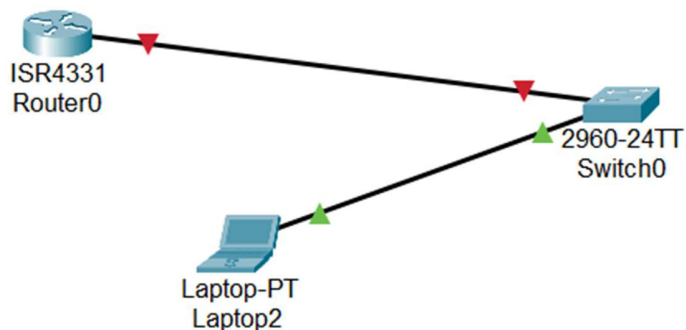
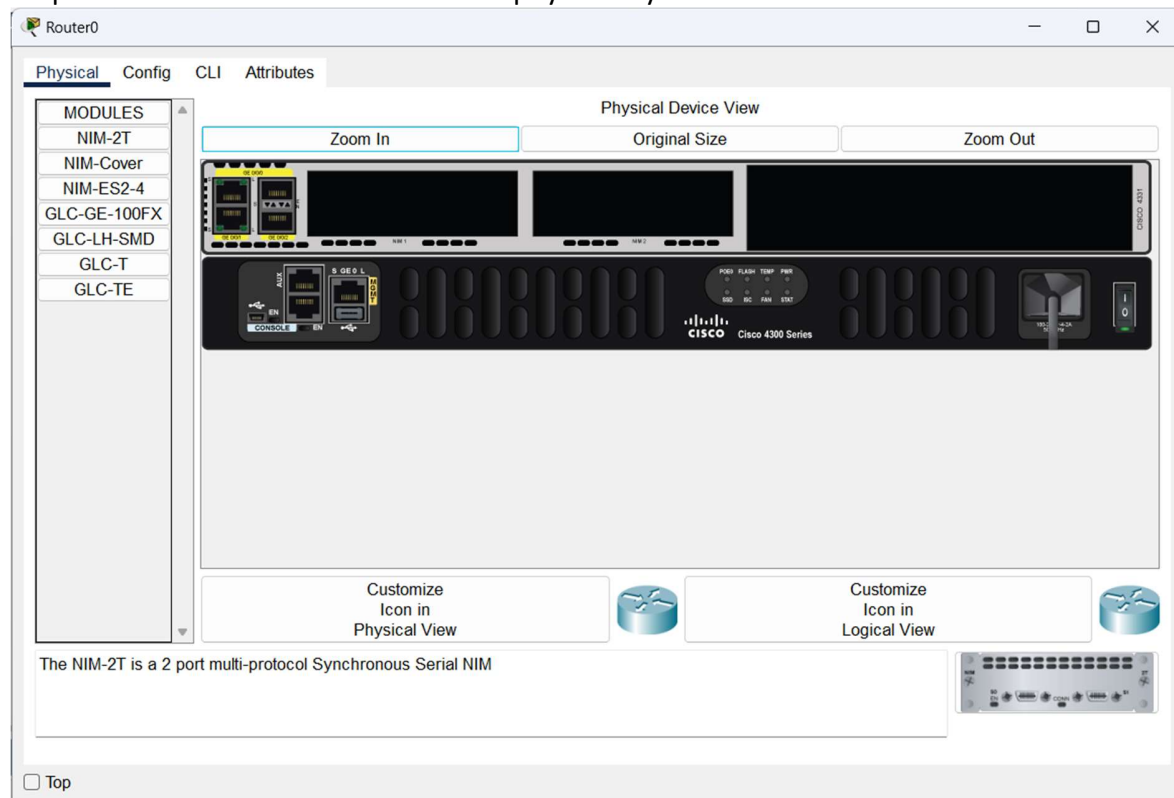
 Marwadi University Marwadi Chandarana Group	Marwadi University Faculty of Engineering and Technology Department of Information and Communication Technology	
Subject: Computer Networks (01CT0503)	Aim: Configure the switch to secure the port and Telnet from unauthorized users. Analyze enable secret and password login commands in detail.	
Experiment No: 04	Date: 07-08-2023	Enrolment No: 92210133006


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

Step 1: Open Cisco Packet Tracer and create a small network with 1 router, 1 switch, and 1 PC.

