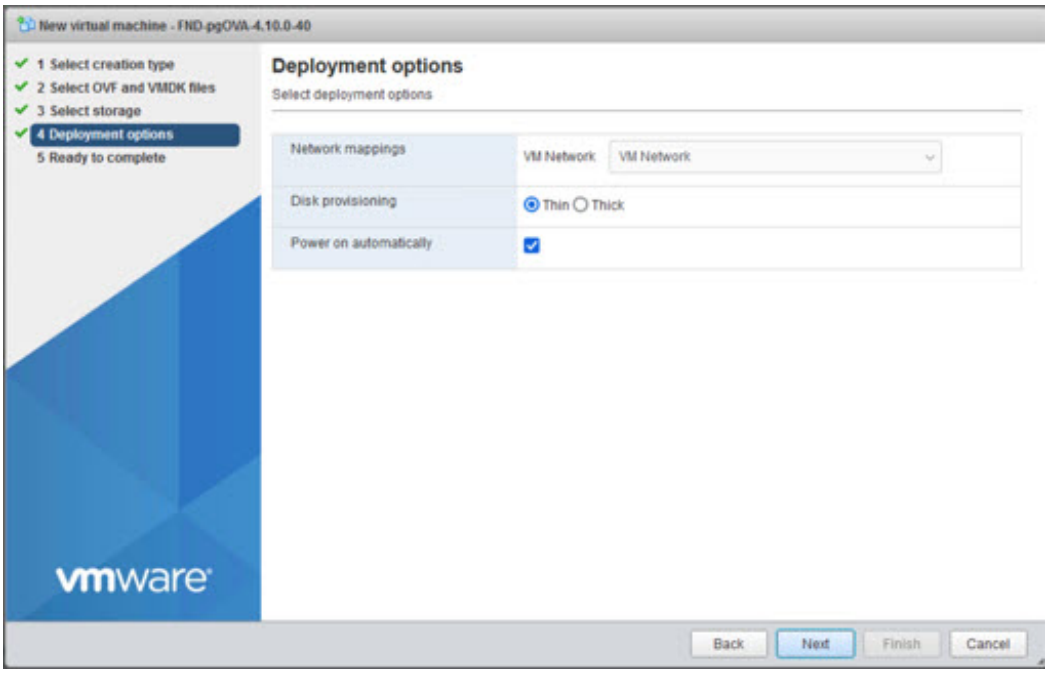
Step 6 After selecting the data store, select the provisioning type and enable the **Power on automatically** option. This ensures to power on the virtual machine once the deployment process is complete. Click **Next**.

Note

- Thick Provisioning — Absolute reservation on the disk space. For the IoT FND OVA deployment, the disk space required is 600 GB on the ESXi server.
- Thin Provisioning — The disk space grows on demand. For the IoT FND OVA deployment, the disk space is approximately 50 GB initially and the disk space occupied by VM will grow as per the scale of deployment.

