

LAB PROGRAM – 12

Q) To understand the operation of TELNET by accessing the router in server room from a PC in IT office.

Procedure :

COMPASS
Date: _____

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Experiment - 12

Aim: To understand the operations of TELNET by accessing the router in server room from a PC in IT office.

Topology:

```
graph LR
    PC1[PC - PT  
PC1  
10.0.0.2] --- Fa0_1[Fa0]
    Fa0_1 --- Fa0_2[Fa0/0]
    Fa0_2 --- Router1[Router1  
Router PT  
10.0.0.1]
```

Procedure:

Step 1: Construct a topology as shown Above. Set the IP Address and gateway of PC 1.

Step 2: Configure Router as follows

Router → CLI

- 2a) enable
- 2b) config t
- 2c) hostname r1
- 2d) enable secret p1
- 2e) interface fastethernet 0/0
- 2f) ip address 10.0.0.1 255.0.0.0
- 2g) no shut
- 2h) line vty 0 1
- 2i) login
- 2j) password po
- 2k) exit
- 2l) exit
- 2m) wr

finally ping message to router

Password for user verification is po

Password for enable is p1

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COMPASS
 Date: 10/8/23

line vty 05 → to Allow virtual terminal Access for users

Result:

PC> ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1 : bytes=32 time=0ms TTL=255

Reply from 10.0.0.1 : bytes=32 time=0ms TTL=255

Reply from 10.0.0.1 : bytes=32 time=0ms TTL=255

Reply from 10.0.0.1 : bytes=32 time=2ms TTL=255

Ping statistics for 10.0.0.1:

packets: Sent = 4, Received = 4, Lost = 0 (0% loss),

Approximate round trip times in milli-seconds:

Minimum = 0ms, Maximum = 2ms, Average = 0ms

PC>telnet 10.0.0.1

Trying 10.0.0.1 open

User Access Verification

Password:

r1>enable

Password:

911 # show ip route

Codes : C - connected, S - static, I - IGRP, E - EIGRP, R - RIP, M - mobile

D - EIGRP, EX - EIGRP external

N1 - OSPF NSSA external type 1

E1 - OSPF external type 1

i - IS-IS, L1 - IS-IS L1

* - Candidate default

P - periodic downloaded static route

Gateway of last resort is not set

(10.0.0.0/8 is directly Connected, FastEthernet 0/0

observation:

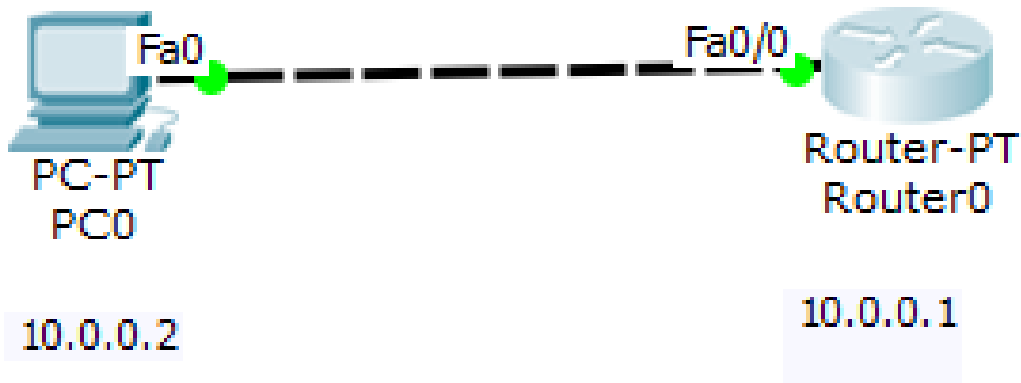
TELNET - Teletype Network is a type of protocol that enables one comp to connect to the local computer.

The computer that is being connected is called remote computer.

During telnet operation, whatever is being performed on remote computer will be displayed by local computer.

