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PRACTICAL 05

❖ **AIM :** Utilize Telnet, SSH and FTP in a network of an organization.

❖ **Scenario :**

Design the network of an organization having 5 different departments. Make sure the below mentioned requirements must be fulfilled.

- 1) Create 3 users which will be able to get the access of the router using Telnet.
- 2) Create a single password to get the access of the router using Telnet.
- 3) Create 3 users which will be able to get the access of the router using SSH.
- 4) Create a FTP server and perform the operation to upload and download a file. And explore all the operation available with the ftp server.

✓ **Procedure :**

1. Create a network department as follows :

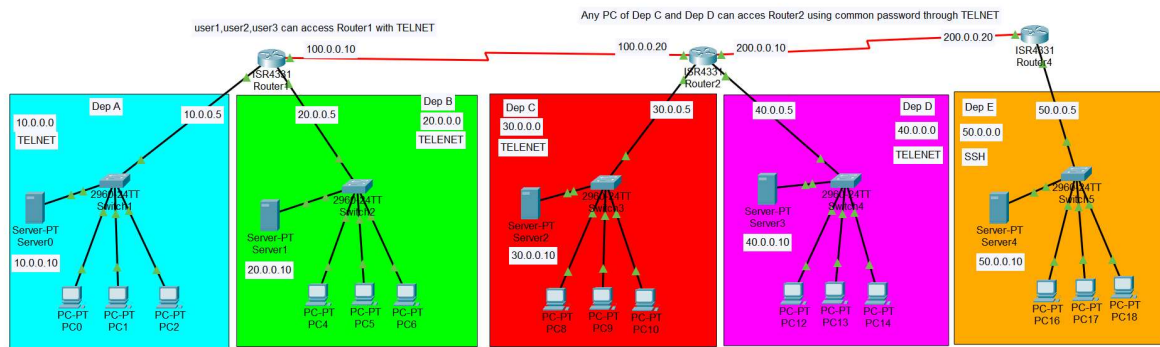
DEPARTMENT A Network – 10.0.0.0

DEPARTMENT B Network – 20.0.0.0

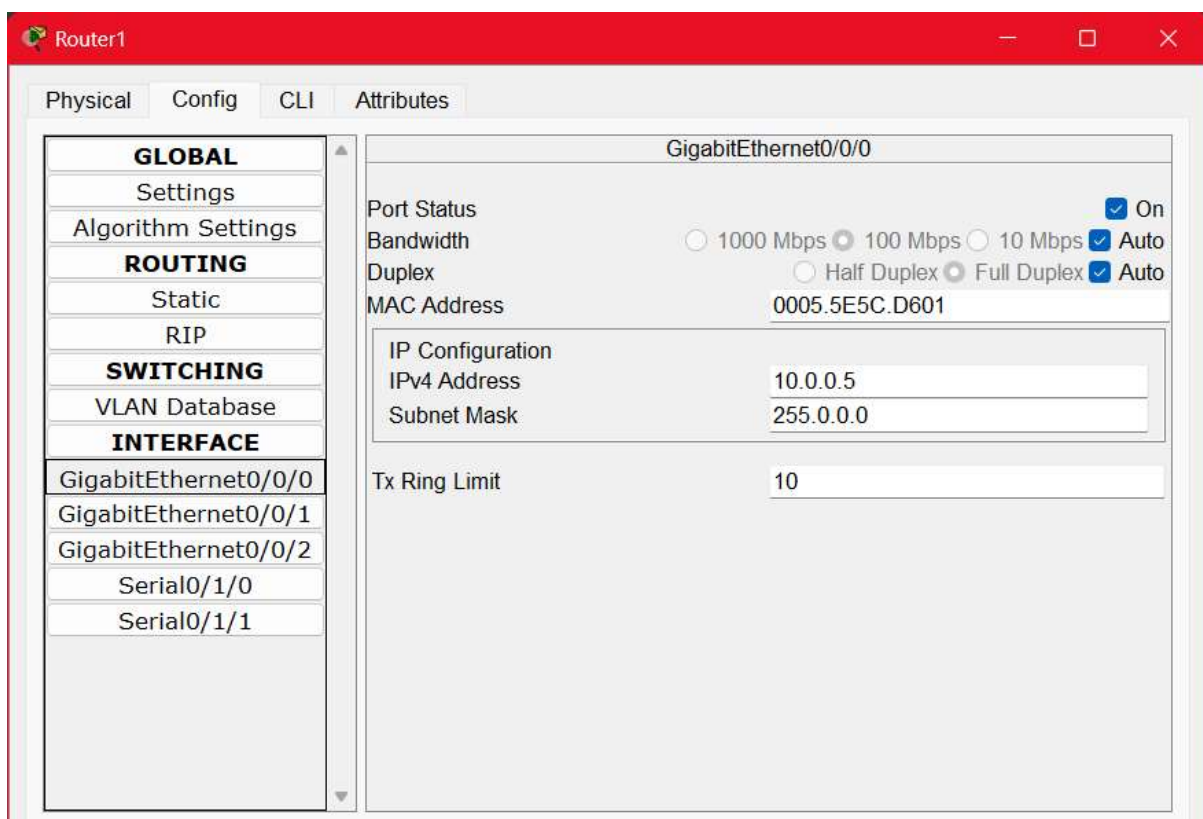
DEPARTMENT C Network – 30.0.0.0

DEPARTMENT D Network – 40.0.0.0

DEPARTMENT E Network – 50.0.0.0



2. Setup the Router Configuration in each router among the networks :



3. Setup DHCP in the server and assign IP to each PC through DHCP :

Server0

Physical Config **Services** Desktop Programming Attributes

SERVICES

- HTTP
- DHCP**
- DHCPv6
- TFTP
- DNS
- SYSLOG
- AAA
- NTP
- EMAIL
- FTP
- IoT
- VM Management
- Radius EAP

DHCP

Interface: FastEthernet0 Service: ☒ On ☐ Off

Pool Name: serverPool

Default Gateway: 10.0.0.5

DNS Server: 10.0.0.10

Start IP Address : 10 0 0 1

Subnet Mask: 255 0 0 0

Maximum Number of Users : 100

TFTP Server: 0.0.0.0

WLC Address: 0.0.0.0

Add Save Remove

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
serverPool	10.0.0.5	10.0.0.10	10.0.0.1	255.0.0.0	100	0.0.0.0	0.0.0.0

