Cisco Packet Tracer

ACTIVITIES

ASSIGNMENT MODULE 2

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Section O

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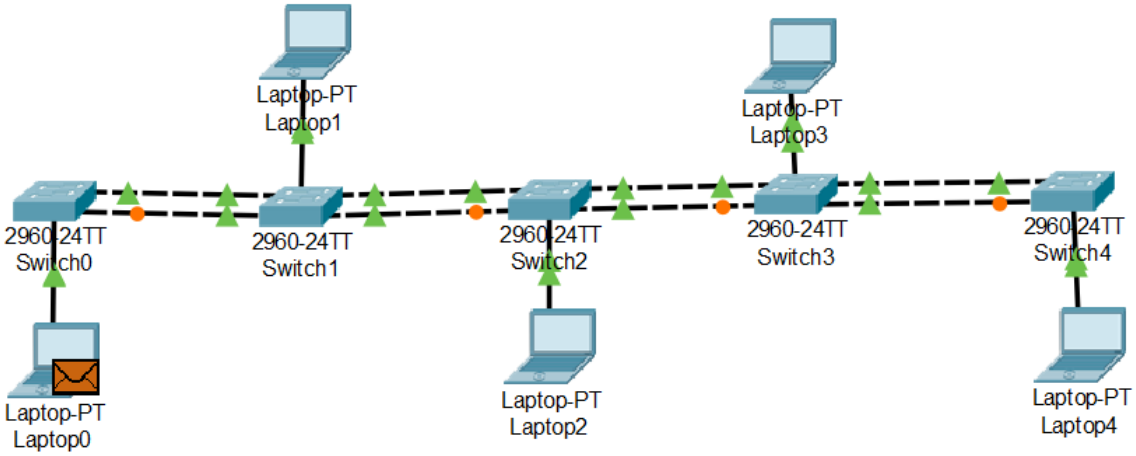
Activity 1

Configure various topologies

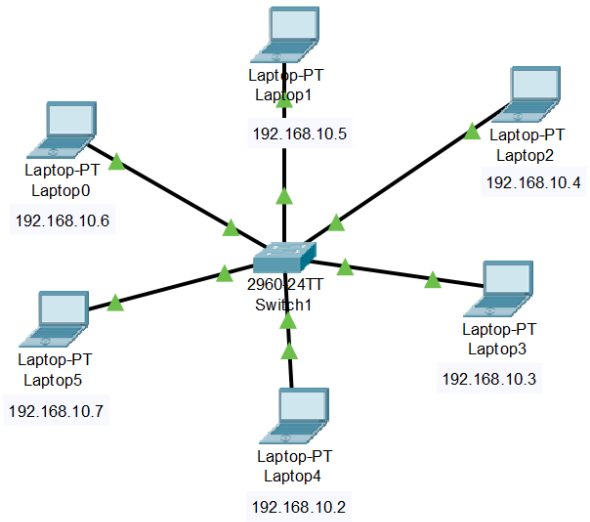
BUS

Topology



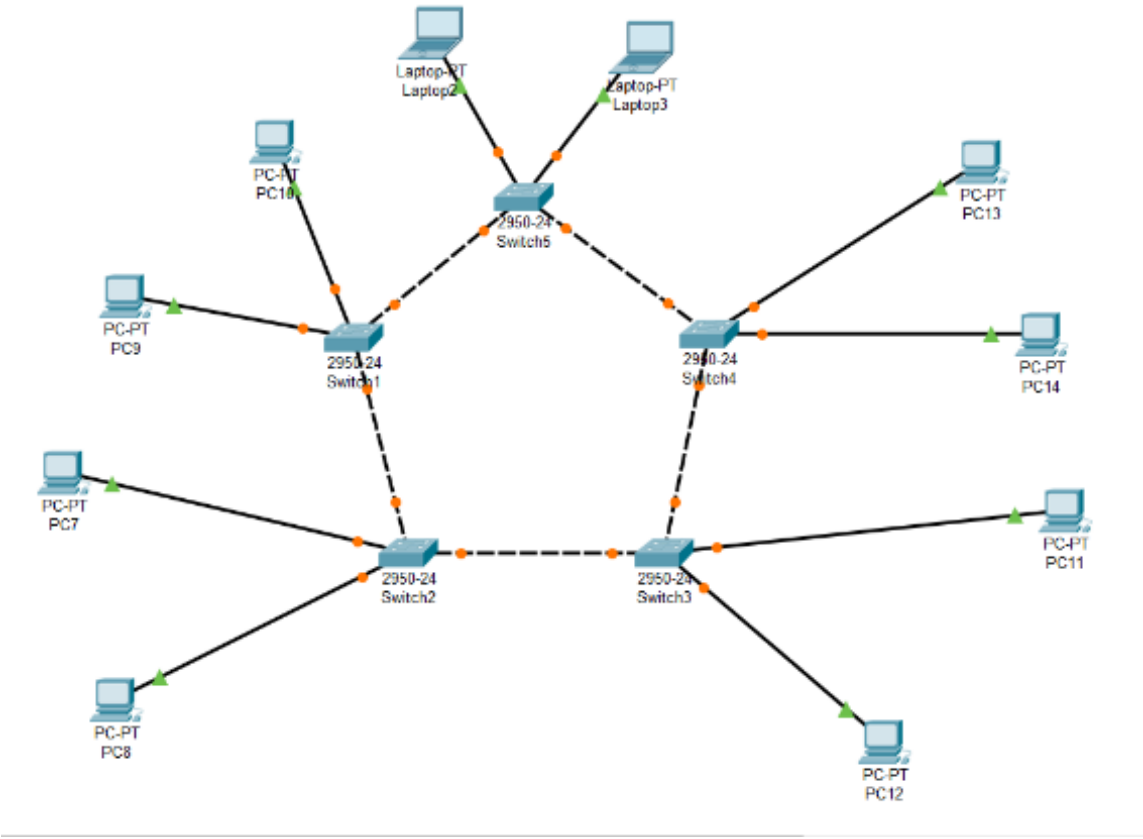
STAR

Topology



RING

Topology



Objective

- Make a Bus Topology.
- Make a Ring Topology.
- Make a Star Topology.

