COMPUTER NETWORKS PRACTICUM
PRACTICUM 8
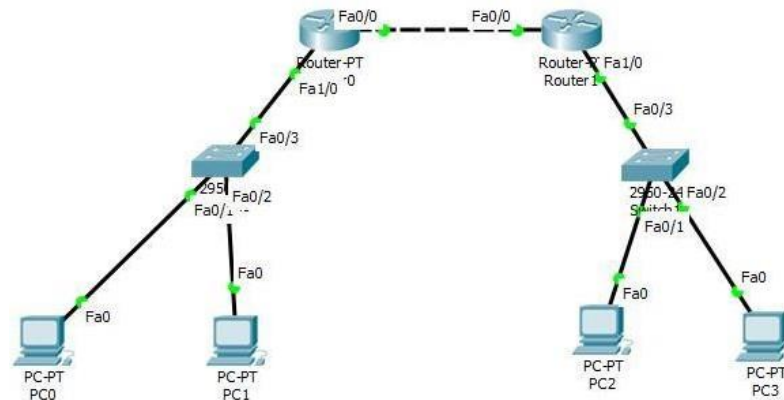

By:

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FACULTY OF COMMUNICATION AND INFORMATICS
UNIVERSITY OF MUHAMMADIYAH SURAKARTA
2020

1. Activity 1

Physical | Config | CLI | Attributes

FastEthernet0/0

GLOBAL		FastEthernet0/0	
Settings	Port Status		☑ On
Algorithm Settings	Bandwidth	○ 100 Mbps ○ 10 Mbps ☑ Auto	
ROUTING	Duplex	○ Half Duplex ⊙ Full Duplex ☑ Auto	
INTERFACE	MAC Address	0001.96E9.B6E1	
FastEthernet0/0	IP Configuration		
FastEthernet1/0	IP Address	192.168.10.1	
Serial2/0	Subnet Mask	255.255.255.0	
Serial3/0			
FastEthernet4/0	Tx Ring Limit	10	
FastEthernet5/0			

Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

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Physical | Config | CLI | Attributes

FastEthernet1/0

GLOBAL		FastEthernet1/0	
Settings	Port Status		☑ On
Algorithm Settings	Bandwidth	○ 100 Mbps ○ 10 Mbps ☑ Auto	
ROUTING	Duplex	○ Half Duplex ⊙ Full Duplex ☑ Auto	
INTERFACE	MAC Address	0002.1761.2578	
FastEthernet0/0	IP Configuration		
FastEthernet1/0	IP Address	192.168.110.254	
Serial2/0	Subnet Mask	255.255.255.0	
Serial3/0			
FastEthernet4/0	Tx Ring Limit	10	
FastEthernet5/0			

Equivalent IOS Commands

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

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Physical | Config | CLI | Attributes

FastEthernet0/0

GLOBAL		FastEthernet0/0	
Settings	Port Status		☑ On
Algorithm Settings	Bandwidth	⊙ 100 Mbps ○ 10 Mbps ☑ Auto	
ROUTING	Duplex	○ Half Duplex ⊙ Full Duplex ☑ Auto	
Static	MAC Address	00E0.F7AE.1C76	
RIP	IP Configuration		
INTERFACE	IP Address	192.168.10.2	
FastEthernet0/0	Subnet Mask	255.255.255.0	
FastEthernet1/0			
Serial2/0	Tx Ring Limit	10	
Serial3/0			
FastEthernet4/0			
FastEthernet5/0			

Equivalent IOS Commands

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#
```

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Physical | Config | CLI | Attributes

FastEthernet1/0

GLOBAL		FastEthernet1/0	
Settings	Port Status		☑ On
Algorithm Settings	Bandwidth	⊙ 100 Mbps ○ 10 Mbps ☑ Auto	
ROUTING	Duplex	○ Half Duplex ⊙ Full Duplex ☑ Auto	
Static	MAC Address	0001.63BD.81E1	
RIP	IP Configuration		
INTERFACE	IP Address	192.168.120.254	
FastEthernet0/0	Subnet Mask	255.255.255.0	
FastEthernet1/0			
Serial2/0	Tx Ring Limit	10	
Serial3/0			
FastEthernet4/0			
FastEthernet5/0			

Equivalent IOS Commands

```
Router>enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#interface FastEthernet1/0
Router(config-if)#
```

☐ Top

```
?outer›enable
?outer#conf

Int r con=i ration commands, one'p r line"'In 'wi h' rL.'8.

