# LAB 6

**King Abdul-Aziz University**

**Faculty of Computing and Information Technology**

**Department of Information Technology**

***Network Administrations***

*CPIT475*

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**Objective:** The objective of this lab is to practice how to design and develop a Wireless Access Point WLAN infrastructure with Laptops with Wireless Networking capability.

**Outline of this lab:**

1. Building wireless network topology with two access points with router network using Packet Tracer.
2. Verifying the connectivity between the networks
3. Configure wireless LAN switching to connect wireless nodes/devices
4. Analyzing the connectivity between devices in each LAN segment

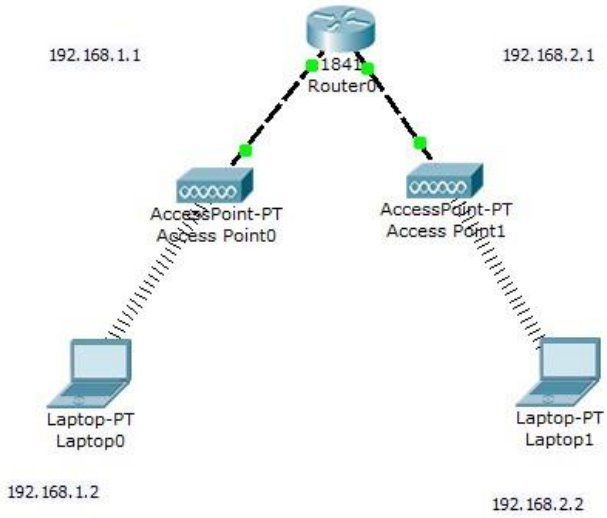
**Activity Outcomes**

At the end of this lab the student will be able to

- Cable a network according to the topology diagram
- Perform basic configuration tasks on a Router
- Assign IP addresses to respective ports
- Assign SSIDs to Wireless Access Points
- Change Network Adapter in Laptops for Wireless Networking
- Configure Laptops with Access Point SSID and respective IP and gateway address to join them in WLAN.

**Lab Tasks**

- **Build the network topology.**

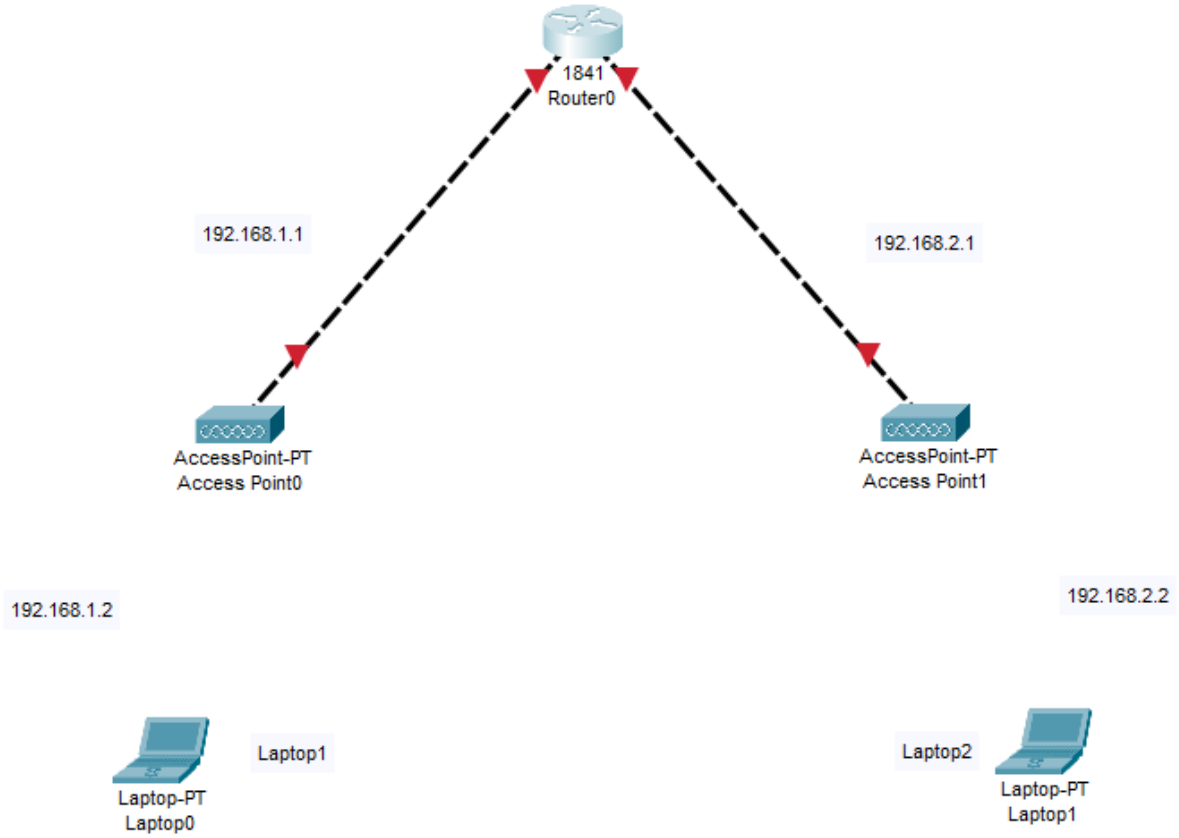



- **Addressing Table**

| Device (Host Name) | Interface | IP address | Subnet Mask | Default Gateway |
|---|---|---|---|---|
| Router0 | Fa0/0 | 192.168.1.1 | 255.255.255.0 | N/A |
| Router0 | Fa0/1 | 192.168.2.1 | 255.255.255.0 | N/A |
| | | | | |
| Laptop1 | NIC | 192.168.1.2 | 255.255.255.0 | 192.168.1.1 |
| Laptop2 | NIC | 192.168.2.2 | 255.255.255.0 | 192.168.2.1 |

