

Task – 13

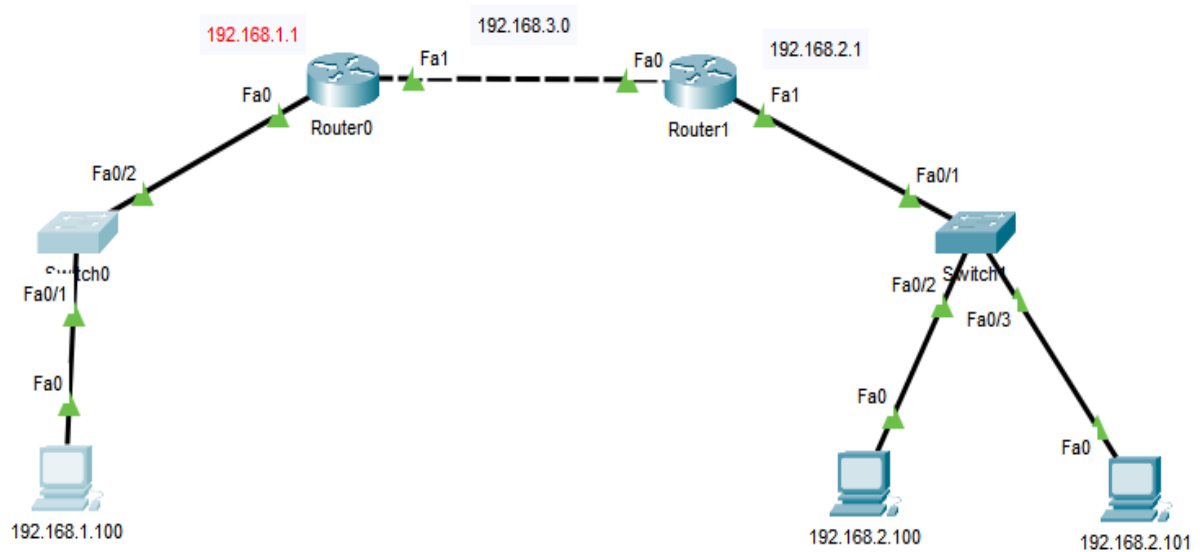
18mis7250

Amit Kumar Sahu

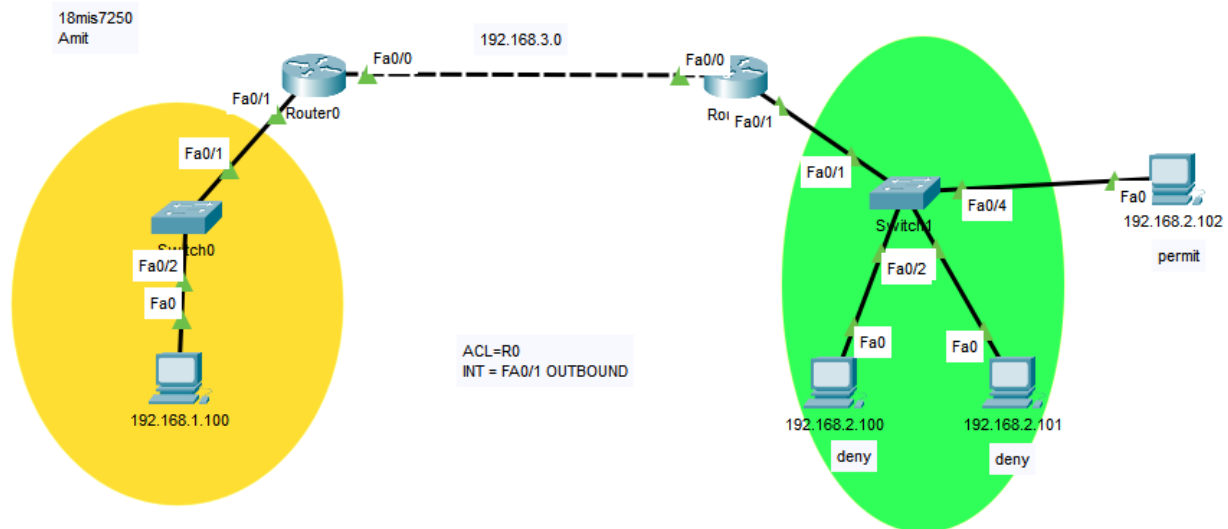
ACL – Standard Access Lists

Initial Configuration

Access lists are used as a form of firewall security on a router. Access lists are statements that a router will use to check traffic against, and if there is a match, the router can filter that traffic by either permitting or denying the packets based on the access list statement.