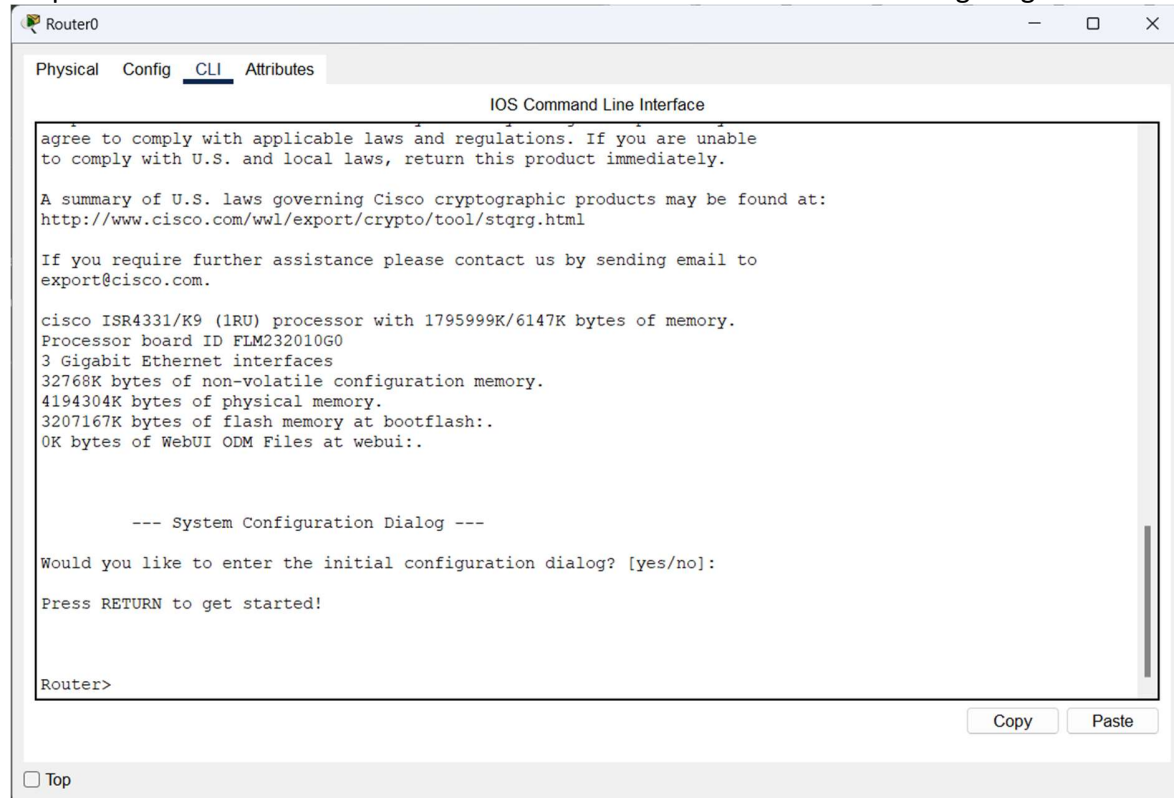


Step 2: Click on the router to view the physical layout of the router.

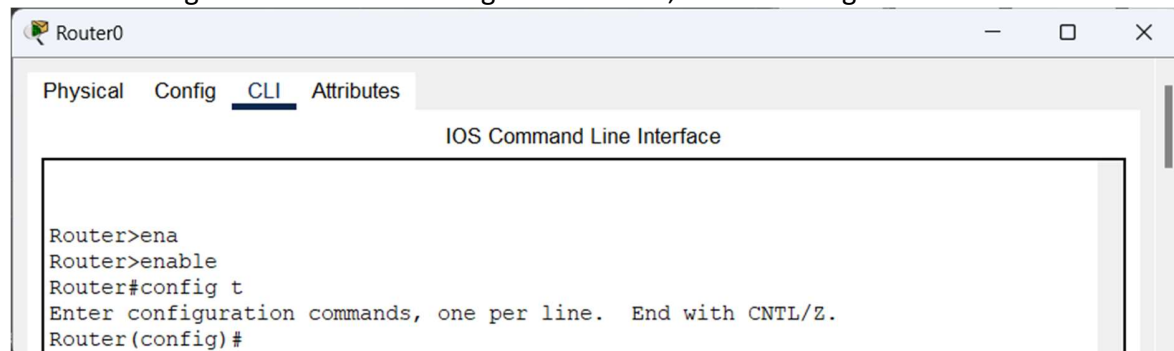



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Step 3: Click on the CLI tab to access the command line interface for configuring the router.