Similarly setup DHCP in servers of other networks and give the IP to the PC's through DHCP.

4. Make following Configuration in Router0 so that 3 users which will be able to get the access of the router using Telnet:
change host name.

setup router enable password

create 3 users

line vty 0 3

login local

by running this command on CLI we can see config details:

show running-config

```
hostname DepAB
!
!
!
enable password r1

!
!
username user1 password 0 pass1
username user2 password 0 pass2
username user3 password 0 pass3

line vty 0 3
  login local
line vty 4
  login
!
!
!
end

DepAB#
```

5. Make following configuration in Router1 so that a single password is needed to get the access of the router using Telnet:

change host name.

setup router enable password

line vty 0 3

password pass

login

by running this command on CLI we can see config details:

show running-config

```
hostname DepCD
!
!
!
enable password r2
!
!
```

```
line vty 0 3
  password pass
  login
line vty 4
  login
!
!
!
end

DepCD#
```

- 6.** Make following configuration in Router2 so that 3 users which will be able to get the access of the router using SSH:

Setup router enable password

change host name

set a domain-name

create 3 users

generate key

line vty 0 3

transport input ssh

login local

by running this command on CLI we can see config details:

show running-config

```
hostname depE
!
!
!
enable password r3

username user1 password 0 pass1
username user2 password 0 pass2
username user3 password 0 pass3
!
!
!
!
!
!
!
!
!
ip ssh version 1
ip domain-name ict
```

```

line con 0
!
line aux 0
!
line vty 0 3
  login local
  transport input ssh
line vty 4
  login
!
!
!
end

depE# |