After Access list permitting:



Deny or permit a network:

```
router(config)#access-list 1 deny 192.168.1.0 0.0.0.255
router(config)#access-list 1 permit 192.168.2.0 0.0.0.255
```

Deny or permit a host:

```
router(config)#access-list 1 deny 192.168.1.100 0.0.0.0
router(config)#access-list 1 deny host 192.168.1.100
router(config)#access-list 1 permit 192.168.1.101 0.0.0.0
router(config)#access-list 1 permit host 192.168.1.101
```

Deny or permit all hosts:

```
router(config)#access-list 1 deny any
router(config)#access-list 1 permit any
```

Applying the access list to a router interface outbound and inbound

```
router(config)#interface fastethernet 0/0
router(config-if)#ip access-group 1 out

router(config)#interface fastethernet 0/1
router(config-if)#ip access-group 1 in
```

Router0 configuration

R0#show run

Building configuration...

Current configuration : 827 bytes

!

version 12.4

no service timestamps log datetime msec

no service timestamps debug datetime msec

no service password-encryption

!

hostname R0

!

!

!

!

!

!

!

!

ip cef

no ipv6 cef

!

!

!

!

!

!

!

!

!

!

!

!

spanning-tree mode pvst

```
!  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
ip address 192.168.3.1 255.255.255.0  
duplex auto  
speed auto  
!  
interface FastEthernet0/1  
ip address 192.168.1.1 255.255.255.0  
ip access-group 99 out  
duplex auto  
speed auto  
!  
interface Vlan1  
no ip address  
shutdown  
!  
router rip  
network 192.168.1.0  
network 192.168.2.0  
network 192.168.3.0  
!  
ip classless  
ip route 192.168.1.0 255.255.255.0 192.168.3.2  
!  
ip flow-export version 9  
!  
!  
access-list 99 deny host 192.168.2.100  
access-list 99 deny host 192.168.2.101  
access-list 99 permit any  
!  
!  
!  
!  
!  
!  
line con 0  
!  
line aux 0  
!  
line vty 0 4
```

```
login
!  
!  
!  
end
```

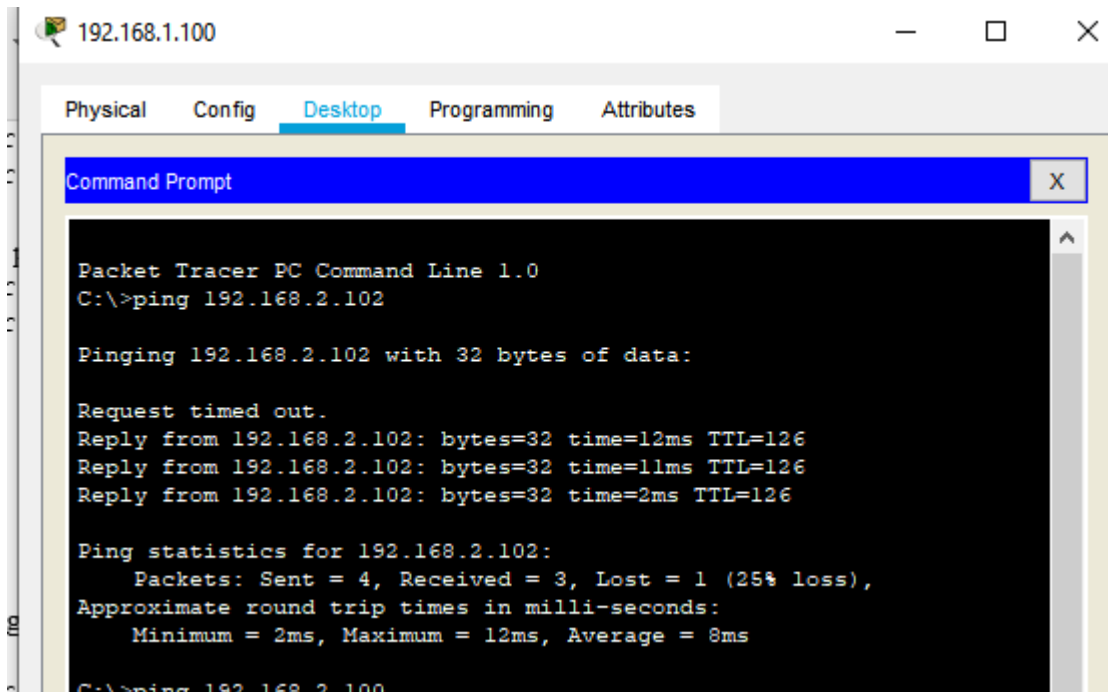
Router1 configuration

```
Router>en  
Router#show run  
Building configuration...
```

```
Current configuration : 703 bytes  
!  
version 12.4  
no service timestamps log datetime msec  
no service timestamps debug datetime msec  
no service password-encryption  
!  
hostname Router  
!  
!  
!  
!  
!  
!  
!  
!  
ip cef  
no ipv6 cef  
!  
!  
!  
!  
!  
!  
!  
!  
!
```

```
!  
!  
spanning-tree mode pvst  
!  
!  
!  
!  
!  
!  
interface FastEthernet0/0  
ip address 192.168.3.2 255.255.255.0  
duplex auto  
speed auto  
!  
interface FastEthernet0/1  
ip address 192.168.2.1 255.255.255.0  
duplex auto  
speed auto  
!  
interface Vlan1  
no ip address  
shutdown  
!  
router rip  
network 192.168.1.0  
network 192.168.2.0  
network 192.168.3.0  
!  
ip classless  
ip route 192.168.2.0 255.255.255.0 192.168.3.1  
!  
ip flow-export version 9  
!  
!  
!  
!  
line con 0  
!  
line aux 0  
!  
line vty 0 4  
login  
!  
!  
  
end
```

