



Configure Cisco IoT FND on OVA

- [Configure IPv6 Tunnel Provisioning and Registration, on page 1](#)
- [Start and Stop Cisco IoT FND on OVA, on page 2](#)
- [Start and Stop Fog Director, on page 3](#)
- [Obtain Statuses of All the Services Running on the Host, on page 4](#)
- [Configure Time and Timezone Using NTP Service, on page 4](#)
- [Configure NTP Services, on page 5](#)

Configure IPv6 Tunnel Provisioning and Registration

Use the following steps to To setup an IPv6 network for tunnel provisioning and registration:

Before you begin

Cisco IoT FND OVA supports only IPv4 tunnels and Registration out of the box.

Procedure

- Step 1** Ensure you have one interface with a valid IPv6 network which has a IPv6 prefix length less than 125. Here's an example from the ens224 interface:

Example:

```
[root@iot-fnd ~]# ifconfig ens224
ens224: flags=4163[UP,BROADCAST,RUNNING,MULTICAST] mtu 1500
inet 2.2.56.117 netmask 255.255.0.0 broadcast 2.2.255.255
inet6 fe80::54f0:5d24:d320:8e38 prefixlen 64 scopeid 0x20[ink]
inet6 2001:420:7bf:5f::1522 prefixlen 64 scopeid 0x0[global]
ether 00:0c:29:18:1b:3a txqueuelen 1000 (Ethernet)
RX packets 97618 bytes 12391774 (11.8 MiB)
RX errors 1001 dropped 1011 overruns 0 frame 0
TX packets 3004 bytes 568097 (554.7 KiB)
TX errors 0 dropped 0 overruns 0 carrier 0 collisions 0
```

- Step 2** Run the ./setup-IPv6-network.sh script in the /opt/fnd/scripts directory to obtain the FND IPv6 address on the router for tunnel provisioning and registration.

Example:

```
[root@iot-fnd scripts]# ./setup-IPv6-network.sh

Starting IPv6 network setup...

Loading configuration file: /opt/fnd/config/network.conf

Checking current network settings...

Configuring network interface for IPv6...

Assigning IPv6 address...

IPv6 address successfully assigned: 2001:0db8:85a3:0000:0000:8a2e:0370:7334

Verifying network connectivity...

IPv6 setup complete. Network is now configured for IPv6 communication.
```

Note

While specifying the IPv6 address for the network-mgmt-bridge, provide an interface name and a valid IPv6 address (and IP address prefix length) that is in the subnet of the provided host interface. If IPv6 address is in a different subnet, the IPv6 tunnel provisioning and registration will not be successful.

You've configured tunnel provisioning and registered with Cisco IoT FND.

Start and Stop Cisco IoT FND on OVA

Use the **fnd-container.sh {start|stop|status|restart}** script in the following directory to start, stop, obtain status, and restart Cisco IoT FND:

Procedure

Step 1 In the SSH terminal, run the following command to change the directory to where the script is located:

Example:

```
cd /opt/fnd/scripts/
```

Step 2 Execute the following command to start the Cisco IoT FND container:

Example:

```
./fnd-container.sh start

Starting FND container...
FND container started successfully.
```

Step 3 To stop the FND container, run:

Example:

```
./fnd-container.sh stop

Stopping FND container...
FND container stopped successfully.
```

Step 4 To obtain the current status of the FND container, use:

Example:

```
./fnd-container.sh status  
  
Checking FND container status...  
FND container is currently running.
```

Step 5 To restart the FND container, use:

Example:

```
./fnd-container.sh restart  
  
Restarting FND container...  
FND container restarted successfully.
```

Start and Stop Fog Director

Use the **fogd-container.sh {start|stop|status|restart}** script in the following directory to start, stop, obtain status, and restart Fog Director:

Procedure

Step 1 In the SSH terminal, run the following command to change the directory to where the script is located:

Example:

```
cd /opt/fnd/scripts/
```

Step 2 Execute the following command to start the Fog Director:

Example:

```
./fogd-container.sh start  
  
Starting fogd container...  
fogd container started successfully.
```

Step 3 To stop the Fog Director container, run:

Example:

```
./fogd-container.sh stop  
  
Stopping fogd container...  
fogd container stopped successfully.
```

Step 4 To obtain the current status of the Fog Director container, use:

Example:

```
./fogd-container.sh status  
  
Checking fogd container status...  
fogd container is currently running.
```

Step 5 To restart the Fog Director container, use:

Example:

```
./fogd-container.sh restart
```

```
Restarting fogd container...
Fog container restarted successfully.
```

Obtain Statuses of All the Services Running on the Host

Use the following instructions to obtain all the statuses of services running on the host:

Procedure

Step 1 Using SSH terminal, run the following command to change the directory to where the scripts are located:

Example:

```
cd /opt/scripts
```

Step 2 Execute the script to check the status of all services:

Example:

```
./status.sh

Service Status Report
-----
- Apache: Running
- MySQL: Running
- Docker: Stopped
- SSH: Running
- Firewall: Running
-----
Total services: 5
Running: 4
Stopped: 1
```

Configure Time and Timezone Using NTP Service

The `timedatectl` command is used to manage date and time settings. You should execute this command on the **host VM** where your docker containers are running. This is because docker containers typically rely on the host system time settings unless specifically configured otherwise.

Use the following steps to configure date and time settings:

Procedure

Step 1 Use SSH or another remote access method to log into the host VM where Docker is installed.

Step 2 Run the `timedatectl` command:

Example:

```
timedatectl set-time 15:30:00
Local time: Fri 2023-10-06 15:30:00 UTC
    Universal time: Fri 2023-10-06 15:30:00 UTC
        RTC time: Fri 2023-10-06 15:30:00
        Time zone: UTC (UTC, +0000)
System clock synchronized: yes
    NTP service: active
    RTC in local TZ: no
```

The example output confirms that the local time has been set to 15:30:00. If you see this time reflected in the `Local time` field, the command was successful

Configure NTP Services

Configuring an NTP server ensures accurate time synchronization across network devices, enhancing security, data integrity, application performance, compliance, and troubleshooting efficiency.

To configure the NTP server:

Procedure

Step 1 Open the terminal on Cisco IoT FND or the TPS server.

Step 2 Run the following command to edit the `chrony.conf` file:

Example:

```
nano /etc/chrony.conf
```

This command opens the file in the nano text editor, displaying the current configuration details.

Step 3 Add the NTP server IP address:

Example:

```
server 209.165.200.225
```

Replace 209.165.200.225 with the actual IP address of your desired NTP server.

Step 4 Save and exit.

Step 5 Restart the chrony service to apply the changes using the following command:

Example:

```
systemctl restart chronyd
```

Step 6 Verify the configured NTP server details using the following command:

Example:

```
chronyc sources
```

```
MS Name/IP address         Stratum Poll Reach LastRx Last sample
=====
^* 209.165.200.225          2    10   377   915   +17us[ +19us] +/-   21ms
```