```

7. Check remote access to each router configured above:

Router0 (DepAB) [telnet user & password]

```

Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 100.0.0.10
Trying 100.0.0.10 ...Open

User Access Verification

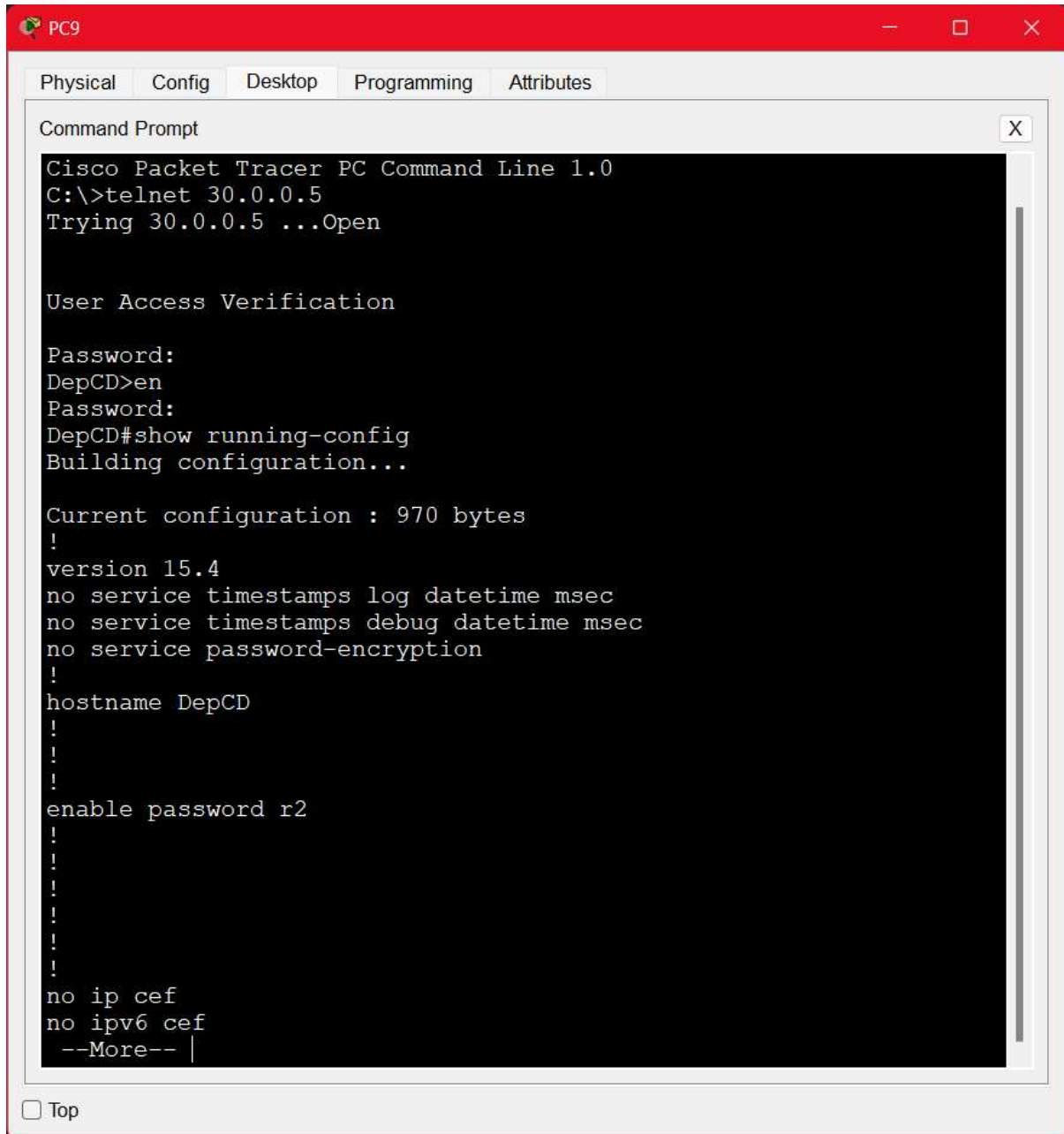
Username: user1
Password:
DepAB>en
Password:
DepAB#show runnig-config
      ^
% Invalid input detected at '^' marker.

DepAB#show running-config
Building configuration...

Current configuration : 1092 bytes
!
version 15.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname DepAB
!
!
!
enable password r1
!