Able to ping 192.168.2.102 because we have granted access



The screenshot shows a Packet Tracer interface with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the results of a ping command to 192.168.2.102. The output shows that the ping was successful with a 25% loss (1 out of 4 packets lost) and a round trip time of 8ms.

```
Packet Tracer PC Command Line 1.0
C:\>ping 192.168.2.102

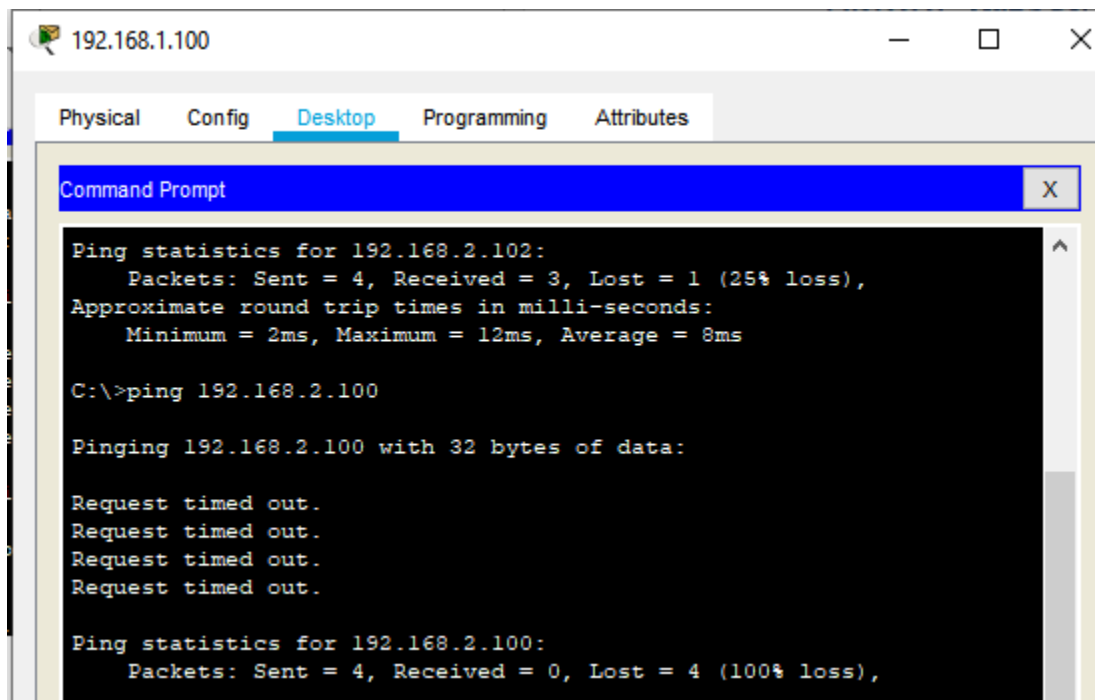
Pinging 192.168.2.102 with 32 bytes of data:

Request timed out.
Reply from 192.168.2.102: bytes=32 time=12ms TTL=126
Reply from 192.168.2.102: bytes=32 time=11ms TTL=126
Reply from 192.168.2.102: bytes=32 time=2ms TTL=126

Ping statistics for 192.168.2.102:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 12ms, Average = 8ms

C:\>ping 192.168.2.100
```