Step 1: Set up the network topology

a. Add many generic PCs.
b. Connect each PC to switches using ethernet cables as shown.
c. Connect Switches to Switches wherever required.

d. Double Click on any Laptop/Desktop, in order to configure the network parameters.
e. Enter the IP address for each PC:
f. Go to Desktop Tab
g. Enter the IP Configurations Setting.
h. Enter the IP address, Subnet Mask and Default-Gateway.

Step 2: Verify connectivity

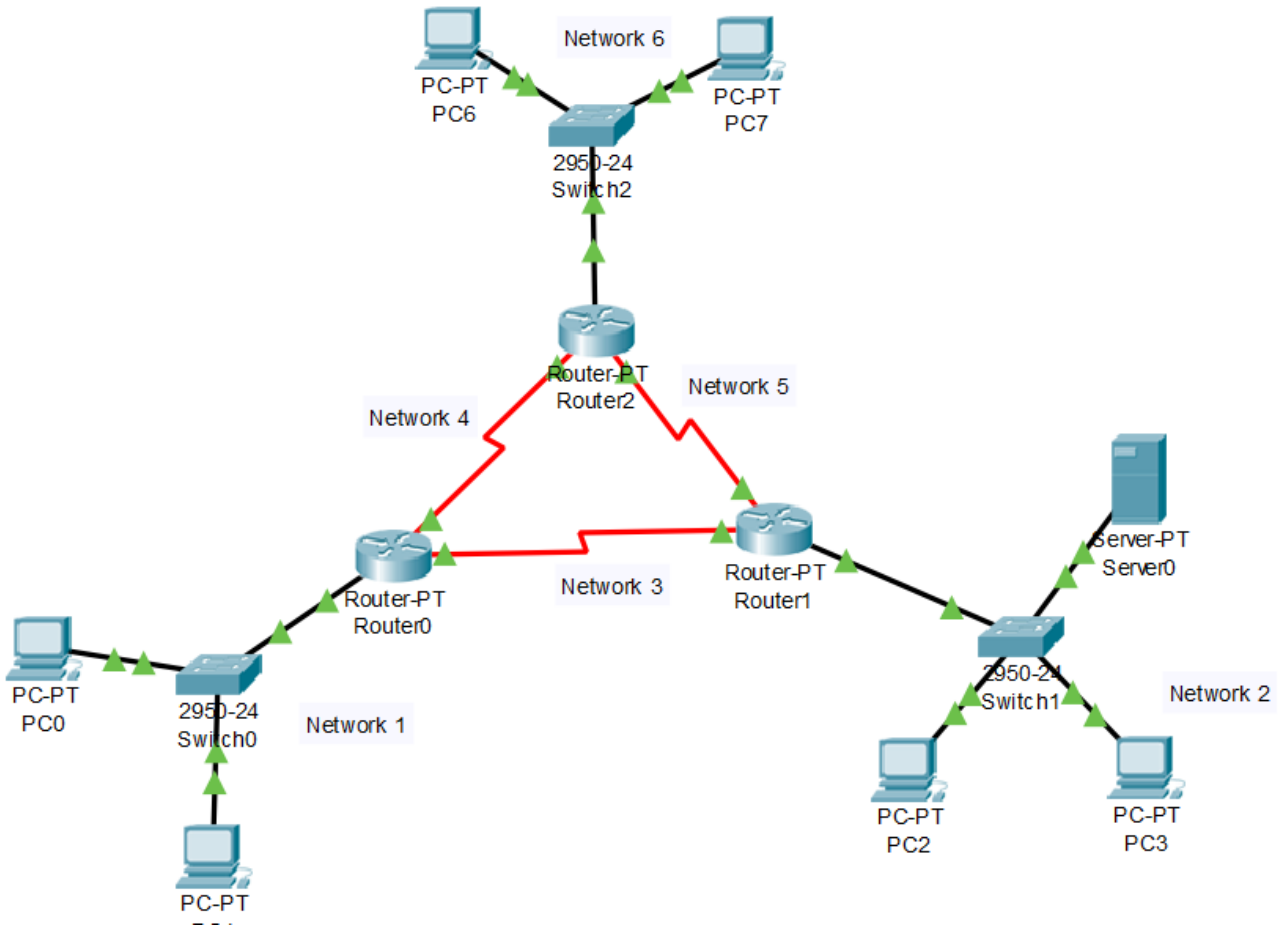
a. Click **any PC** and select the **Desktop** tab.
b. Select **Command Prompt**.
c. Type **ipconfig** at the prompt to view the IP configuration.
d. Type **ping 192.168.X.X** to ping the from any device to **192.168.X.X**.

   The pings to all devices should be successful.

Activity 2

Connecting 3 networks using routers. Also, configure DHCP and DNS server.

