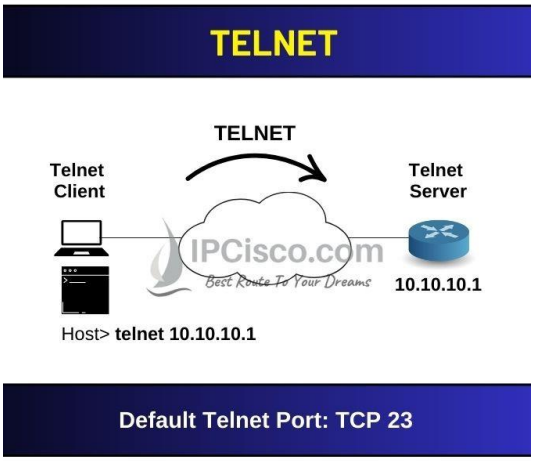
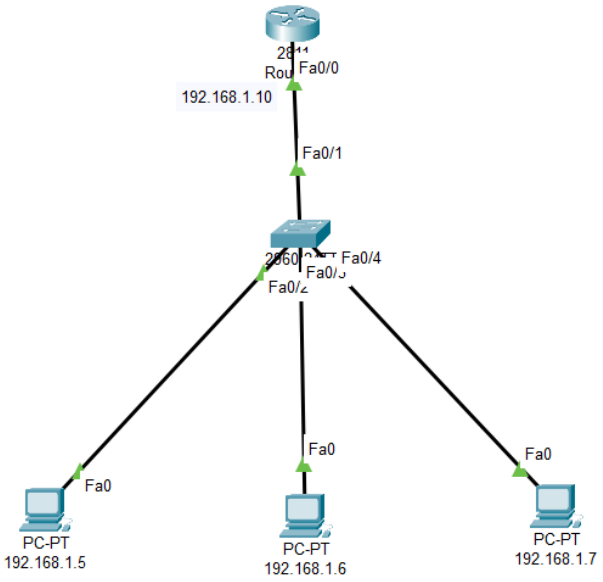
What is Telnet?

Telnet (Telecommunication Network) is a **network protocol** used to remotely access and manage devices such as **routers, switches, servers**, and **network equipment** over a TCP/IP network. It allows a user to **open a command-line session** on a remote device, as if they were physically connected via a console cable.



- **Protocol Type:** Application layer (OSI Layer 7)
- **Transport Protocol:** TCP (Port 23 by default)
- **Access Type:** Command-line interface (CLI)



Importance of Telnet

1. **Remote Device Management:**
   Telnet allows administrators to configure and troubleshoot routers, switches, and firewalls **from any remote location**.
2. **Time-Saving:**
   No need to be physically near the device; just connect over the network.
3. **Basic Automation:**
   Useful in testing scripts and automation in lab environments.
4. **Training and Labs:**
   Ideal for lab environments where security is not a concern and remote access is needed.

Note: Telnet transmits data, including usernames and passwords, in **plain text**. It is **not secure** for production environments. Use **SSH** instead when possible.

Telnet Configuration on Cisco Devices

Here is a step-by-step configuration guide:

Step 1: Set Device Hostname and Enable Password

```
Router> enable
Router# configure terminal
Router(config)# hostname R1
R1(config)# enable password 12121
```

Step 2: Set VTY Line Password for Telnet Access

```
R1(config)# line vty 0 4
R1(config-line)# password 1111
R1(config-line)# login
R1(config-line)# exit
```

Step 3: (Optional but recommended) Encrypt All Passwords

```
R1(config)# service password-encryption
```

Step 4: Save the Configuration

```
R1# write memory
```

```
Router>en
Router#config ter
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#int f0/0
Router(config-if)#ip address 192.168.1.10 255.255.255.0
Router(config-if)#no shutdown

Router(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(config-if)#ex
Router(config)#
Router(config)#hostname R2
R2(config)#enable password 12121
R2(config)#line vty 0  4
R2(config-line)#password 1111
R2(config-line)#login
R2(config-line)#ex
% Ambiguous command: "ex"
R2(config-line)#exit
R2(config)#
```

How to Access the Device via Telnet

From a PC, use the terminal or command prompt:

```
telnet [IP address of router/switch]
```

Example:

```
telnet 192.168.1.10
```

If successful, you'll be asked to enter the **VTY password** set during configuration.

```
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 192.168.1.10
Trying 192.168.1.10 ...Open


User Access Verification

Password:
Password:
R2>en
Password:
R2#show ip int br
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/0        192.168.1.10    YES manual up                    up
FastEthernet0/1        unassigned      YES unset  administratively down down
Serial0/0/0            unassigned      YES unset  administratively down down
Serial0/0/1            unassigned      YES unset  administratively down down
Serial0/1/0            unassigned      YES unset  administratively down down
Serial0/1/1            unassigned      YES unset  administratively down down
FastEthernet1/0        unassigned      YES unset  administratively down down
FastEthernet1/1        unassigned      YES unset  administratively down down
FastEthernet1/2        unassigned      YES unset  administratively down down
FastEthernet1/3        unassigned      YES unset  administratively down down
FastEthernet1/4        unassigned      YES unset  administratively down down
FastEthernet1/5        unassigned      YES unset  administratively down down
FastEthernet1/6        unassigned      YES unset  administratively down down
FastEthernet1/7        unassigned      YES unset  administratively down down
FastEthernet1/8        unassigned      YES unset  administratively down down
FastEthernet1/9        unassigned      YES unset  administratively down down
FastEthernet1/10       unassigned      YES unset  administratively down down
FastEthernet1/11       unassigned      YES unset  administratively down down
FastEthernet1/12       unassigned      YES unset  administratively down down
FastEthernet1/13       unassigned      YES unset  administratively down down
FastEthernet1/14       unassigned      YES unset  administratively down down
 --More--
```

Summary – Why Telnet Matters

Feature	Description
Access Type	Remote CLI Access
Protocol	TCP Port 23
Main Use	Configure & troubleshoot network devices remotely
Security	Insecure (Use SSH for secure environments)
Good For	Labs, training, internal networks