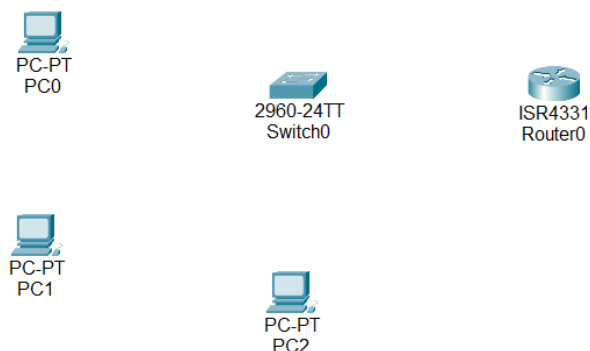
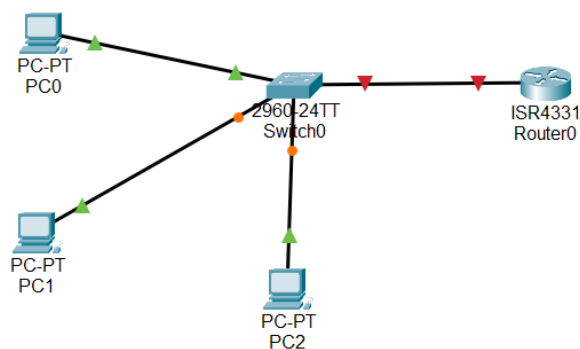
 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029


Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.

Step – 1: Open Cisco packet tracer and take PC, Switch and Router



Step – 2 : Connect all the PCs to the switch and switch to the router via cable



 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029

Step – 3 : Give the IP add to the router.

Use the command ip add <ip add> <subnet mask> to assign an IP address to a router's network interface.

```

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable
Router#
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#int g0/0/0
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

```

Copy Paste

Top

Step – 4 : Give the IP address to all the PCs.