Topology



Objective

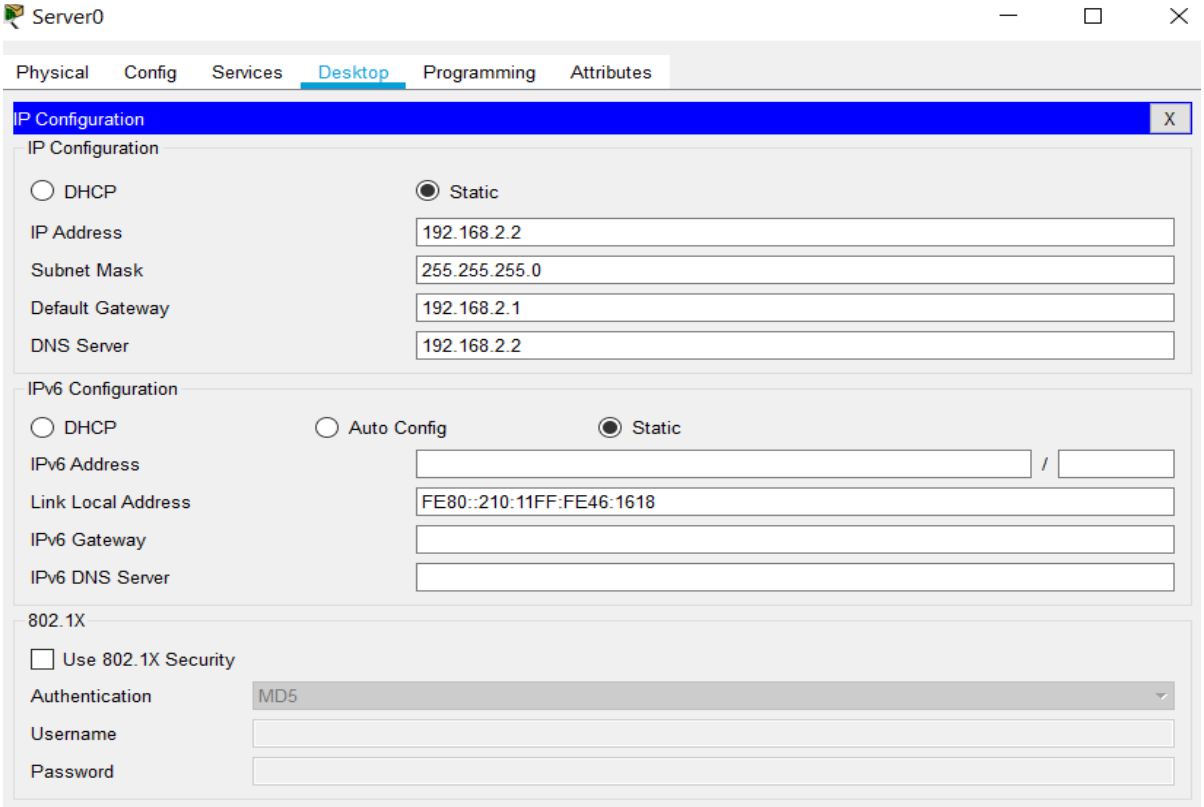
- Configure 3 routers.
- Configure DHCP.
- Configure DNS.

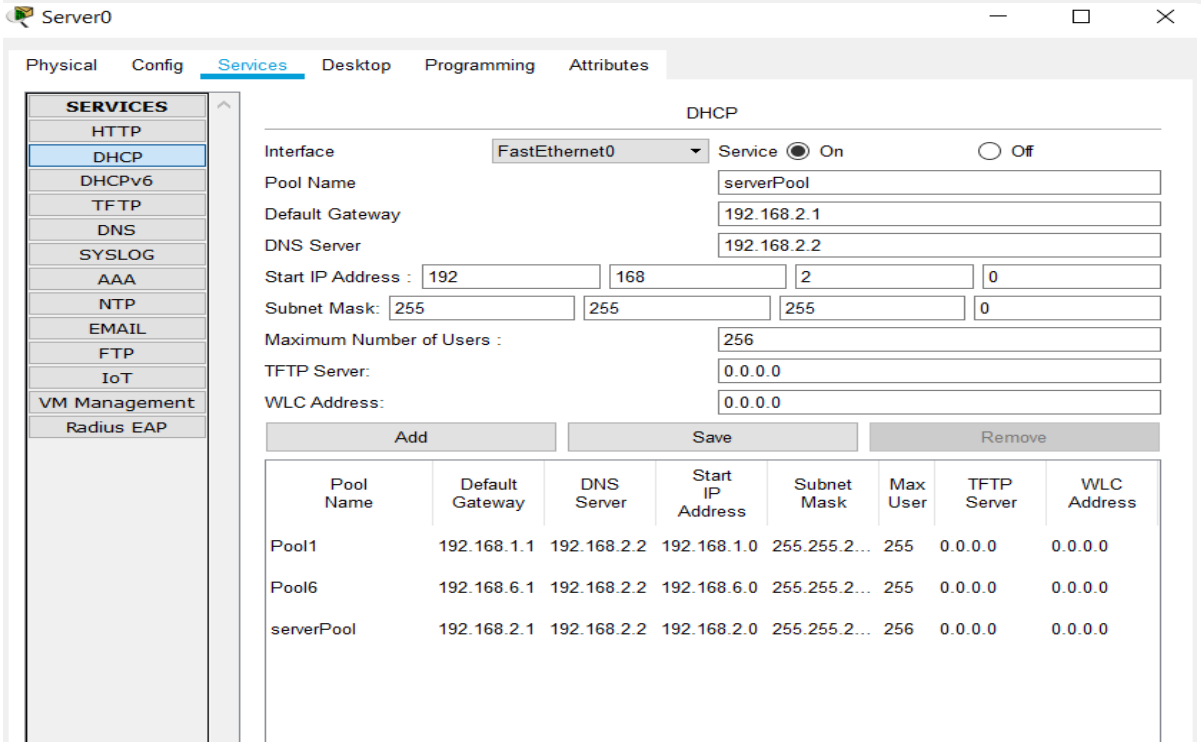
Steps: Set up the network topology

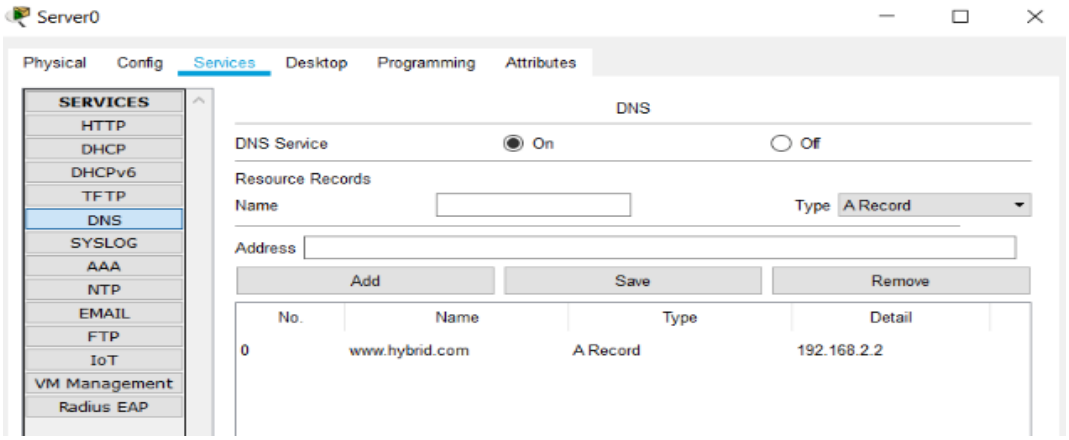
a. Setup the Topology as Shown.