```

Router1 (DepCD) [telnet common password]



```
PC9
Physical Config Desktop Programming Attributes
Command Prompt
Cisco Packet Tracer PC Command Line 1.0
C:\>telnet 30.0.0.5
Trying 30.0.0.5 ...Open

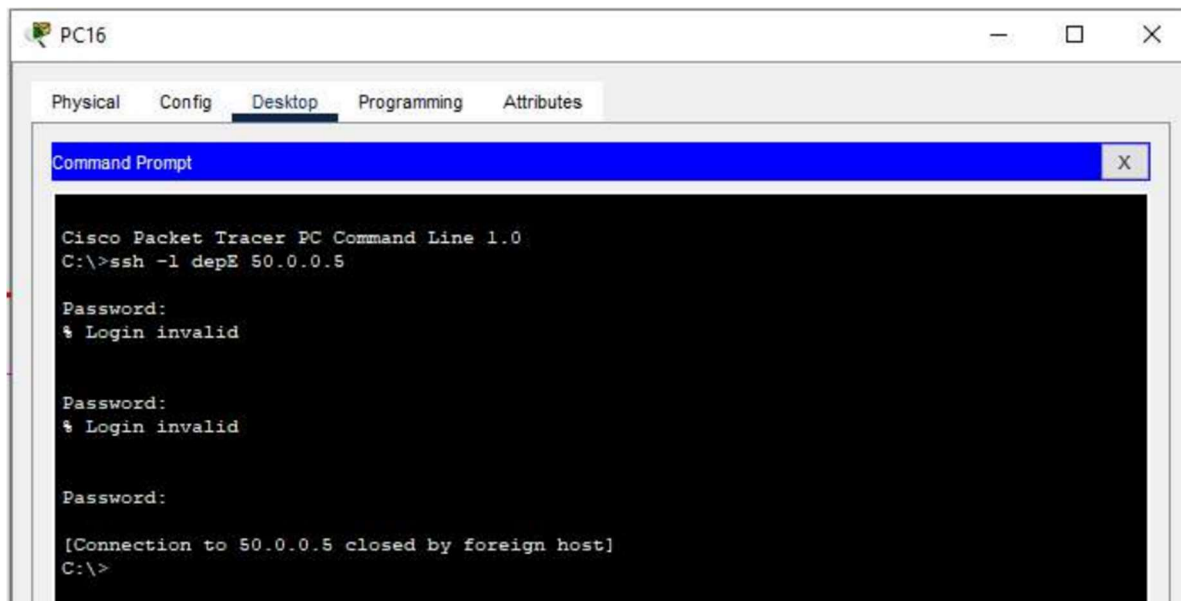
User Access Verification

Password:
DepCD>en
Password:
DepCD#show running-config
Building configuration...

Current configuration : 970 bytes
!
version 15.4
no service timestamps log datetime msec
no service timestamps debug datetime msec
no service password-encryption
!
hostname DepCD
!
!
!
enable password r2
!
!
!
!
!
no ip cef
no ipv6 cef
--More-- |
```

☐ Top

Router2 (DepE) [SSH]



8. Through FTP upload & download a text file as follow:

PC0 uploads test.txt :

```
C:\>ftp 10.0.0.10
Trying to connect...10.0.0.10
Connected to 10.0.0.10
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>put test.txt

Writing file test.txt to 10.0.0.10:
File transfer in progress...

[Transfer complete - 15 bytes]

15 bytes copied in 0.076 secs (197 bytes/sec)
ftp>
```

