Task – 13

18mis7250

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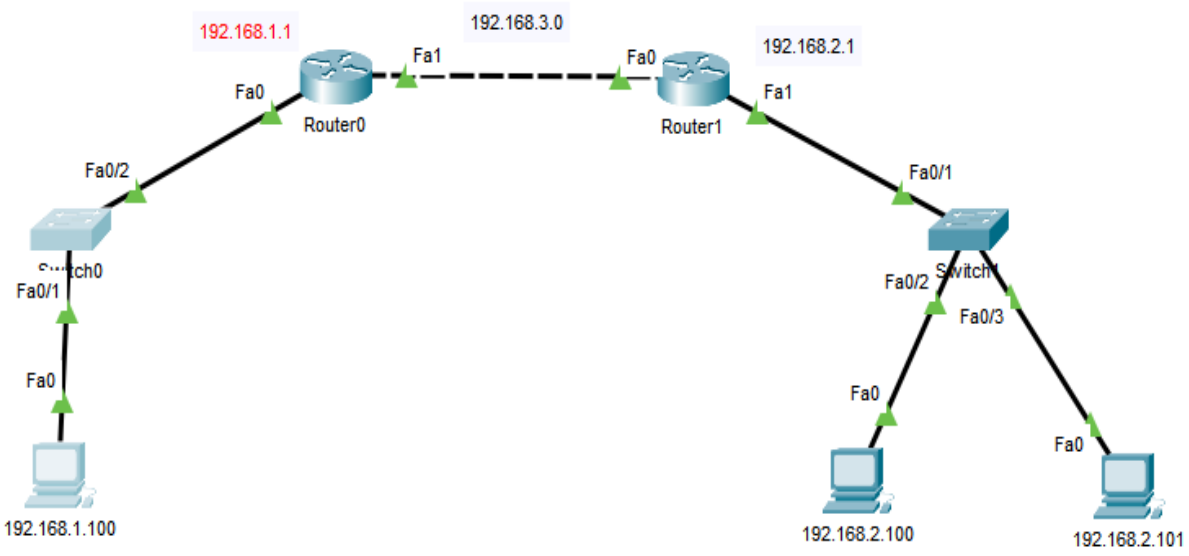
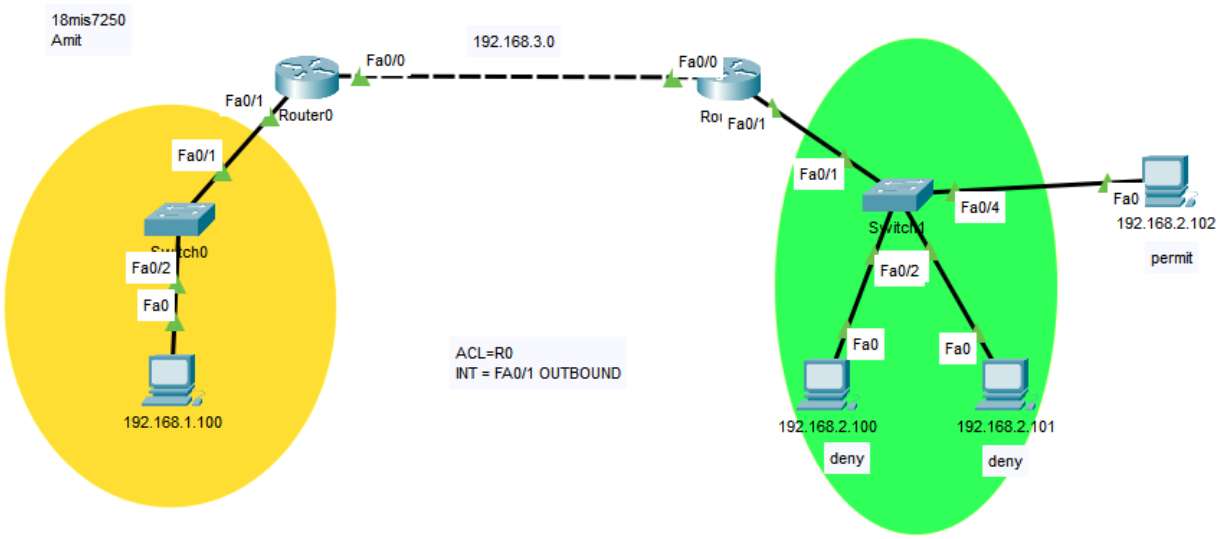
ACL – Standard Access Lists