b. Configure routers.

c. Configure DHCP and DNS Server as:





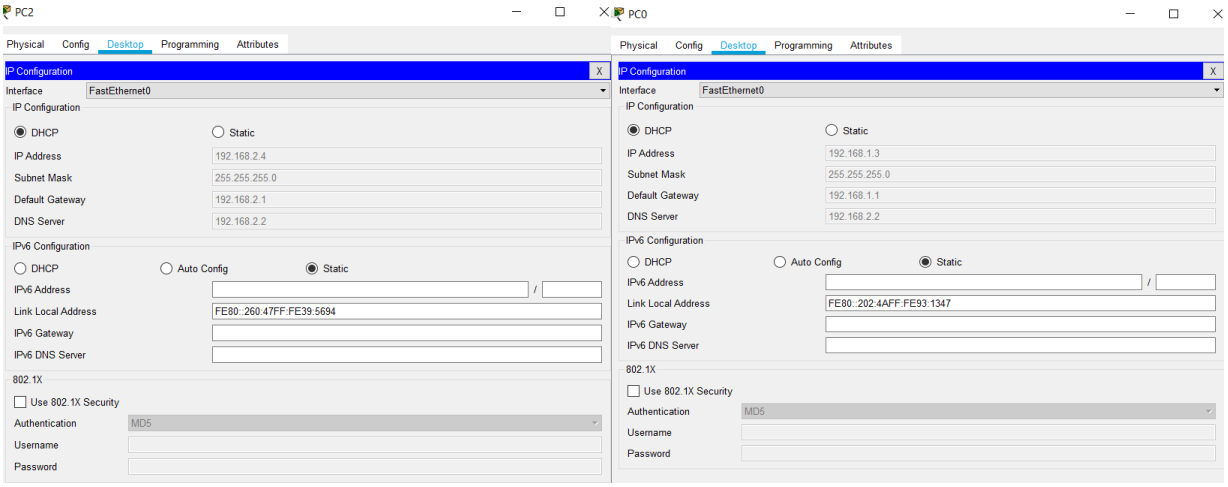


d. **Most Important:** Go to each router and run following commands:

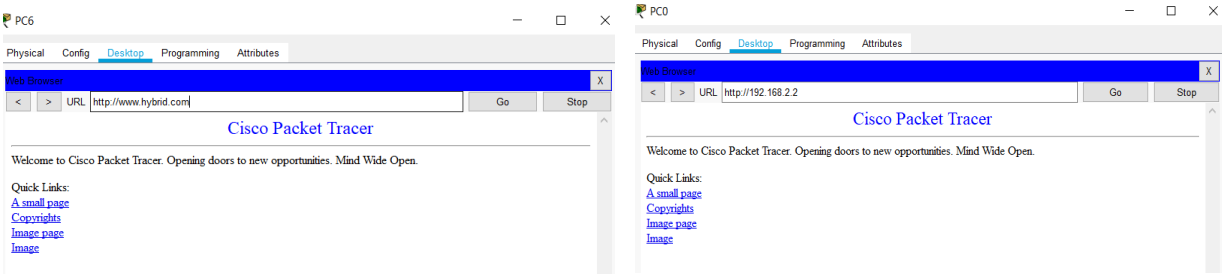
```
enable
configure terminal
interface FastEthernet0/0
ip helper-address 192.168.2.2
```

e. Set IP assignment to DHCP for every host.

IPs will be automatically assigned as:



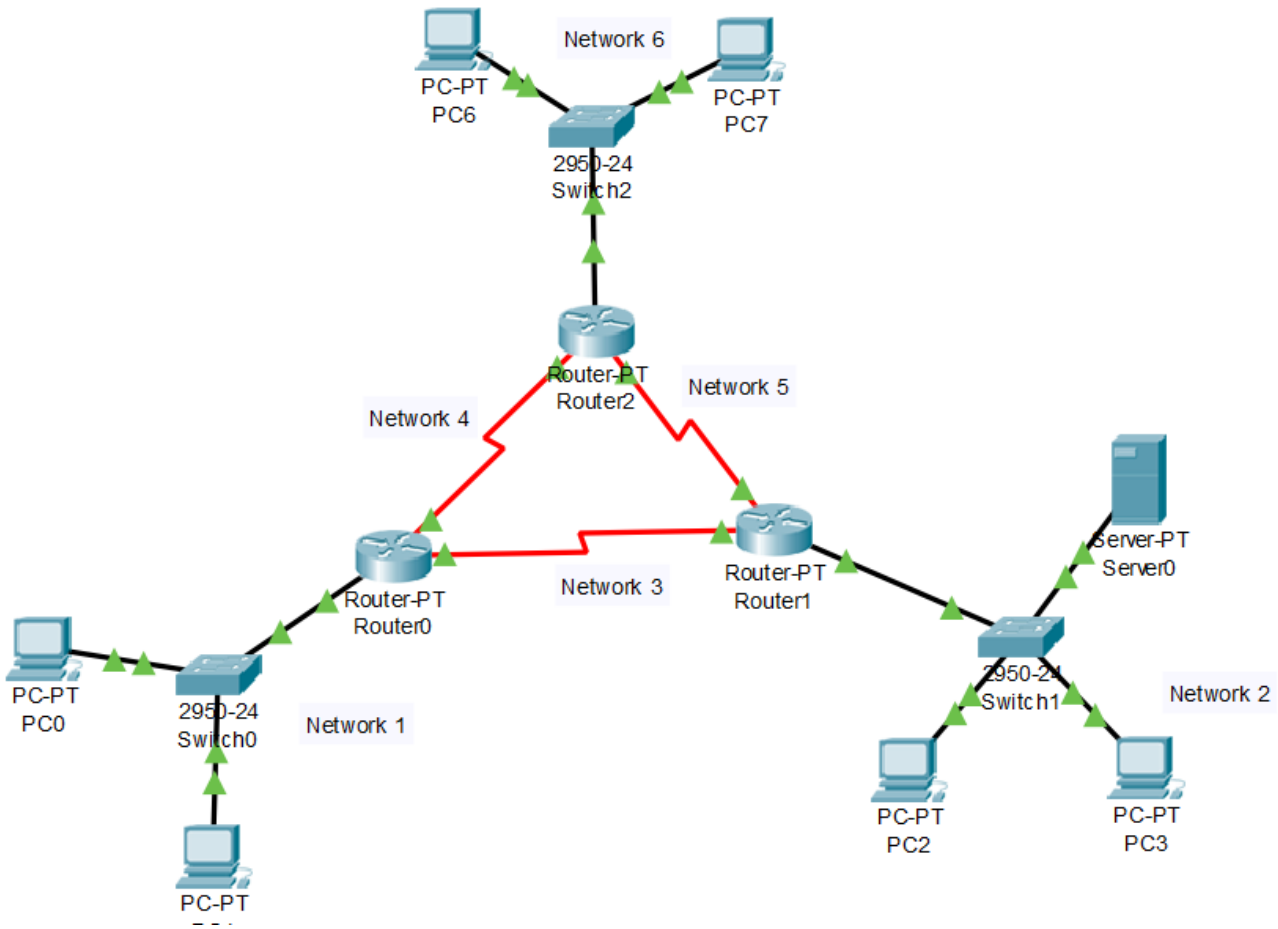
f. Check DNS server as:



