**Day 1 Assignment 2**

**----------------------------------------------------------------------------------------------------**

**Problem:** Draw your Home Network Topology and explain how you are accessing the RPS Lab environment.

**Solution**:

**HOME NETWORK TOPOLOGY:-**

INTERNET

-------------

|

ROUTER

--------------

|

1. WIFI || 2. SWITCH || 3. FIREWALL

-------------------------------------------

|

DEVICE 1 DEVICE 2

--------------------

| |

DESKTOP LAPTOP

**Home Network Topology**

**-----------------------------------**

1. ISP (Internet Service Provider)

-> Provides internet connectivity via a modem.

2. Modem

->Connects to the ISP and provides internet access to the home network.

3. Router

->Connects to the modem.

->Distributes internet access to various devices in the home network.

->Often has built-in firewall and DHCP server functionalities.

4. Switch (Optional)

->Connected to the router.

->Provides additional Ethernet ports for wired connections to devices.

5. Wireless Access Point (WAP)

->Often integrated with the router.

->Provides Wi-Fi access to wireless devices (laptops, smartphones, tablets, etc.).

6. Devices

->Wired Devices:

Desktop computers, smart TVs, gaming consoles connected via Ethernet cables to the router or switch.

->Wireless Devices:

Laptops, smartphones, tablets, smart home devices connected via Wi-Fi to the router or WAP.

The RPS Accessing Lab Environment

----------------------------------------------------

-> Device Configuration

. Ensure your device (laptop/desktop) is connected to the home network (either wired or wireless).

. Verify the device has internet connectivity by checking if you can access websites.

-> VPN (Optional)

. If required, establish a VPN connection to the RPS Lab network to securely access the internal resources.

->Remote PowerShell Configuration

. Open Windows PowerShell or PowerShell Core on your device.

. Use the Enter-PSSession or New-PSSession cmdlet to establish a remote session with the RPS Lab server. You will need the server's IP address or hostname, along with appropriate credentials.

-> Access and Use the Lab Environment

. Once the session is established, you can run PowerShell commands and scripts on the remote RPS Lab server as if you were locally logged in.

--------------------------DIAGRAM---------------------------------------

[ISP] --- [Modem] --- [Router] --- [Wired Devices: PC, TV, etc.]

|

|--- [Switch (Optional)] --- [Additional Wired Devices]

|

|--- [Wireless Devices: Laptop, Smartphone, etc.]

(Laptop Accessing RPS Lab Environment)

|

[VPN (Optional)]

|

[Internet]

|

[RPS Lab Server]

-----------------------------------------------------------------------

IN THIS SETUP :--

--- The modem connects to the ISP to provide internet access.

---The router distributes this access to both wired and wireless devices.

---The laptop connects to the RPS Lab server over the internet, optionally using a VPN for secure access.

---Remote PowerShell is used to manage the RPS Lab environment from the laptop.