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

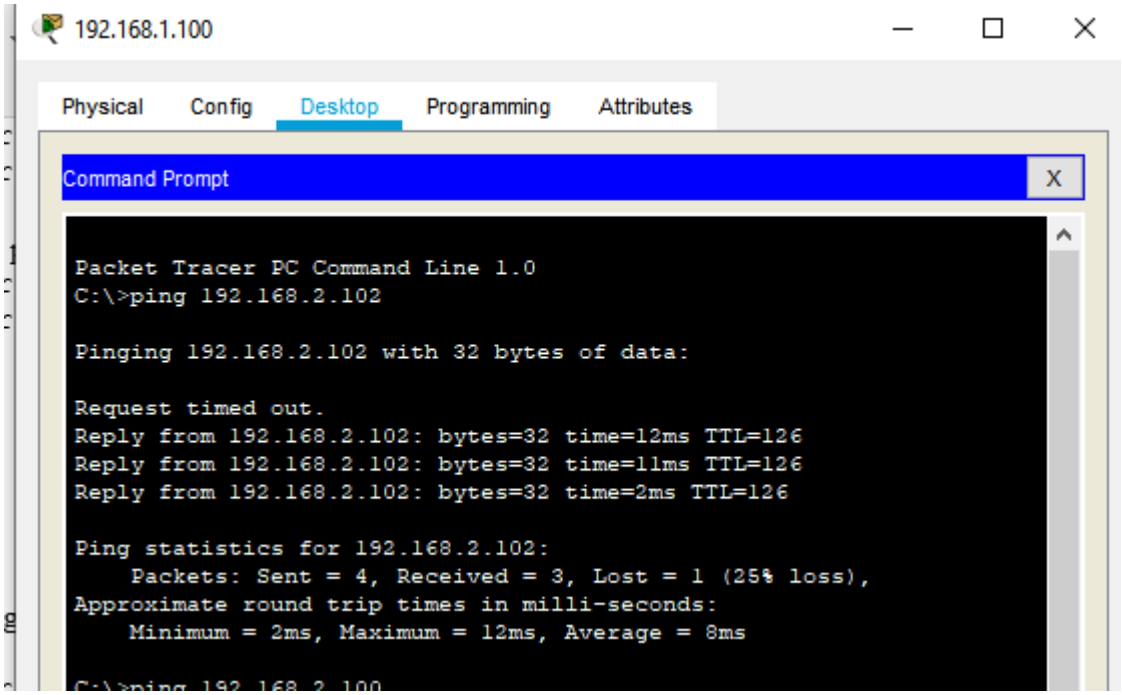
```
Router>en
Router#show run
Building configuration...

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
!
!
!
!
!
!
!
!
!
!
```

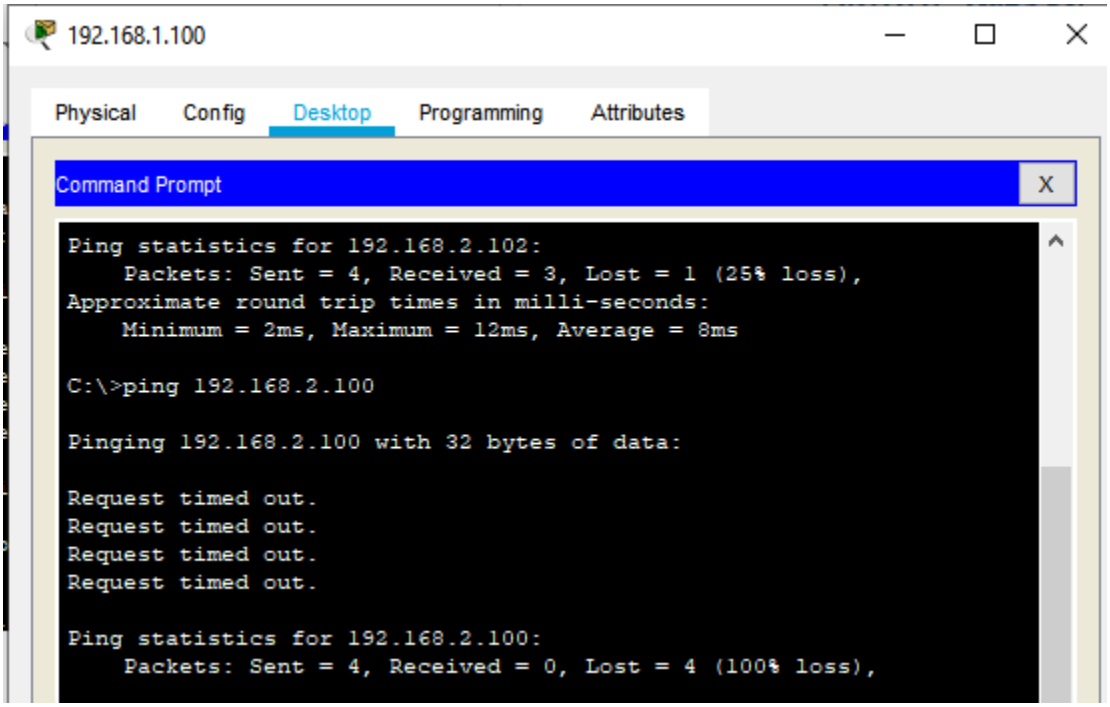
```
!
!
spanning-tree mode pvst
!
!
!
!
!
!
interface FastEthernet0/0
ip address 192.168.3.2 255.255.255.0
duplex auto
speed auto
!
interface FastEthernet0/1
ip address 192.168.2.1 255.255.255.0
duplex auto
speed auto
!
interface Vlan1
no ip address
shutdown
!
router rip
network 192.168.1.0
network 192.168.2.0
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



Not able to ping 192.168.2.100 because we have denied access



Not able to ping 192.168.2.101 because we have denied access