

**Basic ACL
Configuration**

CIT 167

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Part 1: Configuring the Network

i) Configuring the PCs

I set up the devices according to the diagram. I then configured the PCs according to the diagram. You can see in Fig. 1 on Pg. 1.

Next, I configured the Router, you can see the output of `show ip int brief` in You can see in Fig. 1d on Pg. 1.

<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.20.18
Subnet Mask	255.255.255.0
Default Gateway	192.168.20.1
DNS Server	0.0.0.0

(a) IP Configuration of Joes PC

<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.20.35
Subnet Mask	255.255.255.0
Default Gateway	192.168.20.1
DNS Server	0.0.0.0

(b) IP Configuration of Susans PC

<input type="radio"/> DHCP	<input checked="" type="radio"/> Static
IP Address	192.168.10.91
Subnet Mask	255.255.255.0
Default Gateway	192.168.10.1
DNS Server	0.0.0.0

(c) IP Configuration of Williams PC

```

Router#show ip int brief
Interface      IP-Address      OK? Method Status  Protocol
GigabitEthernet0/0  192.168.20.1  YES manual  up      up
GigabitEthernet0/1  192.168.10.1  YES manual  up      up
Vlan1          unassigned     YES unset   administratively down down
Router#

```

(d) Show Ip int brief on R1

Figure 1: IP Configuration of the PCs on the network

ii) Verifying the Network

Next, I used the pcs to ping the other PCs on the network. The output of which can be seen in You can see in Fig. 2a through Fig. 2d on Pg. 2.

iii) Creating and applying the standard ACL

I set up a standard ACL named PERMIT-JOE, with the following lines `10 permit host 192.168.20.18`

`20 deny any` You can see in Fig. 3 a.

Next, I applied that to int g0/1 as an outgoing acl (Fig. 3b)

Finally, I verified that it had been applied correctly to the router, see Fig. 3c and Fig. 3d on Pg. 2.

iv) Verifying the ACL is working

I attempted to ping William's PC from Joe (Fig. 4a), this was successful. I then, attempted to ping William's PC from Susan (Fig. 4??), this was unsuccessful.

ii) Creating and Applying An ACL

In order to block all traffic from the 192.168.10.0 Network, I would create and inbound acl on g0/1 that says `10 deny 192.168.10.0 0.0.0.255` I could also create a deny any on that same inbound port, as thats the only netowrk on that port, but as other networks can be created in the future, I feel like that would be the safest way to go about this.

```

Pinging 192.168.20.18 with 32 bytes of data:
Request timed out.
Reply from 192.168.20.18: bytes=32 time=1ms TTL=127
Reply from 192.168.20.18: bytes=32 time<1ms TTL=127
Reply from 192.168.20.18: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.20.18:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

```

(a) William ping Joe's PC

```

Pinging 192.168.10.91 with 32 bytes of data:
Reply from 192.168.10.91: bytes=32 time=13ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.91:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 13ms, Average = 3ms

```

(c) Susan ping William's PC

```

Reply from 192.168.20.35: bytes=32 time<1ms TTL=127
Reply from 192.168.20.35: bytes=32 time<1ms TTL=127
Reply from 192.168.20.35: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.20.35:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

```

(b) William Ping Susan's PC

```

Pinging 192.168.10.91 with 32 bytes of data:
Reply from 192.168.10.91: bytes=32 time=3ms TTL=127
Reply from 192.168.10.91: bytes=32 time=1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127
Reply from 192.168.10.91: bytes=32 time=1ms TTL=127

Ping statistics for 192.168.10.91:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 3ms, Average = 1ms

```

(d) Joe pingin Williams PC

Figure 2: Router and PC's configured on the network

```

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#ip access-list standard PERMIT-JOE
Router(config-std-nacl)#10 permit host 192.168.20.18
Router(config-std-nacl)#20 deny any
Router(config-std-nacl)#exit
Router(config)#exit
Router#
NSYS-5-CONFIG-I: Configured from console by console

```

(a) creating PERMIT-JOE acl

```

GigabitEthernet0/1 is up, line protocol is up (connected)
Internet address is 192.168.10.1/24
Broadcast address is 255.255.255.255
Address determined by setup command
MTU is 1500 bytes
Helper address is not set
Directed broadcast forwarding is disabled
Outgoing access list is PERMIT-JOE
Inbound access list is not set
Proxy ARP is enabled
Security level is default
Split horizon is enabled

```

(c) Output of show ip int

```

Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int g0/1
Router(config-if)#ip access-group PERMIT-JOE out
Router(config-if)#exit
Router(config)#exit
Router#
NSYS-5-CONFIG-I: Configured from console by console

```

(b) Applying PERMIT-JOE acl

```

interface GigabitEthernet0/1
ip address 192.168.10.1 255.255.255.0
ip access-group PERMIT-JOE out
duplex auto
speed auto
!

```

(d) output of show run

Figure 3: Configuring and applying PERMIT-JOE

```

C:\>ping 192.168.10.91

Pinging 192.168.10.91 with 32 bytes of data:
Reply from 192.168.10.91: bytes=32 time=1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127
Reply from 192.168.10.91: bytes=32 time<1ms TTL=127

Ping statistics for 192.168.10.91:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

```

(a) Joe Ping William's PC

```

C:\>ping 192.168.10.91

Pinging 192.168.10.91 with 32 bytes of data:
Reply from 192.168.20.1: Destination host unreachable.
Reply from 192.168.20.1: Destination host unreachable.
Reply from 192.168.20.1: Destination host unreachable.
Reply from 192.168.20.1: Destination host unreachable.

```

(b) Susan attempting to ping William's PC

Figure 4: Successfully applied ACL PERMIT-JOE