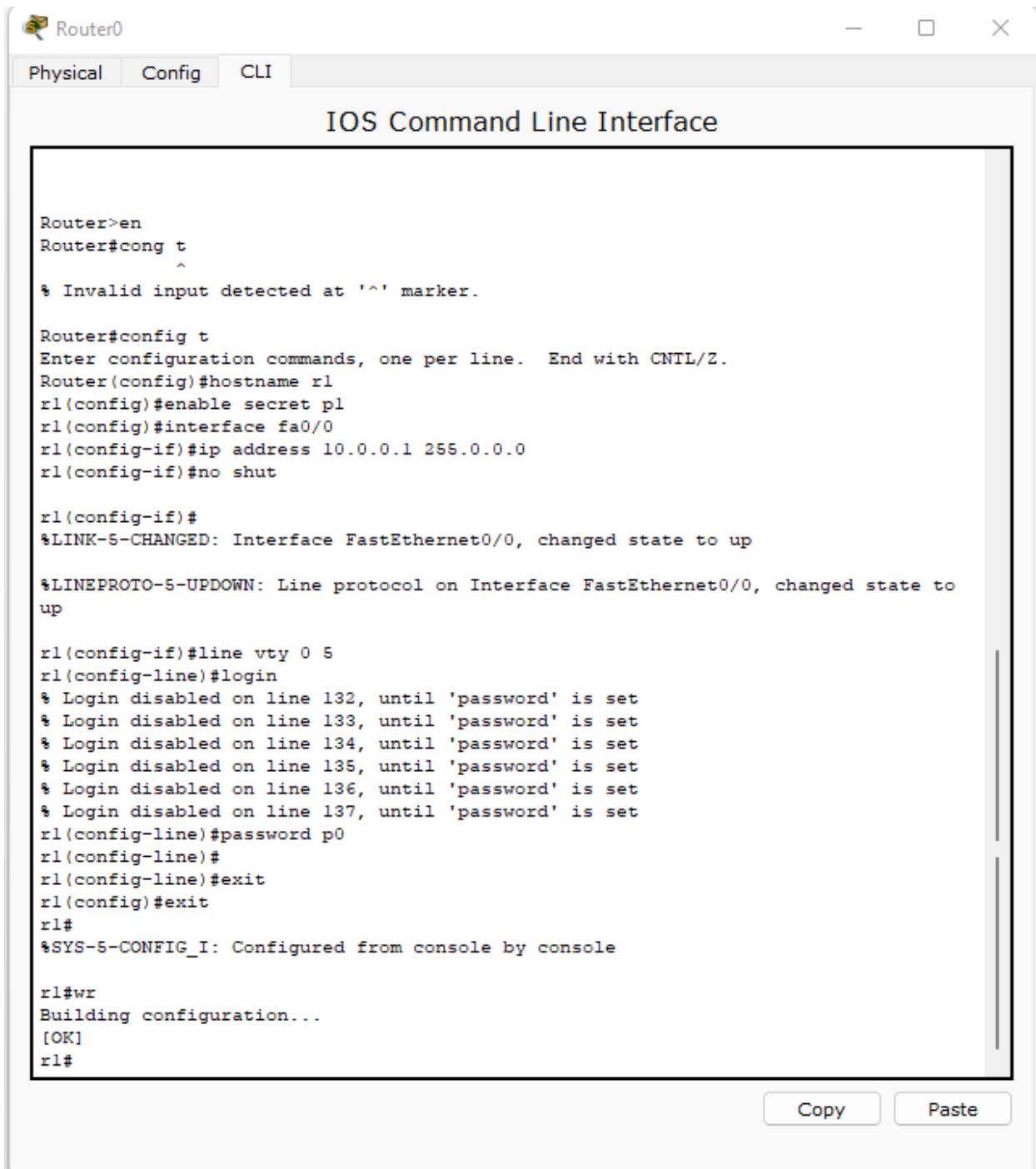
Telnet operates on client/server principle. i.e. local computer - client and Remote computer - server.

Topology :



Router Configuration :

Router 0 CLI:



The screenshot shows a window titled "Router0" with three tabs: "Physical", "Config", and "CLI". The "CLI" tab is active, displaying the "IOS Command Line Interface". The interface shows a series of commands entered at the "Router" prompt, followed by their outputs. The commands include enabling configuration mode, setting the hostname to "r1", enabling secret passwords, configuring the FastEthernet0/0 interface with IP address 10.0.0.1 and 255.0.0.0, and configuring VTY lines 0-5 with login and password "p0". The output shows the interface state changing to up and the VTY lines being configured.

```
Router>en
Router#cong t
      ^
% Invalid input detected at '^' marker.

Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname r1
r1(config)#enable secret p1
r1(config)#interface fa0/0
r1(config-if)#ip address 10.0.0.1 255.0.0.0
r1(config-if)#no shut

r1(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

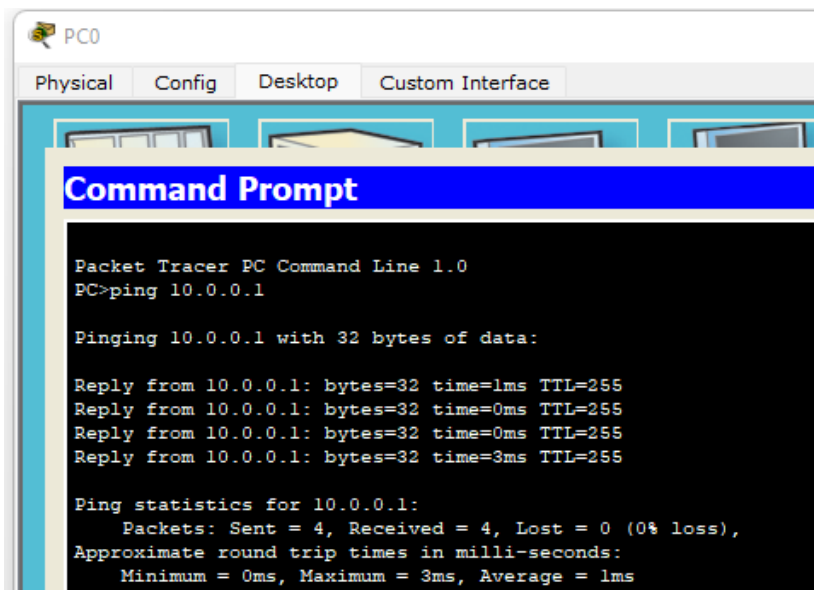
r1(config-if)#line vty 0 5
r1(config-line)#login
% Login disabled on line 132, until 'password' is set
% Login disabled on line 133, until 'password' is set
% Login disabled on line 134, until 'password' is set
% Login disabled on line 135, until 'password' is set
% Login disabled on line 136, until 'password' is set
% Login disabled on line 137, until 'password' is set
r1(config-line)#password p0
r1(config-line)#
r1(config-line)#exit
r1(config)#exit
r1#
%SYS-5-CONFIG_I: Configured from console by console

r1#wr
Building configuration...
[OK]
r1#
```

