



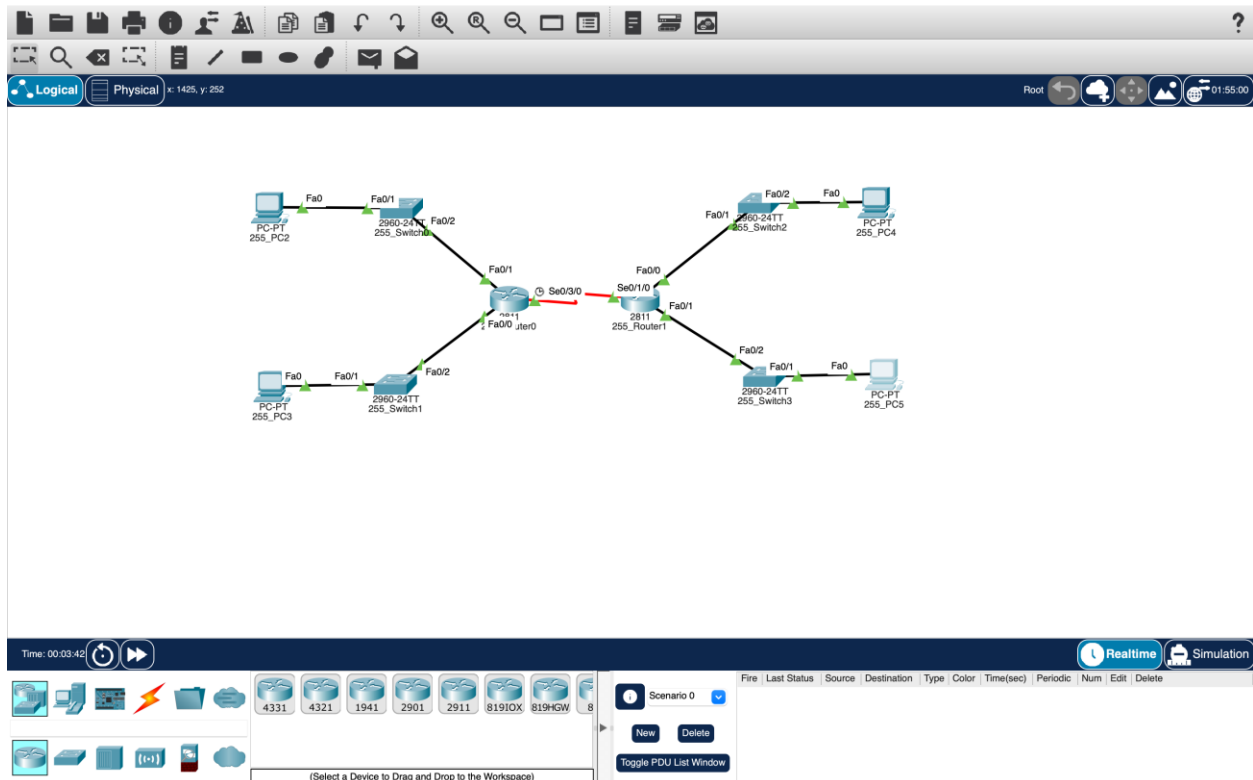
Department of Computer Science and Engineering
Islamic University of Technology (IUT)
A subsidiary organ of OIC

Lab Report 02

CSE 4512 : Computer Networks Lab

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Section: 2(A)
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Working Procedure:

(Explain in brief how you completed the tasks. Provide necessary screenshots of used commands for each task.)

Task 01:

At first I configured both of the routers for the four fastEthernet ports.

Physical **Config** CLI Attributes

Global Settings

Display Name 255_Router0

Hostname R1

NVRAM Erase Save

Startup Config Load... Export...

Running Config Export... Merge...

Equivalent IOS Commands

```
Router>show version
Router0 (cisco 255) (revision 1.0) with 1048576 bytes of memory
Processor board ID JAD05180MT (4292891491)
2 FastEthernet interfaces
2 Low-speed serial (Vty) network interface(s)
DRAM configuration is 44 bits wide with parity disabled.
256K bytes of non-volatile configuration memory.
249856K bytes of ATA System CompactFlash 0 (Read/Write)

Press RETURN to get started!

Router0>configure terminal
Router0(config)#interface FastEthernet0/0
Router0(config-if)#line protocol shutdown
Router0(config-if)#no shutdown
Router0(config-if)#exit
Router0(config)#interface FastEthernet0/1
Router0(config-if)#line protocol shutdown
Router0(config-if)#no shutdown
Router0(config-if)#exit
Router0(config)#interface Serial0/3/0
Router0(config-if)#line protocol shutdown
Router0(config-if)#no shutdown
Router0(config-if)#exit
Router0(config)#interface Serial0/3/1
Router0(config-if)#line protocol shutdown
Router0(config-if)#no shutdown
Router0(config-if)#exit
```

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Task 02:

Configured the router interfaces with proper ip addressing as given in the network specification.