PC1 dowloads test.txt :

```
C:\>ftp 10.0.0.10
Trying to connect...10.0.0.10
Connected to 10.0.0.10
220- Welcome to PT Ftp server
Username:cisco
331- Username ok, need password
Password:
230- Logged in
(passive mode On)
ftp>get test.txt

Reading file test.txt from 10.0.0.10:
File transfer in progress...

[Transfer complete - 15 bytes]

15 bytes copied in 0 secs
ftp>
```

9. Exploring other FTP commands options :

```
ftp>help
?
cd
delete
dir
get
help
passive
put
pwd
quit
rename

ftp>pwd
ftp>
/ftp is current working directory.
ftp>rename test.txt hello.txt

Renaming test.txt
ftp>
[OK Renamed file successfully from test.txt to hello.txt]
ftp>
```

```
ftp>put test.txt
```

```
Writing file test.txt to 10.0.0.10:  
File transfer in progress...
```

```
[Transfer complete - 15 bytes]
```

```
15 bytes copied in 0.053 secs (283 bytes/sec)  
ftp>delete test.txt
```

```
Deleting file test.txt from 10.0.0.10: ftp>  
[Deleted file test.txt successfully ]  
ftp>
```

```
ftp>help passive
```

```
Toggle between active and passive mode  
syntax: passive  
ftp>
```

```

ftp>dir
Listing /ftp directory from 10.0.0.10:
0   : asa842-k8.bin                    5571584
1   : asa923-k8.bin                    30468096
2   : c1841-advipservicesk9-mz.124-15.T1.bin 33591768
3   : c1841-ipbase-mz.123-14.T7.bin    13832032
4   : c1841-ipbasek9-mz.124-12.bin    16599160
5   : c1900-universalk9-mz.SPA.155-3.M4a.bin 33591768
6   : c2600-advipservicesk9-mz.124-15.T1.bin 33591768
7   : c2600-i-mz.122-28.bin           5571584
8   : c2600-ipbasek9-mz.124-8.bin     13169700
9   : c2800nm-advipservicesk9-mz.124-15.T1.bin 50938004
10  : c2800nm-advipservicesk9-mz.151-4.M4.bin 33591768
11  : c2800nm-ipbase-mz.123-14.T7.bin  5571584
12  : c2800nm-ipbasek9-mz.124-8.bin    15522644
13  : c2900-universalk9-mz.SPA.155-3.M4a.bin 33591768
14  : c2950-i6q4l2-mz.121-22.EA4.bin  3058048
15  : c2950-i6q4l2-mz.121-22.EA8.bin  3117390
16  : c2960-lanbase-mz.122-25.FX.bin   4414921
17  : c2960-lanbase-mz.122-25.SEE1.bin  4670455
18  : c2960-lanbasek9-mz.150-2.SE4.bin  4670455
19  : c3560-advipservicesk9-mz.122-37.SE1.bin 8662192
20  : c3560-advipservicesk9-mz.122-46.SE.bin 10713279
21  : c800-universalk9-mz.SPA.152-4.M4.bin 33591768
22  : c800-universalk9-mz.SPA.154-3.M6a.bin 83029236
23  : cat3k_caa-universalk9.16.03.02.SPA.bin 505532849
24  : cgr1000-universalk9-mz.SPA.154-2.CG 159487552
25  : cgr1000-universalk9-mz.SPA.156-3.CG 184530138
26  : hello.txt                       15
27  : ir800-universalk9-bundle.SPA.156-3.M.bin 160968869
28  : ir800-universalk9-mz.SPA.155-3.M    61750062
29  : ir800-universalk9-mz.SPA.156-3.M    63753767
30  : ir800_yocto-1.7.2.tar             2877440
31  : ir800_yocto-1.7.2_python-2.7.3.tar 6912000
32  : pt1000-i-mz.122-28.bin            5571584
33  : pt3000-i6q4l2-mz.121-22.EA4.bin    3117390
ftp>

```

```
ftp>quit
```

```

221- Service closing control connection.
C:\>

```

Conclusion: Thus, hereby performing this practical we understood how to utilize Telnet, SSH and FTP in a network.