Copy Paste

Ping Results :

PC0 to Router:



The screenshot shows a Packet Tracer PC window for PC0. The 'Config' tab is selected, and a 'Command Prompt' window is open. The command prompt shows the execution of a ping command to 10.0.0.1. The output displays four successful replies with varying round-trip times (1ms, 0ms, 0ms, 3ms) and a TTL of 255. Ping statistics show 4 packets sent, 4 received, and 0% loss, with an average round-trip time of 1ms.

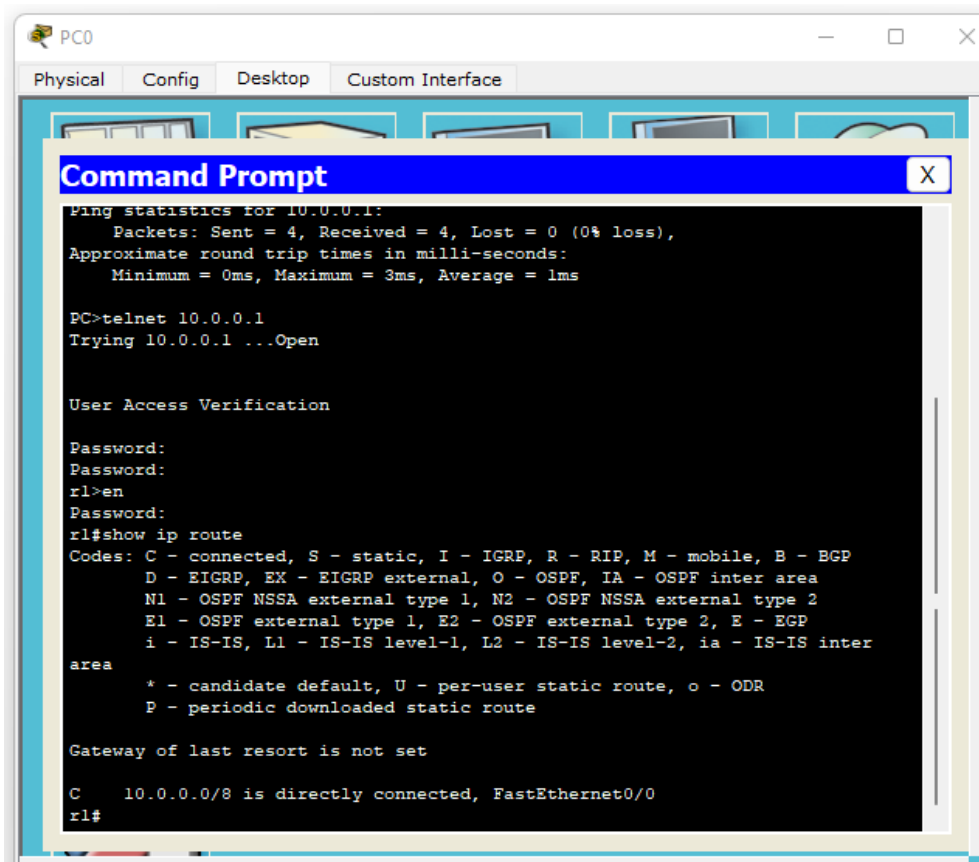
```
Packet Tracer PC Command Line 1.0
PC>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

Reply from 10.0.0.1: bytes=32 time=1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=0ms TTL=255
Reply from 10.0.0.1: bytes=32 time=0ms TTL=255
Reply from 10.0.0.1: bytes=32 time=3ms TTL=255

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms
```

Accessing the router in server room from a PC in IT office.



The screenshot shows the same PC0 window, but the 'Command Prompt' now displays the output of a telnet command to 10.0.0.1. The telnet session is successful, and the user is prompted for a password. After entering 'en', the user is at the router's prompt (rl#). The user then enters the command 'show ip route', which displays a list of codes for various routing protocols and their associated metrics. The output also shows the gateway of last resort is not set and the current configuration for the FastEthernet0/0 interface.

```
PC>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

Password:
Password:
rl>en
Password:
rl#show ip route
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter
       area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    10.0.0.0/8 is directly connected, FastEthernet0/0
rl#
```