PC0

Physical Config Desktop Programming Attributes

IP Configuration

Interface FastEthernet0

IP Configuration

☐ DHCP ☒ Static

IPv4 Address 10.0.0.2

Subnet Mask 255.0.0.0

Default Gateway 10.0.0.1

DNS Server 0.0.0.0

IPv6 Configuration

☐ Automatic ☒ Static

IPv6 Address /

Link Local Address FE80::201:63FF:FE17:65B8

Default Gateway

DNS Server


802.1X

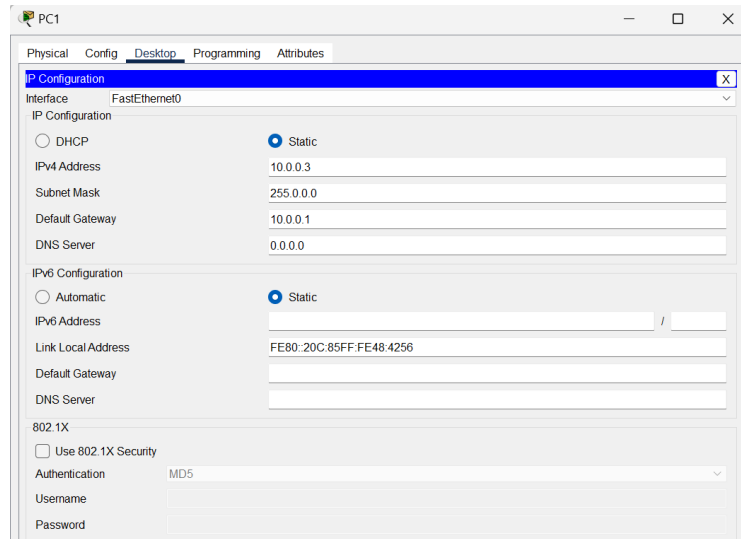
☐ Use 802.1X Security

Authentication MD5

Username

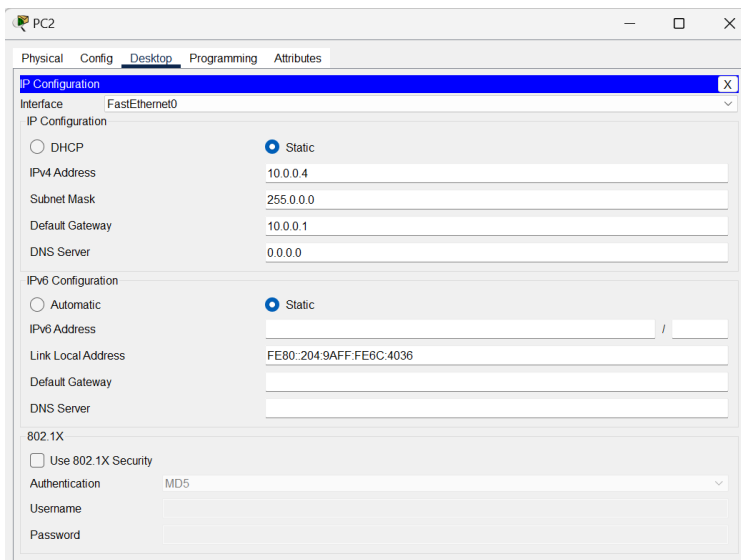
Password

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029




PC1 Configuration Window (Desktop tab):

- Interface: FastEthernet0
- IP Configuration:
 - ☐ DHCP
 - ☒ Static
 - IPv4 Address: 10.0.0.3
 - Subnet Mask: 255.0.0.0
 - Default Gateway: 10.0.0.1
 - DNS Server: 0.0.0.0
- IPv6 Configuration:
 - ☐ Automatic
 - ☒ Static
 - IPv6 Address: [Empty]
 - Link Local Address: FE80::20C:85FF:FE48:4256
 - Default Gateway: [Empty]
 - DNS Server: [Empty]
- 802.1X:
 - ☐ Use 802.1X Security
 - Authentication: MD5
 - Username: [Empty]
 - Password: [Empty]



PC2 Configuration Window (Desktop tab):

- Interface: FastEthernet0
- IP Configuration:
 - ☐ DHCP
 - ☒ Static
 - IPv4 Address: 10.0.0.4
 - Subnet Mask: 255.0.0.0
 - Default Gateway: 10.0.0.1
 - DNS Server: 0.0.0.0
- IPv6 Configuration:
 - ☐ Automatic
 - ☒ Static
 - IPv6 Address: [Empty]
 - Link Local Address: FE80::204:9AFF:FE6C:4036
 - Default Gateway: [Empty]
 - DNS Server: [Empty]
- 802.1X:
 - ☐ Use 802.1X Security
 - Authentication: MD5
 - Username: [Empty]
 - Password: [Empty]

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029

Step – 5 : Set the permissions or visibility of the command to restrict access for this use enable secret <password> command

Router0

Physical
Config
CLI
Attributes

IOS Command Line Interface

```

Processor board ID FLM232010G0
3 Gigabit Ethernet interfaces
32768K bytes of non-volatile configuration memory.
4194304K bytes of physical memory.
3207167K bytes of flash memory at bootflash:.
0K bytes of WebUI ODM Files at webui:.

--- System Configuration Dialog ---

Would you like to enter the initial configuration dialog? [yes/no]: n

Press RETURN to get started!

Router>enable
Router#
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#int g0/0/0
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up


Router(config-if)#config t
%Invalid hex value
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#enable
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#enable secret 111
Router(config)#
Router(config)#