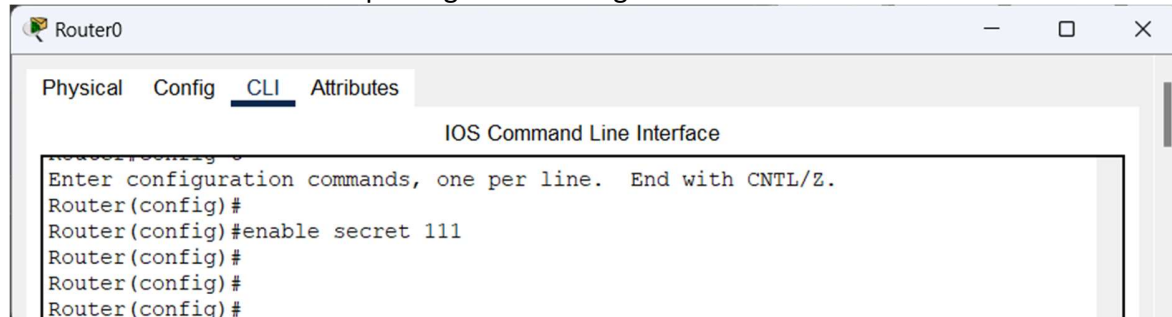


Step 4: Enter the "enable" command to switch from user mode to privilege mode, then use the "configure terminal" or "config t" command to switch from privilege mode to configuration mode. In configuration mode, we can configure the router.



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Step 5: Use the command "enable secret your_secret_key" to set the password for transitioning from user mode to privilege mode using the "enable" command.



```

Router0
Physical Config CLI Attributes
IOS Command Line Interface
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#enable secret 111
Router(config)#
Router(config)#
Router(config)#

```

Step 6: Enter the "line console 0" command to access the console line configuration mode. Then use the "password your_password" command to set the password for allowing configuration of the router through the console line. Follow this with the "login" command to require the above password for login. Finally, exit the current configuration mode with the "exit" command.

```

Router(config)#
Router(config)#
Router(config)#
Router(config)#line console 0
Router(config-line)#
Router(config-line)#password 222
Router(config-line)#
Router(config-line)#login
Router(config-line)#
Router(config-line)#
Router(config-line)#exit
Router(config)#
Router(config)#


```

Step 7: Use the "line vty 0 3" command to access the virtual line configuration mode (replace 3 with the number of users who can configure the router virtually through the internet). Then set the password with the "password your_password" command to allow configuration of the router through the virtual line (internet). Use the "login" command to require the password during login. Exit the current configuration mode with the "exit" command.

```

Router(config)#
Router(config)#
Router(config)#line vty 0 3
Router(config-line)#
Router(config-line)#password 333
Router(config-line)#
Router(config-line)#login
Router(config-line)#
Router(config-line)#exit
Router(config)#
Router(config)#

```

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Step 8: Use the "interface port_name" or "int port_name" command to access the port configuration mode. Then use the "ip address ipv4_address subnet_mask" command to set the given IP address to the current configured port. Finally, use the "no shut" command to keep the current configured port always on.