Note

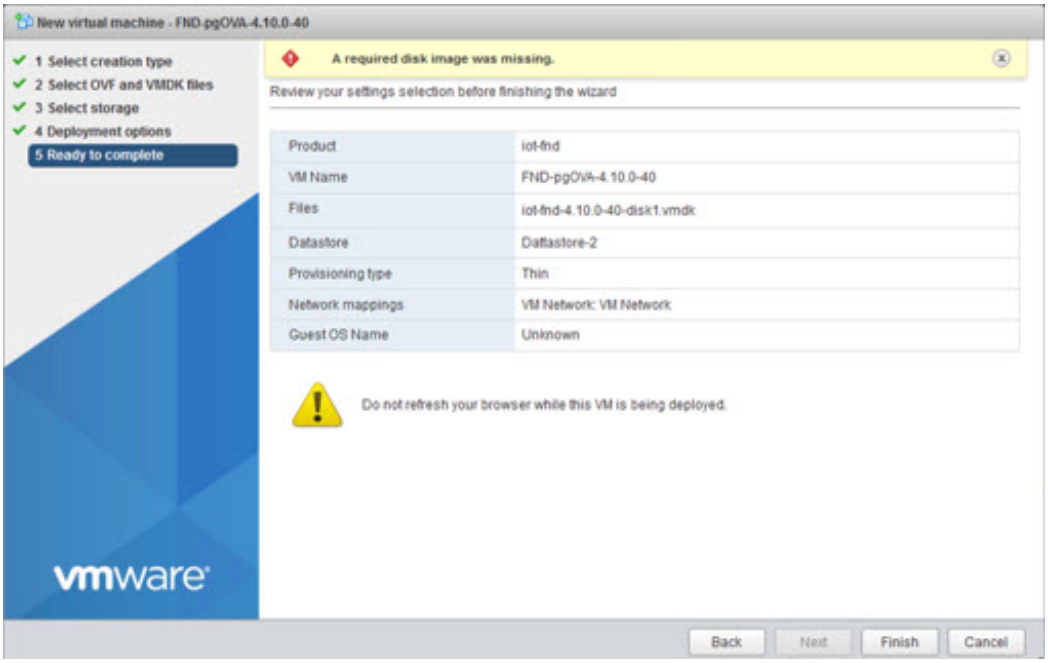
If the selected storage location does not have sufficient storage for the largest file installation option, a message displays noting insufficient storage. If the warning message appears, select another storage resource with greater capacity and click **Next**.



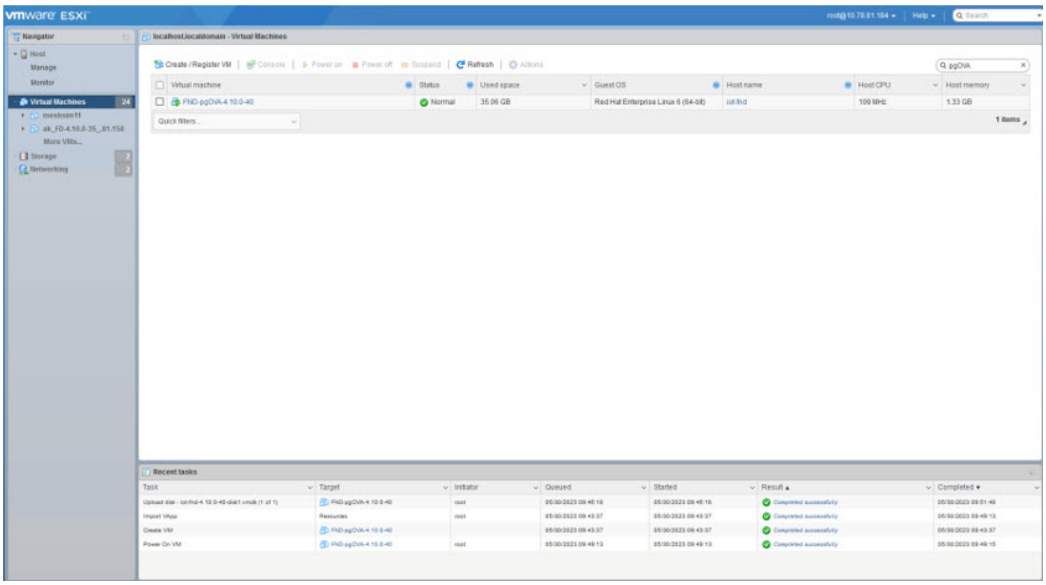
Step 7 Do a final review of the **Ready to Complete** window. If you do not want to change any settings, click **Finish**.

Note
If you see the following warning message while deployment, then cancel the upload, disconnect the Esxi from vCenter Server (**Actions** > **Disconnect from vCenter Server**) and then re-upload OVA. The upload will be successful.