```

Copy
Paste

☐ Top

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029

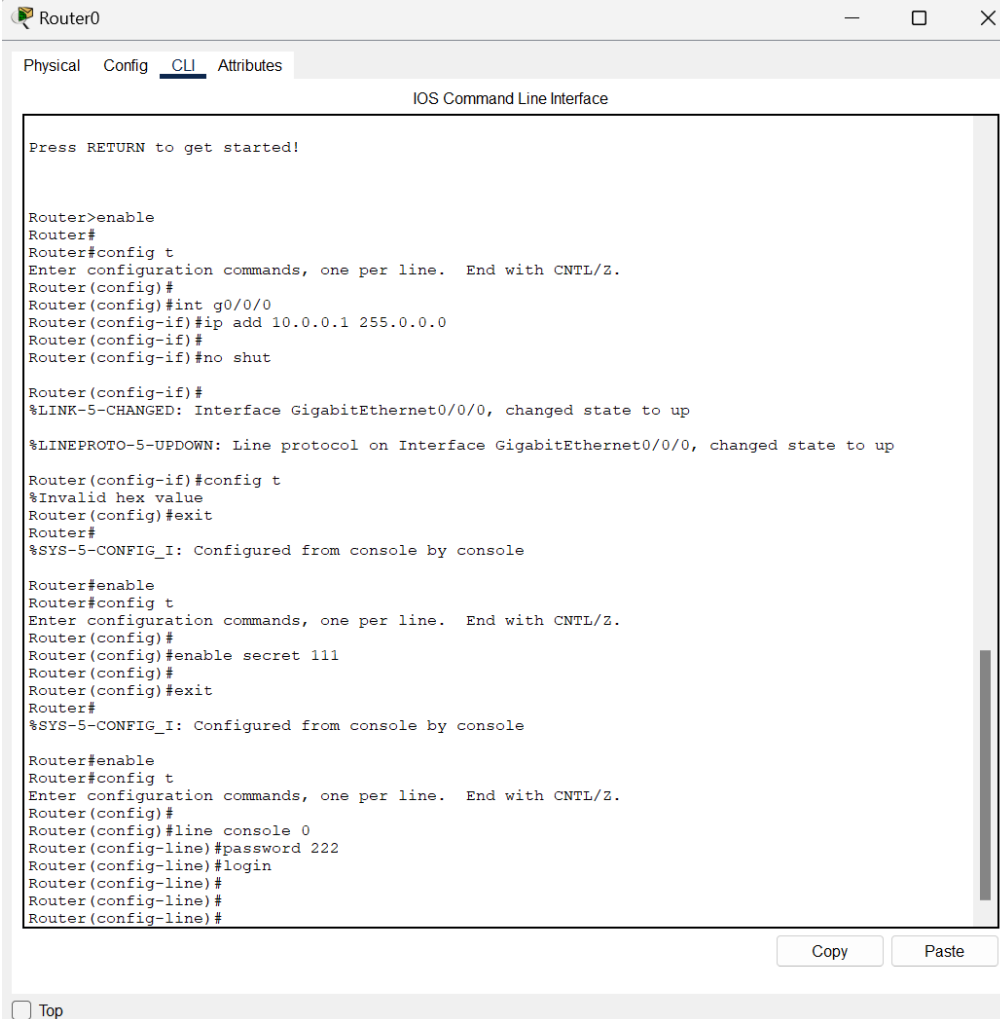
Step-6: Now we give the another command to set the password

line console 0

Password <password>

login

It don't able to go at the user mode also, if we try to go it will immediately ask for the password



```

Router0
Physical Config CLI Attributes
IOS Command Line Interface

Press RETURN to get started!

Router>enable
Router#
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#int g0/0/0
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#
Router(config-if)#no shut

Router(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0/0, changed state to up

Router(config-if)#config t
%Invalid hex value
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console


Router#enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#enable secret 111
Router(config)#
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#line console 0
Router(config-line)#password 222
Router(config-line)#login
Router(config-line)#
Router(config-line)#
Router(config-line)#