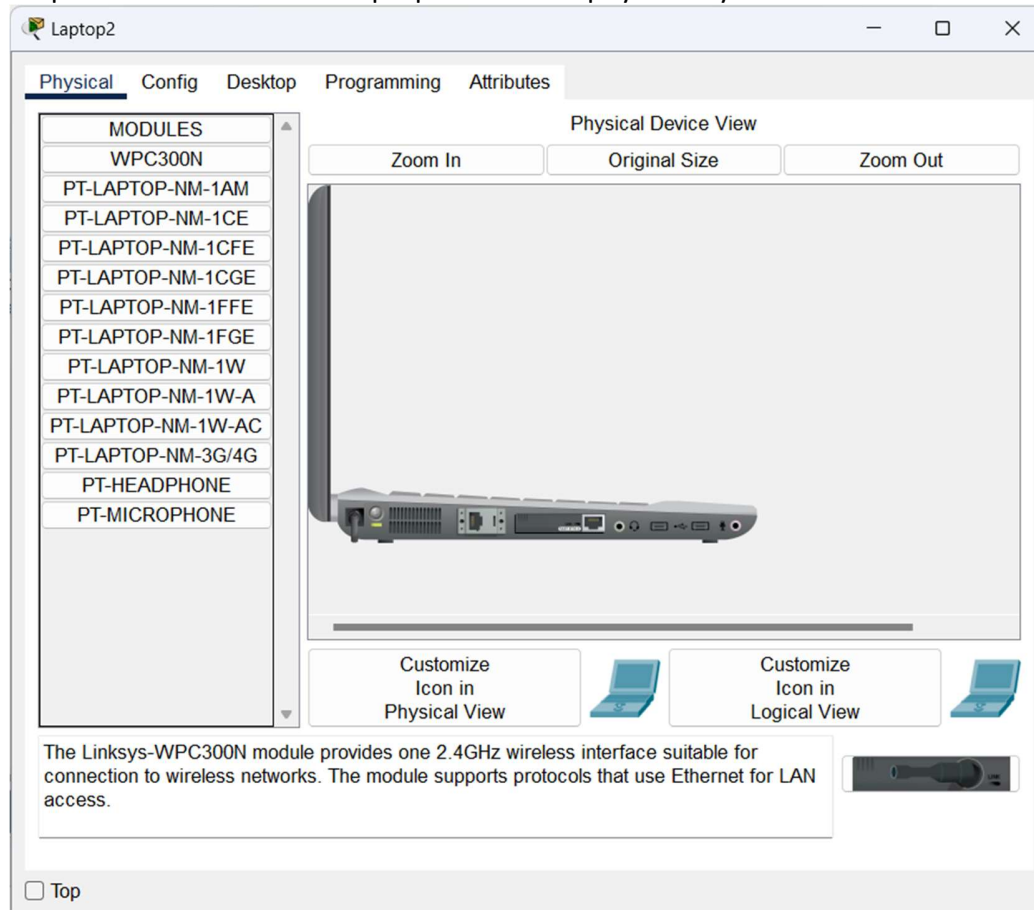
```
Router(config)#
Router(config)#int g0/0/0
Router(config-if)#
Router(config-if)#ip add 10.0.0.1 255.0.0.0
Router(config-if)#
Router(config-if)#no shut


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

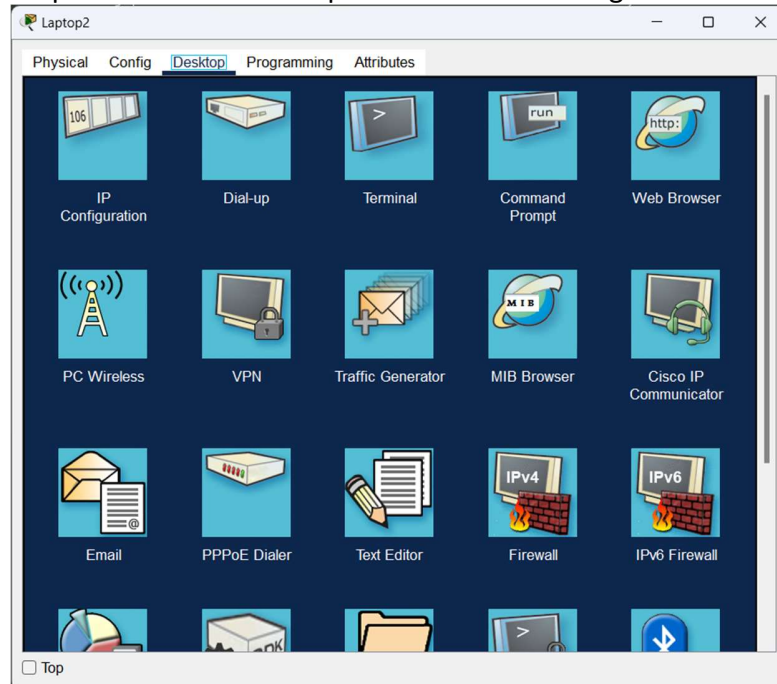
Router(config-if)#
Router(config-if)#
```

Step 9: Click on the PC or laptop to view the physical layout of the device.