Activity 3

Configuration of different Application services (SMTP, FTP, HTTP, TFTP, DHCP & DNS).

Topology



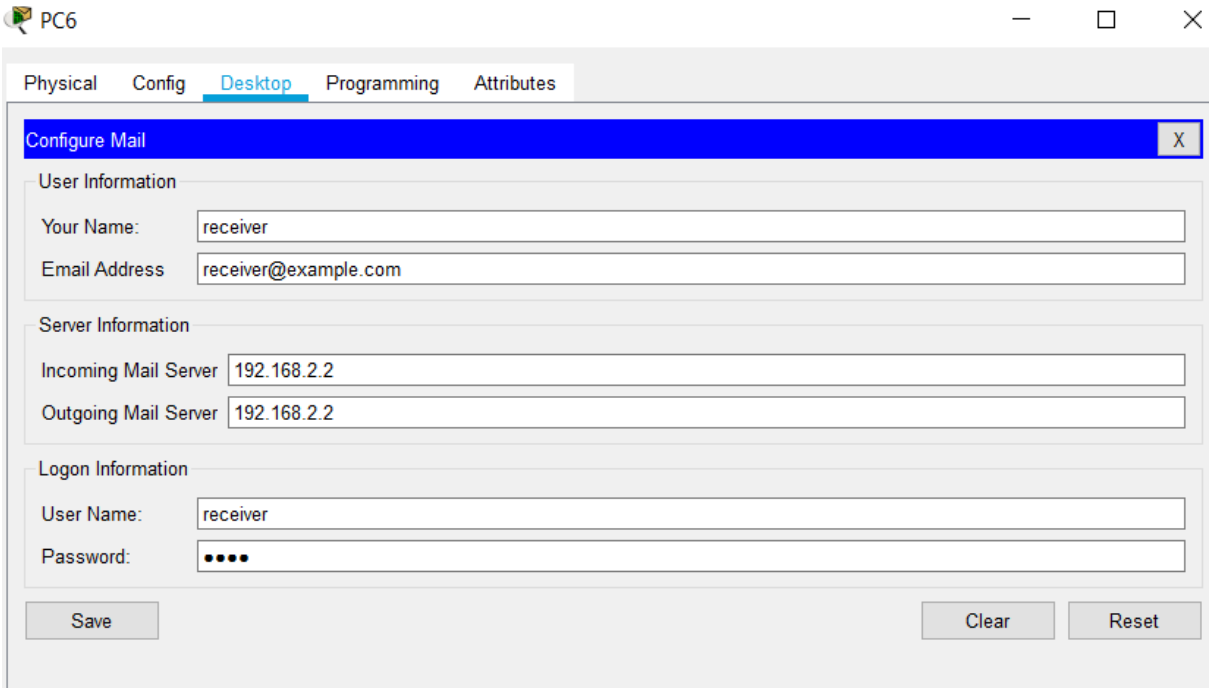
Objective

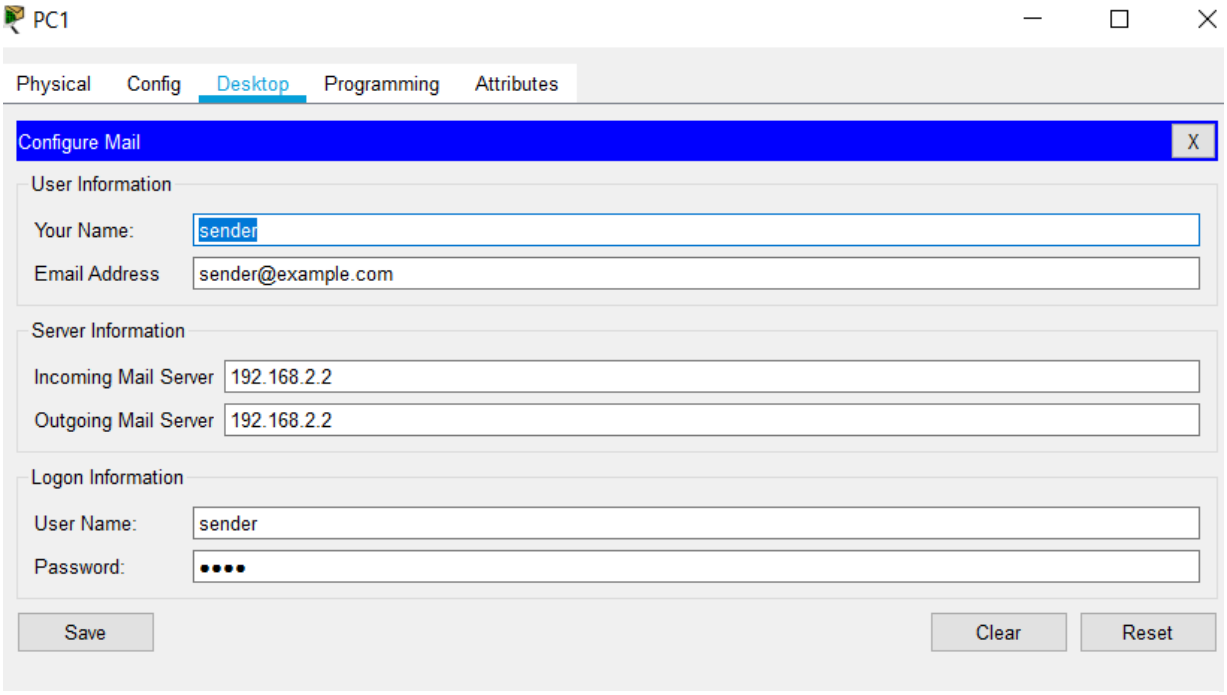
- Send Mails.
- Access FTP.
- Access HTTP(Browser).

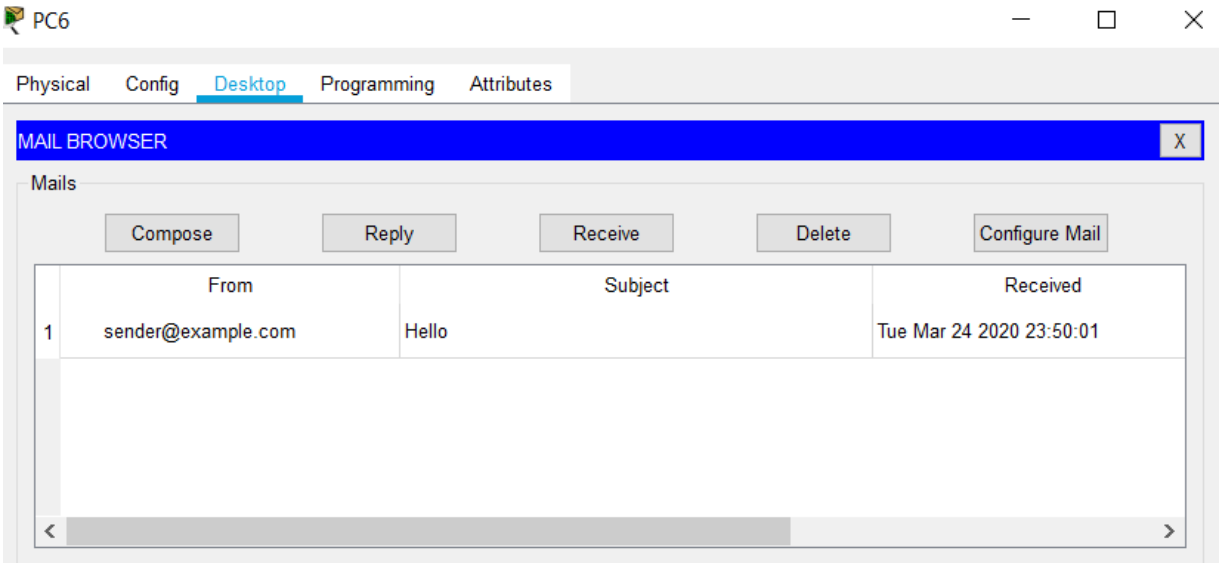
Steps: Set up the network topology