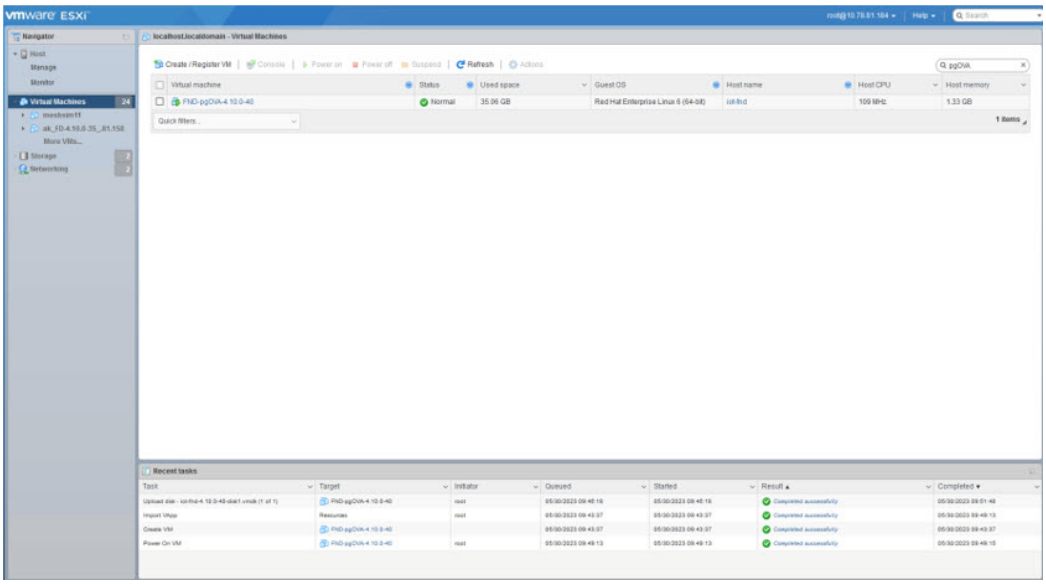
"Failed: Access to resource settings on the host is restricted to the server that is managing it 'vCenter Server IP'"



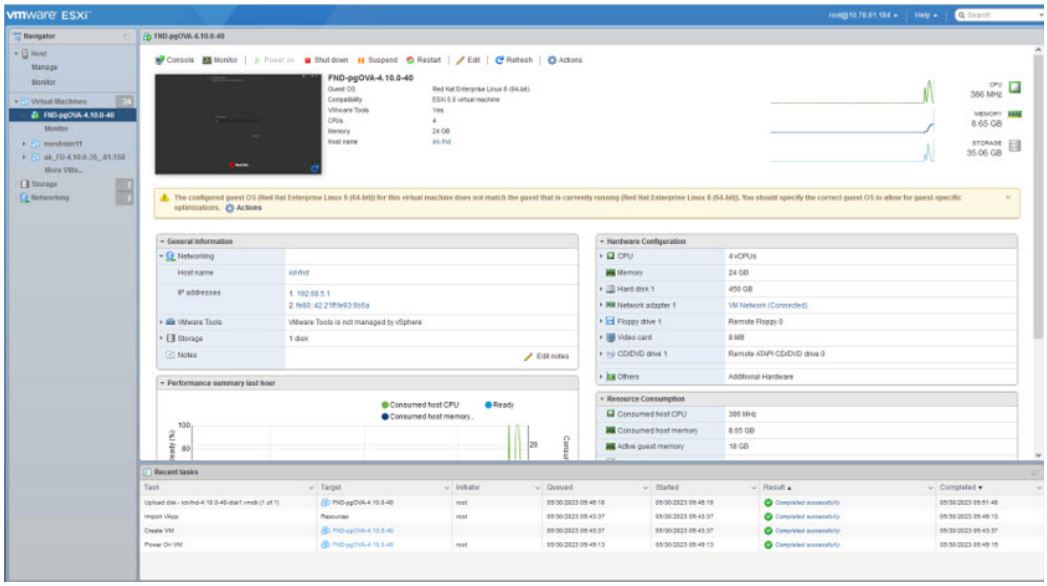
The virtual machine deployment is initiated. After completion of the install, the "Completed successfully" message appears in the Recent tasks pane at the bottom of the install window.



