IT222 – Networking 1

ACTIVITY 3

Packet Tracer Activity: Basic Configuration of a Switch and Router

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Objective:

In this activity, you will configure a Cisco Switch and Router using Packet Tracer. You will perform basic configurations, including:

- Setting up hostnames
- Configuring password protection
- Creating a login banner
- Assigning an IP address to a router interface
- Configuring a default gateway on the switch

Activity Instructions:

Step 1: Setup in Cisco Packet Tracer

1. Open Cisco Packet Tracer and create a new project.
2. Drag and drop the following devices into the workspace:
    - 1 Cisco 2960 Switch
    - 1 Cisco 2911 Router
    - 1 PC
3. Connect the devices using Ethernet cables:
    - PC → Switch: Use a Copper Straight-Through Cable and connect PC's FastEthernet0 to Switch's FastEthernet0/1

- Switch → Router: Use a Copper Straight-Through Cable and connect Switch's GigabitEthernet0/1 to Router's GigabitEthernet0/0

Step 2: Configure the Switch

1. Click the Switch, go to the CLI (Command Line Interface) tab, and press Enter.
2. Enter Privileged EXEC mode:

```
Switch> enable
```

3. Enter **Global Configuration mode**:

```
Switch# configure terminal
```

4. Set the **Hostname** to "SW1":

```
Switch(config)# hostname SW1
```

5. Set a **Privileged EXEC mode password** ("cisco"):

```
SW1(config)# enable secret cisco
```

6. Configure a **console password** ("class") and enable login:

```
SW1(config)# line console 0
SW1(config-line)# password class
SW1(config-line)# login
SW1(config-line)# exit
```

7. Configure a **password for remote access (Telnet/SSH)**:

```
SW1(config)# line vty 0 4
SW1(config-line)# password remote
SW1(config-line)# login
SW1(config-line)# exit
```

8. Set a **banner message**:

```
SW1(config)# banner motd # Unauthorized access is prohibited! #
```

9. Assign an **IP address** to VLAN1 for remote management:

```
SW1(config)# interface vlan 1
SW1(config-if)# ip address 192.168.1.2 255.255.255.0
SW1(config-if)# no shutdown
SW1(config-if)# exit
```

10. Set a **default gateway** to the router's IP address:

```
SW1(config)# ip default-gateway 192.168.1.1
```

11. Save the configuration:

```
SW1# write memory
```

12. Exit configuration mode:

```
SW1(config)# exit
```

Step 3: Configure the Router

1. Click the **Router**, go to the **CLI (Command Line Interface)** tab, and press **Enter**.
2. Enter **Privileged EXEC mode**:

```
Router> enable
```

3. Enter **Global Configuration mode**:

```
Router# configure terminal
```

4. Set the **Hostname** to "R1":

```
Router(config)# hostname R1
```

5. Set a **Privileged EXEC mode password** ("cisco123"):

```
R1(config)# enable secret cisco123
```

6. Configure a **console password** ("admin") and enable login:

```
R1(config)# line console 0
R1(config-line)# password admin
R1(config-line)# login
R1(config-line)# exit
```

7. Configure a **password for remote access (Telnet/SSH)**:

```
R1(config)# line vty 0 4
R1(config-line)# password telnet123
R1(config-line)# login
R1(config-line)# exit
```

8. Set a **banner message**:

```
R1(config)# banner motd # Authorized personnel only! #
```

9. Assign an IP address to the router's GigabitEthernet0/0 interface:

```
R1(config)# interface gigabitEthernet 0/0
R1(config-if)# ip address 192.168.1.1 255.255.255.0
R1(config-if)# no shutdown
R1(config-if)# exit
```

10. Save the configuration:

```
R1# write memory
```

11. Exit configuration mode:

```
R1(config)# exit
```

Step 4: Configure the PC

1. Click on the **PC**, go to the **Desktop tab**, and select **IP Configuration**.
2. Set the **IP Address** to 192.168.1.10.
3. Set the **Subnet Mask** to 255.255.255.0.
4. Set the **Default Gateway** to 192.168.1.1 (Router's IP).

Step 5: Test Connectivity

1. Open **Command Prompt** on the PC and **ping the router**:

```
ping 192.168.1.1
```

   - If successful, you should receive replies.
   - If not, check configurations and ensure interfaces are **not shut down**.

2. Test remote login via Telnet:

```
telnet 192.168.1.2
```

   - Enter the **password (remote)** when prompted.

SCREENSHOT THE OUTPUT

- PC should successfully **ping** the router.

- Switch and router should have **proper hostnames, passwords, and banners configured**.

- Remote login via **Telnet should be working**.