```

Copy Paste

☐ Top

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029

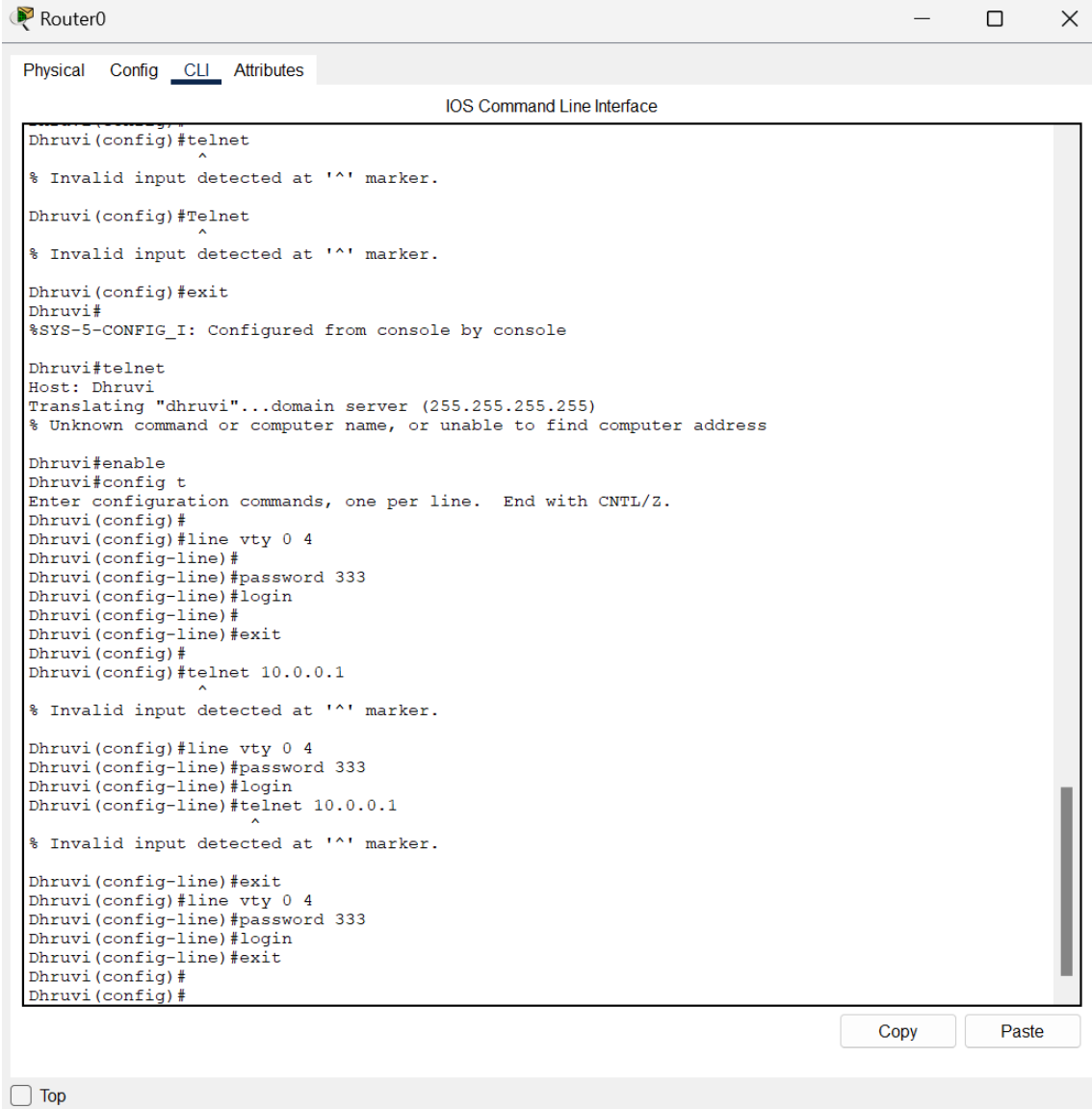
Step-7: To make virtual line control give following command

line vty 0 4

Password <password>

Login

By giving this command, up to 5 user can control the device virtually




The screenshot shows the CLI of a router named Router0. The user is in configuration mode (Dhruvi(config)#). The following commands are entered:

```

Dhruvi(config)#telnet
^
% Invalid input detected at '^' marker.
Dhruvi(config)#Telnet
^
% Invalid input detected at '^' marker.
Dhruvi(config)#exit
Dhruvi#
%SYS-5-CONFIG_I: Configured from console by console
Dhruvi#telnet
Host: Dhruvi
Translating "dhruvi"...domain server (255.255.255.255)
% Unknown command or computer name, or unable to find computer address
Dhruvi#enable
Dhruvi#config t
Enter configuration commands, one per line. End with CNTL/Z.
Dhruvi(config)#
Dhruvi(config)#line vty 0 4
Dhruvi(config-line)#
Dhruvi(config-line)#password 333
Dhruvi(config-line)#login
Dhruvi(config-line)#
Dhruvi(config-line)#exit
Dhruvi(config)#
Dhruvi(config)#telnet 10.0.0.1
^
% Invalid input detected at '^' marker.
Dhruvi(config)#line vty 0 4
Dhruvi(config-line)#password 333
Dhruvi(config-line)#login
Dhruvi(config-line)#telnet 10.0.0.1
^
% Invalid input detected at '^' marker.
Dhruvi(config-line)#exit
Dhruvi(config)#line vty 0 4
Dhruvi(config-line)#password 333
Dhruvi(config-line)#login
Dhruvi(config-line)#exit
Dhruvi(config)#
Dhruvi(config)#