Step 8 Click Virtual Machines in the left pane and select the newly deployed VM.



Step 9 The deployed VM gets listed in the left pane. Select the IoT FND machine name.



Step 10 Click **Console** and login with root/cisco123 once the OS is up. Once you enter the default password, you are prompted to reset your password.

Important
From IoT FND release 4.12 onwards:

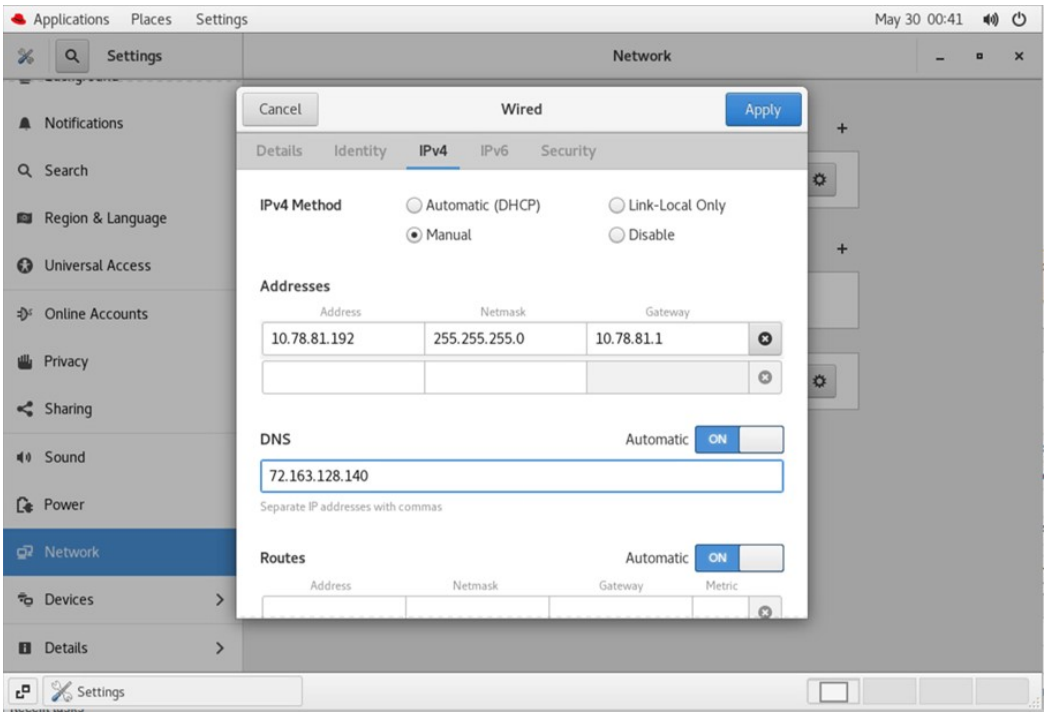
- The default root user password is C!sco123.
- The following conditions are applicable to reset the default password.
  - The password must be at least 8 characters in length
  - The password must have at least 1 uppercase character
  - The password must have at least 1 lowercase character
  - The password must have at least 1 special character
  - The password must have at least 1 digit
  - The password cannot be the same as any of the previous 5 passwords used

Step 11 Reset the default root password. After you complete the password reset, IoT FND is fully deployed. From FND 4.12 release, the conditions mentioned in Step 10 are applicable to reset the default password.

Step 12 Once logged in, navigate to **Applications > System Tools > Settings > Network**.

Step 13 Click the cog icon under Wired, navigate to IPv4 tab to assign a static IP address or set up a DHCP server in the network.

- Under IPv4 tab, select the method as Manual and provide the IPv4 address as below and click **Apply**.
- Set up a valid, reachable working DNS server on the Host VM. (mandatory) Use this IP address to access the FND GUI.



Important
Follow the same steps for TPS OVA installation as well. In order to upgrade the TPS OVA, delete the existing TPS and reinstall the TPS OVA `iot-tps-version_number.ova` with the updated version number.