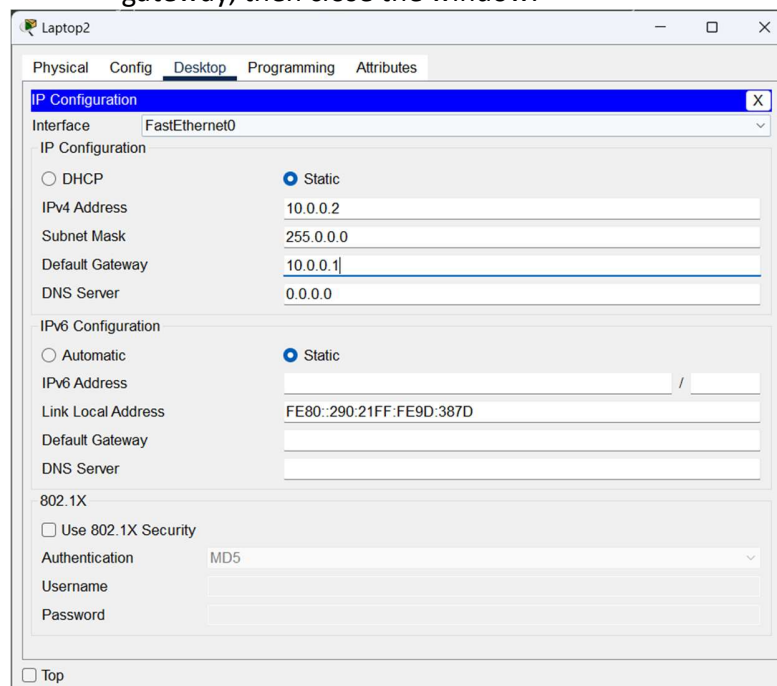



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Step 10: Click on "Desktop" and select "IP Configuration".

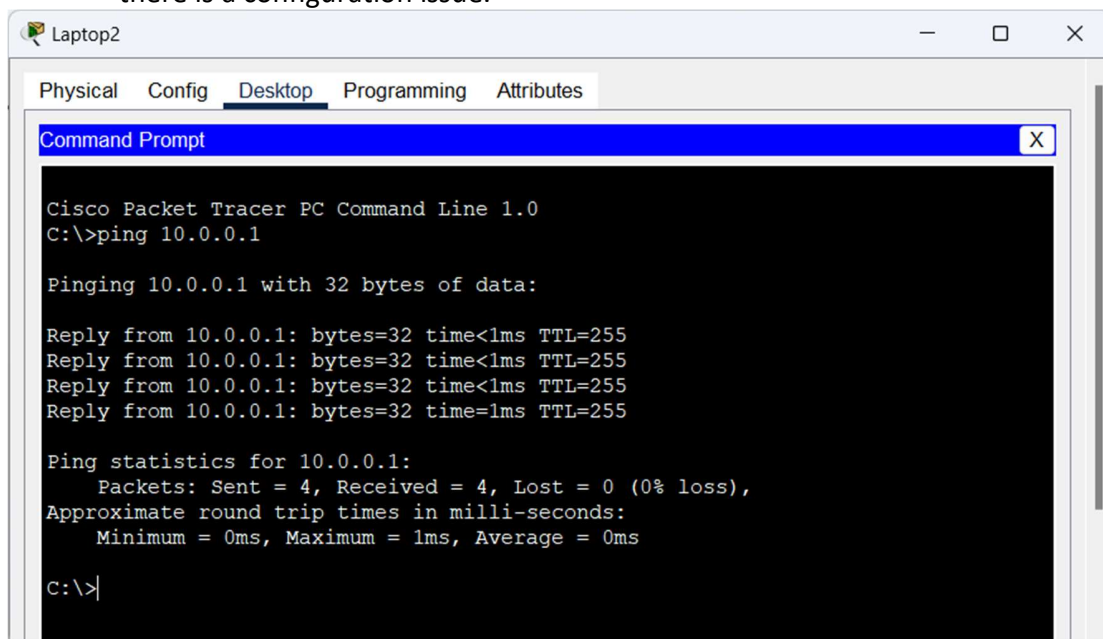


Step 11: In the IP Configuration window, enter the IPV4 address, subnet mask, and default gateway, then close the window.