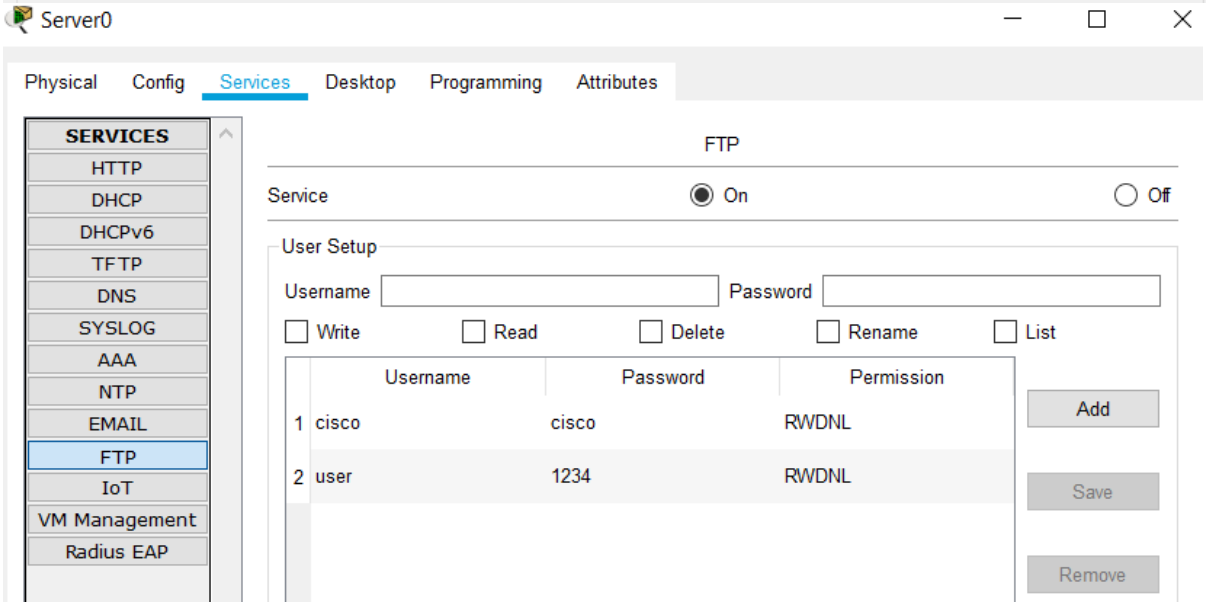
a. Setup same topology as Activity 3.
b. Configure **Mail Server**.
c. Setup Domain name.
d. Add 2 users with username and password.
e. Setup Desktop/Mail on 2 hosts and login with the accounts.
f. Send mail from one to another.
g. Configure **FTP Server**.
h. Add account as earlier.
i. Go to any host/Desktop/Command Prompt.