Step 14 Open a terminal window, and set up Health Monitoring for the Fog Director Container from FND.

```
[root@iot-fnd ~]# cd /opt/monitor/
```

```
[root@iot-fnd monitor]# ./setup.sh
Setup health metrics monitor for App Management Servers
Enter FND Username: root
Enter FND Password:
Successfully configured health metrics monitor for App Management Servers
```

After completing these steps, IoT FND starts monitoring the Fog Director container on the **ADMIN > SERVERS** page.

- Configuring Hostnames in Cisco IoT FND and TPS Servers, on page 8
- Configure NTP Server and IP Host Entries on HER Devices, on page 9

Configuring Hostnames in Cisco IoT FND and TPS Servers

During onboarding Cisco IoT FND. you can configure domain names in the */etc/hosts* file. Use this configuration for the Zero Touch Deployment (ZTD) and Plug and Play (PNP) of FAR devices. The domain name helps in resolving FND or TPS hostname with an IP address. They help in communicating with FND.

To configure hostnames in FND and TPS servers follow the steps given.

Procedure

Step 1 Edit hostname in the */etc/hosts* file.

Example:

```
root@iot-fnd ~]# nano /etc/hosts
```

This will display the */etc/hosts* file which you can edit by adding or updating hostnames with corresponding IP addresses.

Step 2 Enter the domain name for the host IP address separated by a space or a tab.

Example:

```
209.165.200.225  fnd.iot.cisco.com
209.165.201.1  tps.iot.cisco.com
```

Step 3 Save the changes by selecting **Y** and exit.

Step 4 Validate the updated hostname using the command given in the example.

Example:

```
[root@iot-fnd-oracle ~]# ping fnd.iot.cisco.com
64 bytes from fnd.iot.cisco.com (209.165.200.225): icmp_seq=1 ttl=64 time=0.052 ms
64 bytes from fnd.iot.cisco.com (209.165.200.225): icmp_seq=2 ttl=64 time=0.058 ms
64 bytes from fnd.iot.cisco.com (209.165.200.225): icmp_seq=3 ttl=64 time=0.048 ms
```

The updated hostname is displayed along with the corresponding IP address.

Step 5 To view the hostnames with the corresponding IP addresses, use the command given in the example.

Example:

```
[root@iot-fnd ~]# cat /etc/hosts
127.0.0.1  iot-fnd-oracle localhost localhost.localdomain localhost4 localhost4.localdomain4
::1        iot-fnd-oracle localhost localhost.localdomain localhost6 localhost6.localdomain6
209.165.200.225  fnd.iot.cisco.com
209.165.201.1  tps.iot.cisco.com
```

Configure NTP Server and IP Host Entries on HER Devices

Configure the NTP server and IP host entries on a HER device to enhance manageability of your network infrastructure. Here are the instructions to configure NTP server and IP host entries on HER devices:

Configure NTP Server

1. Access the HER device using the SSH terminal.
2. Enter the global configuration mode:

   ```
   config t
   ```

3. Use the `ntp server` command to specify the IP address or hostname of the NTP server. Here are some examples:

   ```
   ntp server 192.168.1.100
   ```

```
ntp server ntp.example.com
```

4. Exit the configuration.

   Here's an example output:

   ```
   config t
   ntp server 192.168.1.100
   exit
   ```

Configure IP Host Entries

1. Access the HER device using the SSH terminal.
2. Enter the global configuration mode:

   ```
   config t
   ```

3. To remove an existing IP host entry, use the `no` form of the `ip host` command:

   ```
   no ip host caserver.fnd.iot.com 192.168.1.100
   ```

4. Add the new IP address for the hostname:

   ```
   ip host caserver.fnd.iot.com 192.168.1.100
   ```

5. Repeat steps 3 and 4 for any other host entries you need to update.
6. Exit the configuration.

   Here's an example output:

   ```
   config t
   ip host fndserver.fndiot.com 192.168.1.100
   exit
   ```