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257_Router1

PhysicalConfigCLIAttributes

IOS Command Line Interface

```
R2(config)#banner motd #
Enter TEXT message. End with the character '#'.
*****
WARNING: No entrance!!!
*****
#

R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#copy running-config startup-config
Destination filename [startup-config]?
Building configuration...
[OK]
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int fa0/1
R2(config-if)#ip add 192.168.12.1 255.255.255.0
R2(config-if)#des LInk to LAN-12
R2(config-if)#no shut

R2(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int fa0/0
R2(config-if)#ip add 192.168.13.1 255.255.255.0
R2(config-if)#des Link to LAN-13
R2(config-if)#no shut

R2(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

R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#
```

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```

R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R1(config)#int se0/3/0
R1(config-if)#ip add 209.165.200.225 255.255.255.0
R1(config-if)#des Link to LAN-16
R1(config-if)#no shut

%LINK-5-CHANGED: Interface Serial0/3/0, changed state to down
R1(config-if)#exot
      ^
% Invalid input detected at '^' marker.

R1(config-if)#exit
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

```

```

R2#
R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
R2(config)#
R2(config)#
R2(config)#int se
R2(config)#int serial0/1/0
R2(config-if)#ip add
R2(config-if)#ip address 209.165.200.226 255.255.255.0
R2(config-if)#des Link to LAN-18
R2(config-if)#no shut

R2(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up

R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

R2#
R2#

```

Added the ip addresses for the fastEthernet and Serial ports.

Task 03:

Desktop>IP Configuration inside a PC.

The screenshot shows a network configuration window titled "IP Configuration" with a blue header bar. The window has tabs for "Physical", "Config", "Desktop", "Programming", and "Attributes", with "Desktop" currently selected. Below the tabs, the "Interface" is set to "FastEthernet0". The "IP Configuration" section has two radio buttons: "DHCP" (unselected) and "Static" (selected). The "Static" configuration fields are filled with: IPv4 Address: 192.168.10.1, Subnet Mask: 255.255.255.0, Default Gateway: 0.0.0.0, and DNS Server: 0.0.0.0. The "IPv6 Configuration" section also has two radio buttons: "Automatic" (unselected) and "Static" (selected). The "Static" configuration fields are filled with: IPv6 Address: (empty), Link Local Address: FE80::201:C9FF:FECEB:804A, Default Gateway: (empty), and DNS Server: (empty). The "802.1X" section has a checkbox for "Use 802.1X Security" which is unchecked. Below this, the "Authentication" dropdown is set to "MD5". The "Username" and "Password" fields are empty. At the bottom left, there is a "Top" button.

I did this for all the PCs.

Task 04:

Checking the status of the interfaces to make sure they are up and running:

```

R1#
R1#show ip interface brief
Interface                IP-Address      OK? Method Status        Protocol
FastEthernet0/0          192.168.10.1    YES manual up             up
FastEthernet0/1          192.168.11.1    YES manual up             up
Serial0/3/0              209.165.200.225 YES manual up             up
Serial0/3/1              unassigned      YES unset  administratively down down
Vlan1                    unassigned      YES unset  administratively down down
R1#ping 209.165.200.226