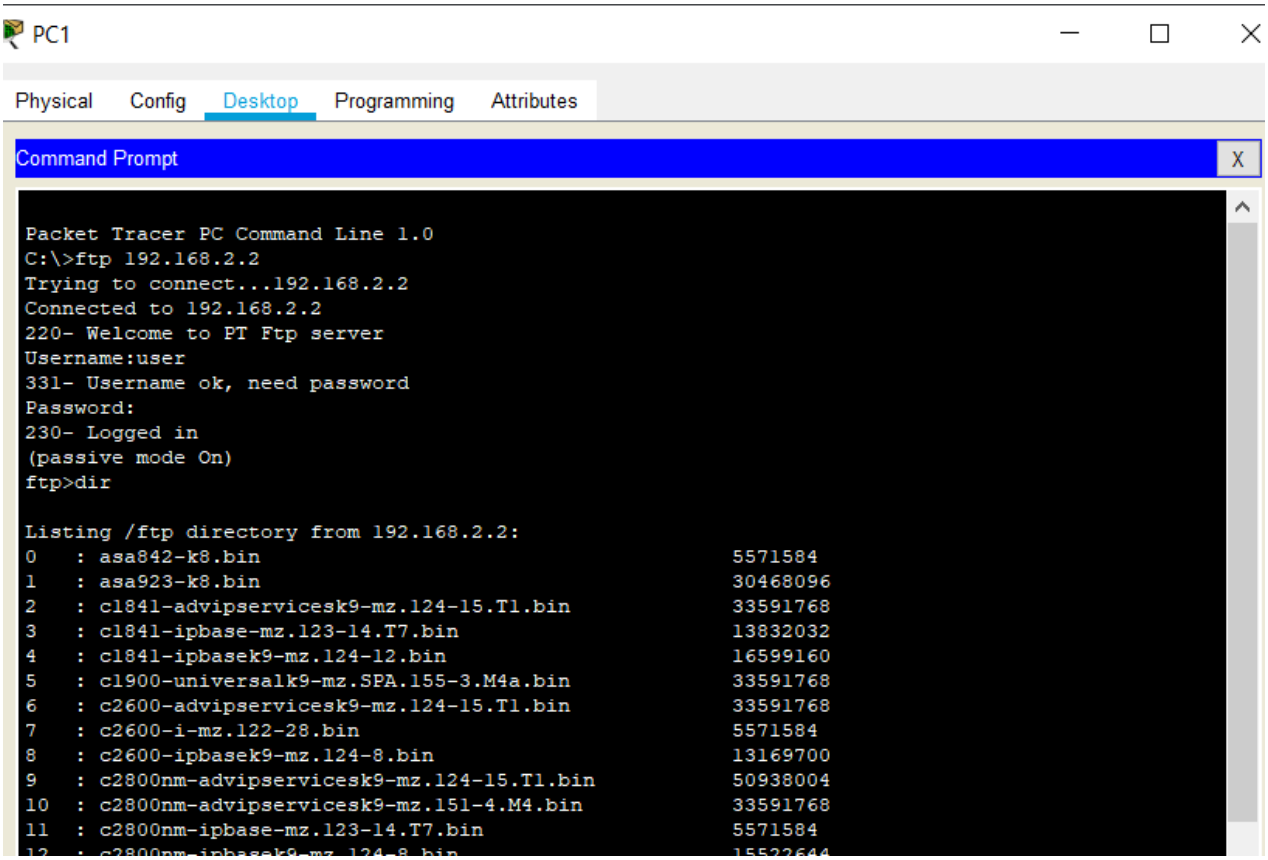
```
ftp 192.168.2.2
enter username and password
use command dir
```




PC1
Physical
Config
Desktop
Programming
Attributes
Configure Mail
X
User Information
Your Name:
sender
Email Address
sender@example.com
Server Information
Incoming Mail Server
192.168.2.2
Outgoing Mail Server
192.168.2.2
Logon Information
User Name:
sender
Password:
Save
Clear
Reset


PC6
Physical
Config
Desktop
Programming
Attributes
MAIL BROWSER
X
Mails
Compose
Reply
Receive
Delete
Configure Mail
From
Subject
Received
1
sender@example.com
Hello
Tue Mar 24 2020 23:50:01

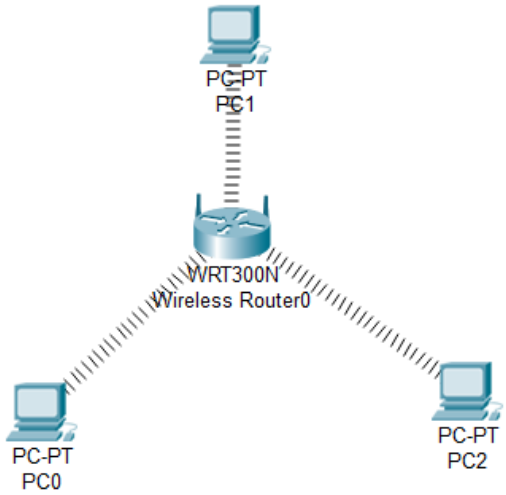

Server0
Physical
Config
Services
Desktop
Programming
Attributes
SERVICES
HTTP
DHCP
DHCPv6
TFTP
DNS
SYSLOG
AAA
NTP
EMAIL
FTP
IoT
VM Management
Radius EAP
FTP
Service
On
Off
User Setup
Username
Password
Write
Read
Delete
Rename
List
Username
Password
Permission
1
cisco
cisco
RWDNL
2
user
1234
RWDNL
Add
Save
Remove


