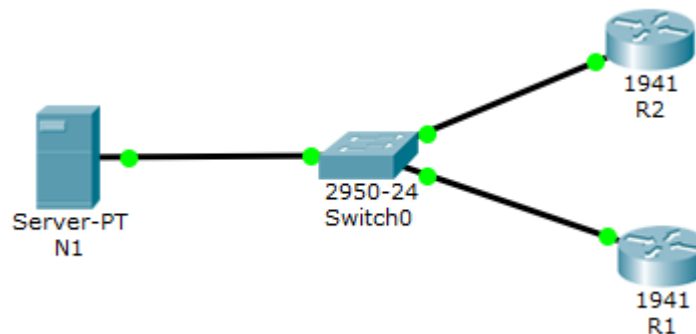


Packet Tracer - Configure and Verify NTP

Topology



Addressing Table

| Device | Interface | IP Address | Subnet Mask |
|--------|-----------|-----------------|---------------|
| N1 | NIC | 209.165.200.225 | 255.255.255.0 |
| R1 | G0/0 | 209.165.200.226 | 255.255.255.0 |
| R2 | G0/0 | 209.165.200.227 | 255.255.255.0 |

Objectives

In this activity, you will configure NTP on R1 and R2 to allow time synchronization.

Background / Scenario

Network Time Protocol (NTP) synchronizes the time of day among a set of distributed time servers and clients. While there are a number of applications that require synchronized time, this lab will focus on correlating events that are listed in the system log and other time-specific events from multiple network devices. NTP uses the User Datagram Protocol (UDP) as its transport protocol. All NTP communications use Coordinated Universal Time (UTC).

An NTP server usually receives its time from an authoritative time source, such as an atomic clock attached to a time server. It then distributes this time across the network. NTP is extremely efficient; no more than one packet per minute is necessary to synchronize two machines to within a millisecond of each other.

Step 1: NTP Server

- Server N1 is already configured as the NTP Server for this topology. Verify its configuration under **Services > NTP**.
- From R1, ping N1 (209.165.200.225) to verify connectivity. The ping should be successful.
- Repeat the ping to N1 from R2 to verify connectivity to N1.

Step 2: Configuring the NTP Clients

Cisco devices can be configured to refer to an NTP server to synchronize their clocks. This is important to keep time consistent among all devices. Configure R1 and R2 as NTP clients so their clocks are

synchronized. Both R1 and R2 will use N1 server as their NTP server. To configure R1 and R2 as NTP clients, issue the commands below:

- a. Use the **ntp server** command to specify an NTP server, as shown below:

```
R1# conf t
```

```
R1(config)# ntp server 209.165.200.225
```

```
R2# conf t
```

```
R2(config)# ntp server 209.165.200.225
```

- b. Check the clock on R1 and R2 again to verify that they are synchronized:

```
R1# show clock
```

```
*12:02:18:619 UTC Tue Dec 8 2015
```

```
R2# show clock
```

```
*12:02:20:422 UTC Tue Dec 8 2015
```

Note: When working on physical routers, allow a few minutes before R1 and R2 clocks are synchronized.

Are the clocks synchronized?