?:uter'con ig!routerl#netw:rk U£.i68.iiJ.J
?outer'config-r:uterl#network lS£.i<8.i0.J
7outerrconIig-router14'Z
?outer#
?SYS-o-CONFIG I: :nfigured fr:m zsnssle ty zsnsole
```

```
Aoute,>enabIe
?outerfconi
Ooniiguring ir:m terminal, memsry, or network Iterminal]°
enter configuration comsmnds, one per line. and with OCIL'Z.
Router..config)#router rip
Router..coniig-router)#network l?Z.1f?.UJ.0
Router..config-router)#network lSZ.UB.1J.0
Router..config-router)#'Z
Aouterf
s s zs - s - cor ri C I : Co n* i quxe fl * x em e o us o ie b2 e onso ie
```

```
Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile,
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external
       E1 - OSPF external type 1, E2 - OSPF external type 2, E -
       i - IS-IS, L1 - IS-IS IeveI-1, LI - IS-IS IeveI-I, ia -



C    lSZ.1 S.1J.0 Z4 is directly connected, Fast:thernetJ  J
```

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.120.4

Pinging 192.168.120.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.120.4: bytes=32 time<1ms TTL=126
Reply from 192.168.120.4: bytes=32 time<1ms TTL=126
Reply from 192.168.120.4: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.120.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 0ms, Average = 0ms

C:\>
```

```
9outer>enable
Aouter#conf
Configuring [rom terminal, ⌿i⌿ery, or network [terminal]?
Enter configuration commends, one per line.  End with CNTL/Z.
9outerlconJig)#access-list 10 permit.152.1f8.120.0 0.0.255.'255
BouterCconfig)#end

Router4conf
Configuring from terminal, ⌿me w⌿ry, or network [iereinalj?
Rnter confi'guraiion commands, one per line. End wLth CNTL/Z.
Routerlcon€ig)#int fa 1Z0
Kouterlconfig-if)#ip access-group 10 out
Routerlconfig-if)4-Z
n .irñre


Router#show access-lists
Standard IP access list  10
    10 permit 152.1f8.0.0 0.0.255.255
```

```
C:\>ping 192.168.110.3

Pinging 192.168.110.3 with 32 bytes of data:

Reply from 192.168.110.3: bytes=32 time=1ms TTL=126
Reply from 192.168.110.3: bytes=32 time=1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.110.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>
```

```
Boutér4conf
Configuring from terminal, ⌿x⌿ery, or network [terminal]?
9nter configuration commands, one per line.  Bnd with CNTLfZ.
Routerlconfig)4ae⌿oss-list⌿ ?0 permit 192.1f8.120.4 0.0.0.0
Bouterl config)#'Z
Bouter#
8SYS-S-CDNFIG_I'. Configured from console by console

Boutér4conf
Configuring from terminal, ⌿me⌿ry, or network [terminal]?
9nter configuration commands, one per line.  Bnd xith CNTL/Z.
Routerlconfig)4int fa 1/O
Bouterlconfig-if)#ip access-group'20 out
Bouterlconfig-ifl4'Z
```

```
C:\>ping 192.168.110.3

Pinging 192.168.110.3 with 32 bytes of data:

Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.

Ping statistics for 192.168.110.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>ping 192.168.110.4

Pinging 192.168.110.4 with 32 bytes of data:

Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.
Reply from 192.168.10.1: Destination host unreachable.

Ping statistics for 192.168.110.4:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

```
C:\>ping 192.168.110.3

Pinging 192.168.110.3 with 32 bytes of data:

Reply from 192.168.110.3: bytes=32 time=1ms TTL=126
Reply from 192.168.110.3: bytes=32 time=1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126
Reply from 192.168.110.3: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.110.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

C:\>ping 192.168.110.4

Pinging 192.168.110.4 with 32 bytes of data:

Request timed out.
Reply from 192.168.110.4: bytes=32 time<1ms TTL=126
Reply from 192.168.110.4: bytes=32 time<1ms TTL=126
Reply from 192.168.110.4: bytes=32 time<1ms TTL=126

Ping statistics for 192.168.110.4:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
Approximate round trip times in milli-seconds:
```
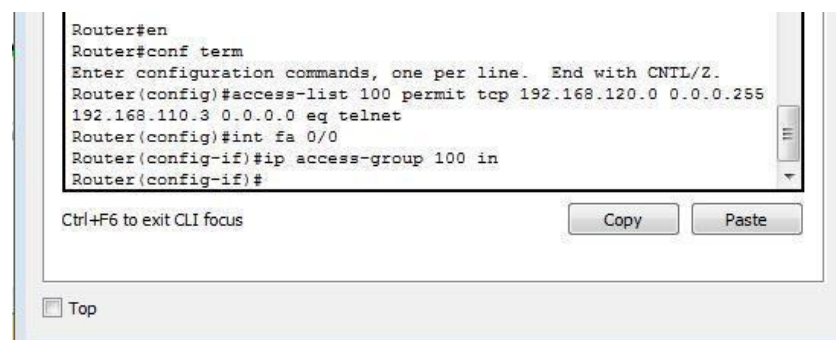
2. Activity 2

```
Router#en
Router#conf term
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#access-list 100 permit tcp 192.168.120.0 0.0.0.255
192.168.110.3 0.0.0.0 eq telnet
Router(config)#int fa 0/0
Router(config-if)#ip access-group 100 in
Router(config-if)#
```

Ctrl+F6 to exit CLI focus   Copy   Paste

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IOS Command Line Interfacé

```
 Standard 'IP 'access list 10
    10.'permit l9a=168.0.0 0.'0.a55iiS5 14 matchlesll
'Standard IE access 'list. i0




 dnter configuration comsends„ one per liné. 6nd.'wi'th CNTL/Z.
 Bouterlconfig)#access-list 100 pérmit tcp i92.168.lz0.0 0.'0.0.a5S
 is^.'ic8.mo.'a o.o.o.'o sq teinet
 Routerlconfig)#int fa 0'/0
 Routerlconfig-if)8ip access-gfcnip 100 in
 9outer lconfig-if)#-Z

 BSYS-S   NEIG_I': Configured from consple by console
 show access-lists
 Standard'IP access list  10
    10.'permit 19x=168.0.0 0.'0.z5SiaS5 lQmatches))
'Standard IE access 'list. a0
    i0.pdrmit host 19a.16B.1 0.4 lli matlles))
Extended IP access list 100
    10.'permit tcp 19 :1G8.1 0.0.0.0.'0. 5S host'19 i168'.110.3 eq
 telnet

 Bouter#
```

Ctrl-I-fi6.tñ enit.KLI'focus   Copy   Paste

@ Top

```
 3ñter configuration commândé. one per line. dnd wiñh CNTL/Z.
 Router{confi'g)8access-list 10 deny 19a.168.la0.4 0.0.0.1
 Doutertconfig)#-Z
 Router#
 BSXS-o-C0NFIG_I: Con€iguied from console by console
 show access-lists
 StandaKd IP. access ligt 10
    .10 pefHi't 19,.168.0.0 O.O. 5S. SS
    a0 dény.hoét 19a.168.la0.4
 Standard IE. access.list 0
    10 permit host l9i.168.la0.4
 Bxtended IP access list IOO'
    10 pémiit tcp 1'92.1GBi1 0.0 0.0.0. SS hoét 19a.168.110.3 eq
 telnet
```

Ctrl+F6 to exit CLI focus   Copy   Paste

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.110.3

Pinging 192.168.110.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 192.168.110.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

C:\>
```