PC1
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Packet Tracer PC Command Line 1.0
C:\>ftp 192.168.2.2
Trying to connect...192.168.2.2
Connected to 192.168.2.2
220- Welcome to PT Ftp server
Username:user
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>dir
Listing /ftp directory from 192.168.2.2:
0 : asa842-k8.bin 5571584
1 : asa923-k8.bin 30468096
2 : c1841-advipservicesk9-mz.124-15.T1.bin 33591768
3 : c1841-ipbase-mz.123-14.T7.bin 13832032
4 : c1841-ipbasek9-mz.124-12.bin 16599160
5 : c1900-universalk9-mz.SPA.155-3.M4a.bin 33591768
6 : c2600-advipservicesk9-mz.124-15.T1.bin 33591768
7 : c2600-i-mz.122-28.bin 5571584
8 : c2600-ipbasek9-mz.124-8.bin 13169700
9 : c2800nm-advipservicesk9-mz.124-15.T1.bin 50938004
10 : c2800nm-advipservicesk9-mz.151-4.M4.bin 33591768
11 : c2800nm-ipbase-mz.123-14.T7.bin 5571584

Activity 4

Configure Wireless Network

Topology



Objective

- Connect 3 PCs to a wireless router
- Change the DHCP setting to a specific network range
- Configure the clients to obtain their address via DHCP

Background / Scenario

A home user wants to use a wireless router to connect 3 PCs. All 3 PCs should obtain their address automatically from the wireless router.

Step 1: Set up the network topology

i. Add three generic PCs.

j. Connect each PC to an Ethernet port to the wireless router using straight-through cables.

Step 2: Observe the default DHCP settings

a. After the amber lights have turned green, click **PC0**. Click the **Desktop** tab. Select **IP Configuration**. Select **DHCP** to receive an IP address from **DHCP Enabled Router**.
Record the IP address of the default gateway: 192.168.0.1
b. Close the **IP Configuration** window.
c. Open a **Web Browser**.
d. Enter the IP address of the default gateway recorded earlier into the URL field. When prompted, enter the username **admin** and password **admin**.
e. Scroll through the Basic Setup page to view default settings, including the default IP address of the wireless router.
Notice that DHCP is enabled, the starting address of the DHCP range and the range of addresses available to clients.

Step 3: Change the default IP address of the wireless router.

a. Within the Router IP Settings section, change the IP address to: **192.168.0.1**.
b. Scroll to the bottom of the page and click **Save Settings**.
c. If it is done correctly, the web page will display an error message. Close the web browser.
d. Click **IP Configuration** to renew the assigned IP address.
Click **Static**. Click **DHCP** to receive new IP address information from the wireless router.

e. Open the web browser, enter the IP address **192.168.0.1** in the URL field. When prompted, enter the username **admin** and password **admin**.

Step 4: Change the default DHCP range of addresses.

a. Notice the DHCP Server Start IP Address is updated to the same network as the Router IP.
b. Starting IP Address **192.168.0.100**.
c. Maximum Number of Users to **50**.
d. Scroll to the bottom of the page and click **Save Settings**. Click **Continue**.
e. Scroll back up to the DHCP Settings to ensure the change is made.
f. Close the web browser.
g. Select **Command Prompt**. Enter **ipconfig**. Record the IP address for PC0: 192.168.0.103

Step 5: Enable DHCP on the other PCs.

a. Click **PC1**.
b. Select **Desktop** tab.
c. Select **IP Configuration**.
d. Click **DHCP**. Record the IP address for PC1: 192.168.0.101
e. Close the configuration window.
f. Enable DHCP on **PC2** following the steps for PC1.

Step 6: Verify connectivity

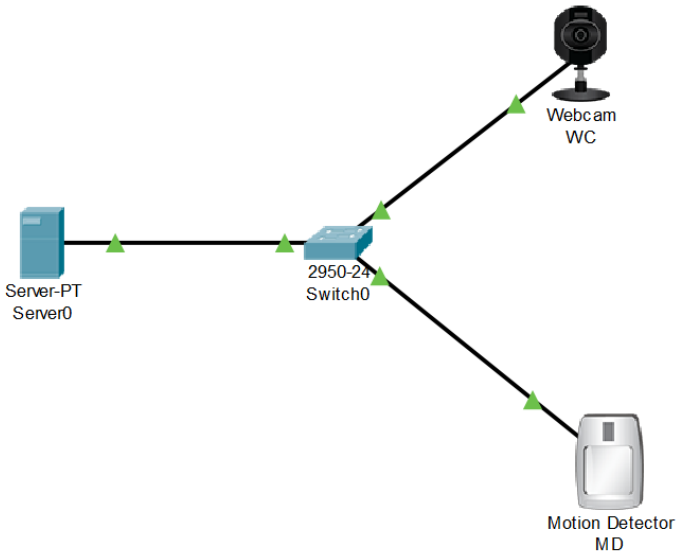
j. Click **PC2** and select the **Desktop** tab.
k. Select **Command Prompt**.
l. Type **ipconfig** at the prompt to view the IP configuration.
m. Type **ping 192.168.0.1** to ping the wireless router.
Type **ping 192.168.0.103** to ping PC0.

Type **ping 192.168.0.101** to ping PC1.
The pings to all devices should be successful.

Activity 5

IOT Devices

Topology



Objective

- Connect various IOT devices.
- Trigger IOT Events.

Steps: Topology

a. Connect devices as shown.
b. Assign static IP addresses to all devices.

c. Turn on registration server from IOT service section.
d. Double click on IOT devices and select remote server.
e. Enter server IP address.
f. Enter username and password as:

```
Username=admin
Password=cisco
```

g. Got to the web browser on the server, enter IP address of server.
h. Login with same username password.
i. You can now configure devices and also make events.