```

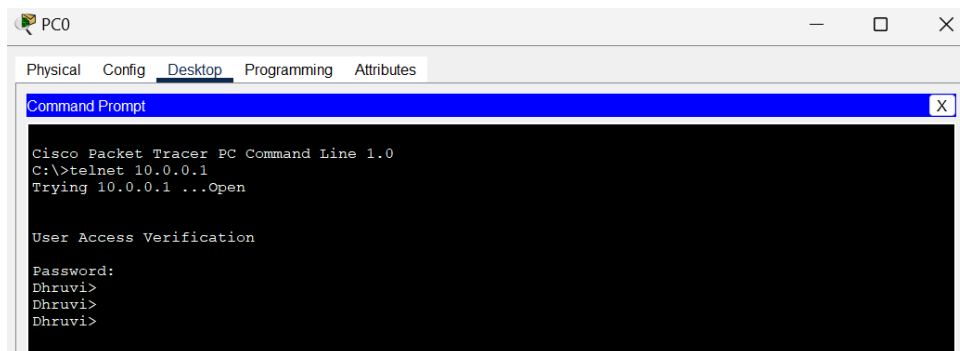
At the bottom of the window, there are buttons for "Copy" and "Paste", and a "Top" link.

 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the router to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 14-08-2023	Enrolment No: 92200133029

Step-8: For checking the telnet protocol use following command

telnet <destination Ip add>

Telnet is a protocol that enables remote access to network devices and servers via a command-line interface over a TCP/IP network.



```

Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

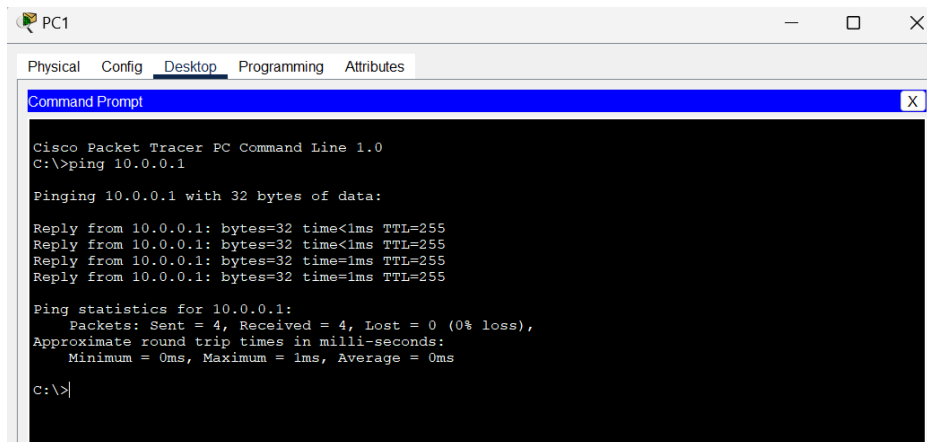
Password:
Dhruvi>
Dhruvi>
Dhruvi>

```

Step-9: Now after this we check for the connectivity between devices

For this we use following command

ping <destination Ip add>



```

Cisco Packet Tracer PC Command Line 1.0
C:\>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<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms 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 = 1ms, Average = 0ms

C:\>|

```

Conclusion: it's important to secure the router's ports and Telnet access to prevent unauthorized users from gaining control. The enable secret command sets a strong password that is encrypted for accessing the features. Meanwhile, the password and login commands ensure that anyone trying to use the console or Telnet must enter a password first. These steps help protect the router and ensure that only the right people can manage it. Ping command is use for check whether the device is connect with other device or not.



Marwadi University
Faculty of Engineering and Technology
Department of Information and Communication Technology

**Subject: Computer
Networks (01CT0503)**

Aim: Configure the router to secure the port and Telnet from unauthorized users.
Analyze enable secret and password login commands in detail.

Experiment No: 04

Date: 14-08-2023

Enrolment No: 92200133029



Marwadi University
Faculty of Engineering and Technology
Department of Information and Communication Technology

**Subject: Computer
Networks (01CT0503)**

Aim: Configure the router to secure the port and Telnet from unauthorized users.
Analyze enable secret and password login commands in detail.

Experiment No: 04

Date: 14-08-2023

Enrolment No: 92200133029



Marwadi University
Faculty of Engineering and Technology
Department of Information and Communication Technology

**Subject: Computer
Networks (01CT0503)**

Aim: Configure the router to secure the port and Telnet from unauthorized users.
Analyze enable secret and password login commands in detail.

Experiment No: 04

Date: 14-08-2023

Enrolment No: 92200133029



Marwadi University
Faculty of Engineering and Technology
Department of Information and Communication Technology

**Subject: Computer
Networks (01CT0503)**

Aim: Configure the router to secure the port and Telnet from unauthorized users.
Analyze enable secret and password login commands in detail.

Experiment No: 04

Date: 14-08-2023

Enrolment No: 92200133029