**Task 1: Prepare the Network.**

**Step 1:** Cable a network that is similar to the one in the Topology Diagram.

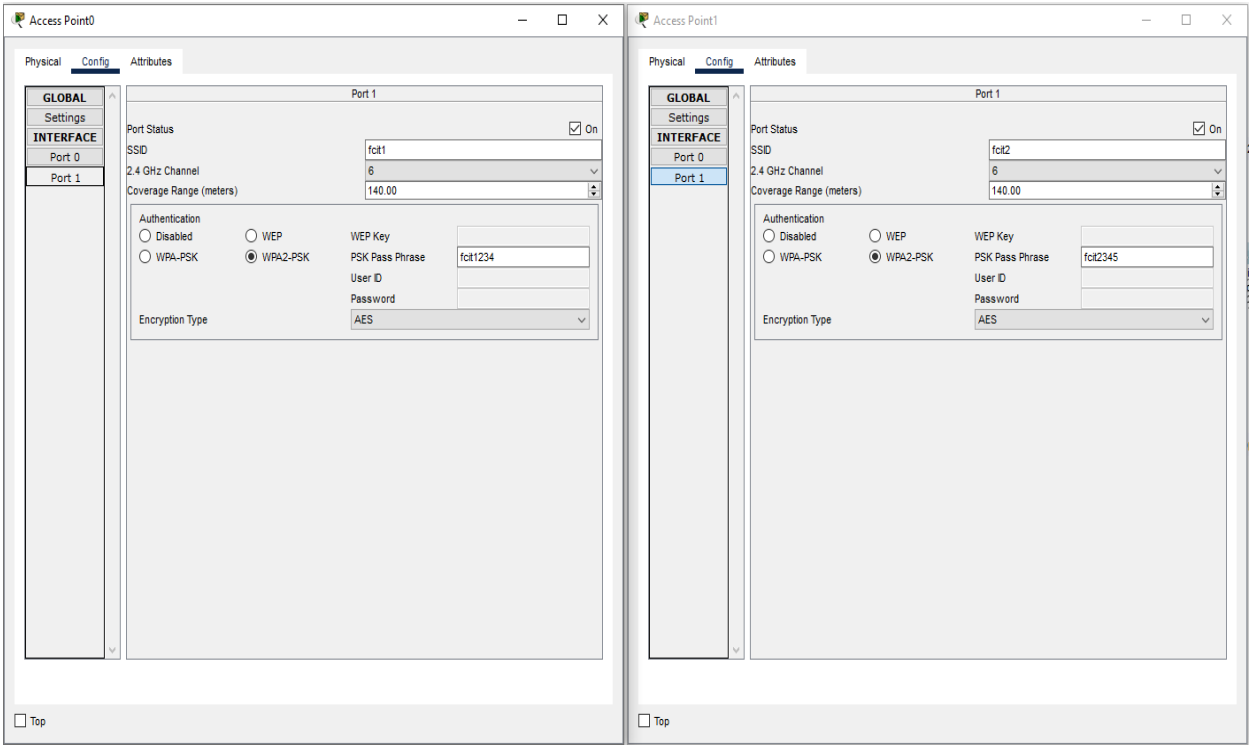


**Step 2: Configure the interfaces of the router (Gateway):**

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up


Router-Fahad>
Router-Fahad>enable
Router-Fahad#
Router-Fahad#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router-Fahad(config)#interface FastEthernet0/0
Router-Fahad(config-if)#ip address 192.168.1.1 255.255.255.0
Router-Fahad(config-if)#shutdown
Router-Fahad(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
no shutdown
Router-Fahad(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

Router-Fahad(config-if)#exit
Router-Fahad(config)#interface FastEthernet0/1
Router-Fahad(config-if)#ip address 192.168.2.1 255.255.255.0
Router-Fahad(config-if)#shutdown
Router-Fahad(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to administratively down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to down
no shutdown
Router-Fahad(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router-Fahad(config-if)#exit
```

**Step 3:** Configure the Access Points

Set SSIDs in both Access points as fcit1 and fcit2



❖ **Verify the connectivity:**

Using ping command, verify the connectivity between two networks.

From Laptop2

**ping 192.168.1.2**

Are you getting reply? Yes, I'm getting reply

Why? Or Why not? I verified the connectivity by using ping command from Laptop1.

**→ ping 192.168.2.1 and ping 192.168.2.2 also 4 messages was sent successfully between two Laptops and I got the reply**