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Step 12: Open the Command Prompt on the desktop and use the "ping ip_address_of_destination" command to check the connection between the source and destination. If all packets are received successfully, the connection is working; otherwise, there is a configuration issue.



```

Cisco Packet Tracer PC Command Line 1.0
C:\>ping 10.0.0.1

Pinging 10.0.0.1 with 32 bytes of data:

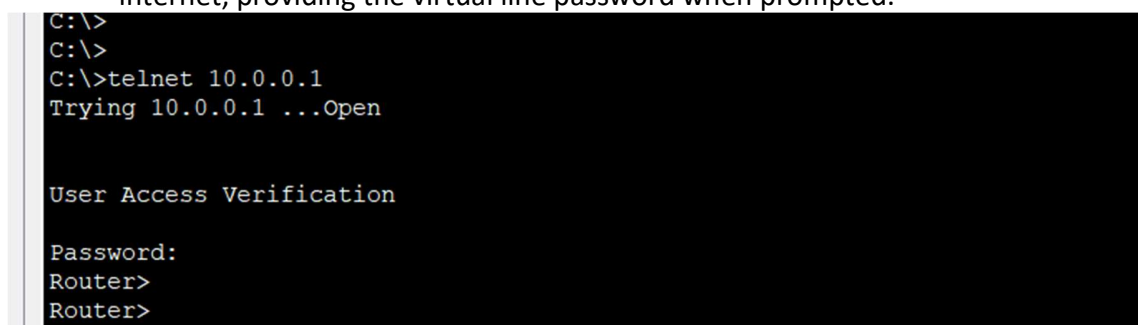
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time=1ms TTL=255

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:\>

```

Step 13: Use the "telnet router_ip_address" command to configure the router through the internet, providing the virtual line password when prompted.



```

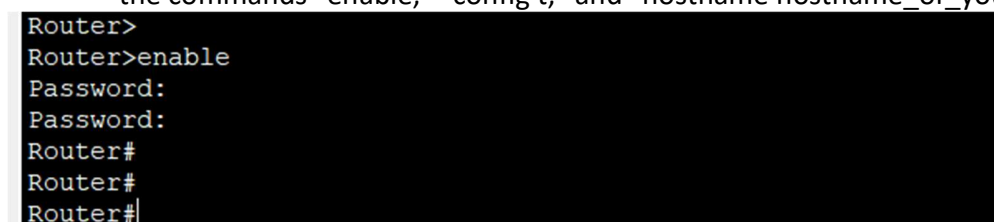
C:\>
C:\>
C:\>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

Password:
Router>
Router>

```


Step 14: Now, you can configure the router through the internet. To change the hostname, use the commands "enable," "config t," and "hostname hostname_of_your_choice".



```

Router>
Router>enable
Password:
Password:
Router#
Router#
Router#

```


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```

Router#
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#hostname MeetButani
MeetButani(config)#
MeetButani(config)#exit
MeetButani#
MeetButani#

```

Step 15: Go back to the router CLI to check if the hostname has been changed.

```
Press RETURN to get started!
```

```
User Access Verification
```

```
Password:
```

```
Password:
```

```
MeetButani>
```

```
MeetButani>
```


Step 16: To view the current configuration, use the "show running-config" command. To do the same from configuration mode, prefix the command with "do".

```

MeetButani#
MeetButani#
MeetButani#show running-config
Building configuration...

Current configuration : 758 bytes
!
version 16.6.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname MeetButani
!
!
!
enable secret 5 $1$mERr$W0yB.XmVL7E61EqvjIL7e1
!
!
!
!
!
ip cef
no ipv6 cef
--More--

```

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```

MeetButani#
MeetButani#config t
Enter configuration commands, one per line.  End with CNTL/Z.
MeetButani(config)#
MeetButani(config)#
MeetButani(config)#
MeetButani(config)#do sh running-config
Building configuration...

Current configuration : 758 bytes
!
version 16.6.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname MeetButani
!
!
!
enable secret 5 $1$mERr$W0yB.XmVL7E61EqvjIL7e1
!
!
!
!
!
ip cef
no ipv6 cef
--More--

```

Step 17: To save the current configuration permanently, use the "copy running-config startup-config" command.

```

MeetButani#
MeetButani#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
MeetButani#
MeetButani#

```

Conclusion:

Through this experiment, I learned how to configure a small network using a router, different router modes (user mode, privilege mode, configuration mode), how to configure the router through console and virtual lines, and how to secure it by setting passwords for login and privilege mode.