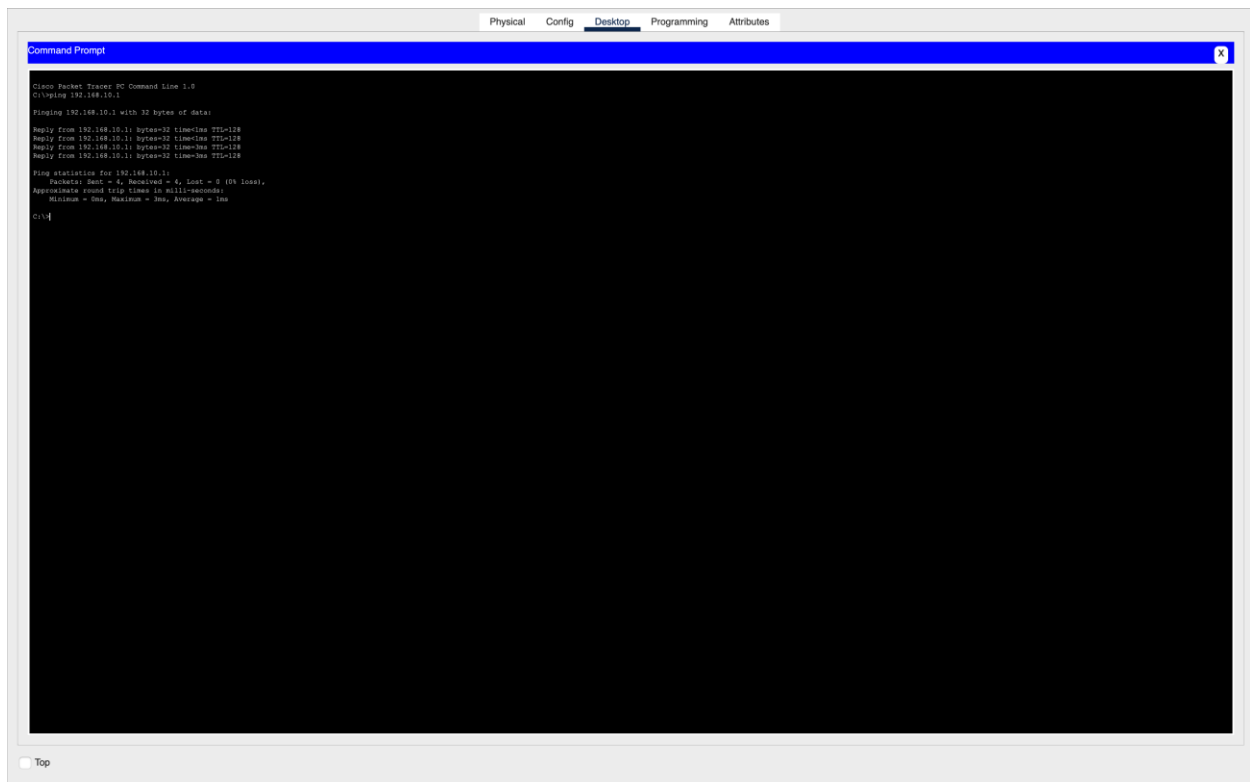
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 209.165.200.226, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 22/27/30 ms

R1#

```

Task 05:

Checking if the gateway router can be reached from each PC:



The screenshot shows a Packet Tracer PC Command Line window for a Cisco Packet Tracer PC. The window has tabs for Physical, Config, Desktop, Programming, and Attributes, with Desktop selected. The command prompt shows the user typing 'ping 192.168.12.1' and pressing Enter. The output shows four successful replies from 192.168.12.1 with 32 bytes of data and a time of 1ms. The statistics show 4 packets sent, 4 received, 0 lost, and an average round trip time of 1ms.

```
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 192.168.12.1

Pinging 192.168.12.1 with 32 bytes of data:

Reply from 192.168.12.1: bytes=32 time=1ms TTL=128
Reply from 192.168.12.1: bytes=32 time=1ms TTL=128
Reply from 192.168.12.1: bytes=32 time=1ms TTL=128
Reply from 192.168.12.1: bytes=32 time=1ms TTL=128

Ping statistics for 192.168.12.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milliseconds:
        Minimum = 1ms, Maximum = 1ms, Average = 1ms
C:\>
```

This is same for all the four PCs.

Questions (Answer to the point):

Q1. Write the command for adding a **motd banner** with the string "*Restricted Access. Only for authorized individuals.*"

Ans: *banner motd #*

Restricted Access. Only for authorized individuals.

#

Q2. What is the recommended way of enabling password in a cisco device? Why it's better than other methods?

Ans: *enable secret* [password]

This one is better because it is the recommended way to enable password as it stores the md5 hash of the given password. You can view the password in running-config.

Q3. What are the differences between DCE and DTE cables?

Ans:

Q4. Write the command to check the status of all interfaces in a router.

Ans: *show ip interface brief*

Q5. How do you make all the configuration changes in a cisco device persistent? What would happen if you don't do this?

Ans: *copy running-config startup-config*

Any changes made will be lost if the device is rebooted or powered off, if I don't do this.

Challenges (if any):