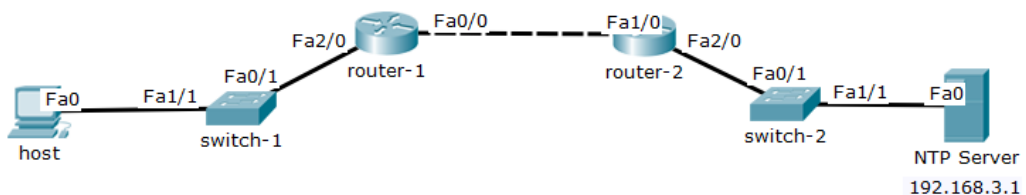


Network Time Protocol (NTP)

Lab Summary

Configure and verify Network Time Protocol (NTP) service on all routers.

Figure 1 Lab Topology



Lab Configuration

Start Packet Tracer File: **NTP**

Step 1: Click *Router-1* icon and select the *CLI* folder. Press <enter> key for user mode prompt.

Step 2: Enter global configuration mode.

```
router-1> enable
password: cisconet
router-1# configure terminal
```

Step 3: Enable NTP on router-1 to receive time synchronization updates from an NTP server .

```
router-1(config)# ntp server 192.168.3.1
router-1(config)# ntp authentication-key 35 md5 cisconet
router-1(config)# ntp trusted-key 35
router-1(config)# ntp authenticate
```

Step 4: Configure the local time zone on router-1 for PST.

```
router-1(config)# clock timezone PST -8
router-1(config)# end
router-1# copy running-config startup-config
```

Step 5: Click *Router-2* icon and select the *CLI* folder. Press <enter> key for user mode prompt.

Step 6: Enter global configuration mode.

```
router-2> enable
password: ciscoet
router-2# configure terminal
```

Step 7: Enable NTP on router-2 to receive time synchronization updates from an NTP server .

```
router-2(config)# ntp server 192.168.3.1
router-2(config)# ntp authentication-key 35 md5 ciscoet
router-2(config)# ntp trusted-key 35
router-2(config)# ntp authenticate
```

Step 8: Configure the local time zone on router-2 for PST.

```
router-2(config)# clock timezone PST -8
router-2(config)# end
router-2# copy running-config startup-config
```

Verify Lab:

Confirm that NTP is synchronized for router-1 and router-2 from the NTP server.

```
router-1# show ntp status
```

Clock is synchronized, stratum 2, reference is 192.168.3.1

nominal freq is 250.0000 Hz, actual freq is 249.9990 Hz, precision is 2**19

reference time is E10EB2BE.0000038A (19:34:22.906 UTC Fri Sep 27

2019) clock offset is 0.00 msec, root delay is 0.00 msec

root dispersion is 0.02 msec, peer dispersion is 0.02 msec.

```
router-2# show ntp status
```

Clock is synchronized, stratum 2, reference is 192.168.3.1

nominal freq is 250.0000 Hz, actual freq is 249.9990 Hz, precision is 2**19

reference time is E10EAE73.000000F9 (19:16:03.249 UTC Fri Sep 27

2019) clock offset is 0.00 msec, root delay is 0.00 msec

root dispersion is 0.02 msec, peer dispersion is 0.02 msec