Not able to ping 192.168.2.100 because we have denied access



The screenshot shows a Packet Tracer interface with the 'Desktop' tab selected. A 'Command Prompt' window is open, displaying the results of a ping command to 192.168.2.100. The output shows that the ping failed with a 100% loss (4 out of 4 packets lost) and a round trip time of 8ms.

```
Ping statistics for 192.168.2.102:
    Packets: Sent = 4, Received = 3, Lost = 1 (25% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 12ms, Average = 8ms

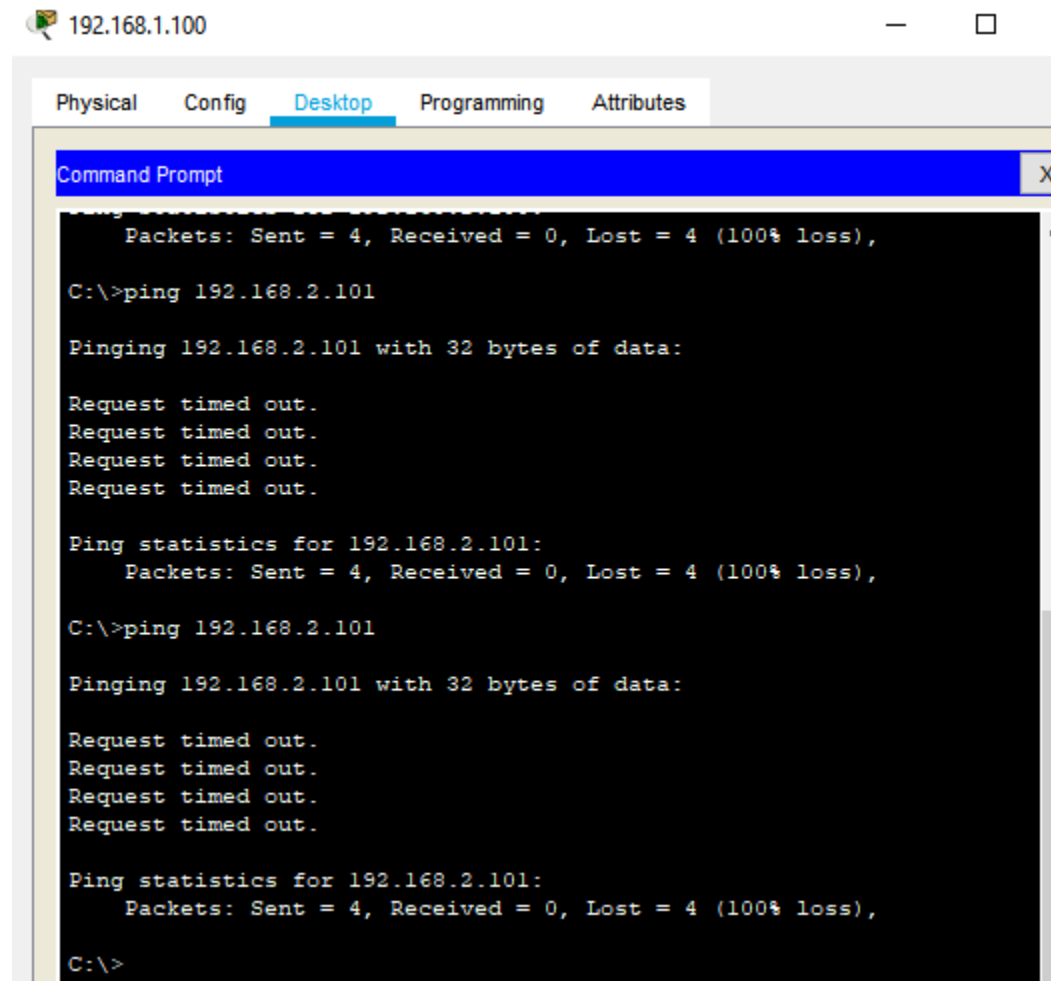
C:\>ping 192.168.2.100

Pinging 192.168.2.100 with 32 bytes of data:

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

Ping statistics for 192.168.2.100:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),
```

Not able to ping 192.168.2.101 because we have denied access



The screenshot shows a Packet Tracer interface with a top bar containing tabs: Physical, Config, Desktop (selected), Programming, and Attributes. Below the tabs is a Command Prompt window titled "Command Prompt" with a close button (X). The Command Prompt displays the following text:

```
Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),  
C:\>ping 192.168.2.101  
  
Pinging 192.168.2.101 with 32 bytes of data:  
  
Request timed out.  
Request timed out.  
Request timed out.  
Request timed out.  
  
Ping statistics for 192.168.2.101:  
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),  
C:\>ping 192.168.2.101  
  
Pinging 192.168.2.101 with 32 bytes of data:  
  
Request timed out.  
Request timed out.  
Request timed out.  
Request timed out.  
  
Ping statistics for 192.168.2.101:  
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),  
C:\>
```