

Configurations

////////////////////////////////////On Sw1 & SW2////////////////////////////////////

conf t

vlan 10

name HR

vlan 20

name Finance

vlan 30

name Marketing

vlan 40

name Sales

vlan 50

name CustomerService

vlan 60

name IT

vlan 70

name AccessPoint

vlan 80

name FileServer

vlan 90

name Manegment

vlan 99

name Native

////////////////////////////////////On Sw1////////////////////////////////////

```
interface range fa0/1 - 5
switchport mode access
switchport access vlan 10
```

```
interface range fa0/6 - 15
switchport mode access
switchport access vlan 20
```

```
interface range fa0/16 - 20
switchport mode access
switchport access vlan 30
```

```
interface range fa0/21 - 22
switchport mode access
switchport access vlan 70
```

```
interface vlan 90
ip address 192.168.90.2 255.255.255.0
no shutdown
ip default-gateway 192.168.90.1
```

```
interface range gi0/1-2, fa0/23-24
switchport mode trunk
```

////////////////////////////////////On Sw2////////////////////////////////////

```
interface range fa0/1 - 5
```

switchport mode access

switchport access vlan 40

interface range fa0/6 - 15

switchport mode access

switchport access vlan 50

interface range fa0/16 - 19

switchport mode access

switchport access vlan 60

interface fa0/20

switchport mode access

switchport access vlan 80

interface range fa0/21 - 22

switchport mode access

switchport access vlan 70

interface vlan 90

ip address 192.168.90.3 255.255.255.0

no shutdown

ip default-gateway 192.168.90.1

interface range gi0/1-2, fa0/23-24

switchport mode trunk

//////////////////////////////////////On Router1 Intervlan//////////////////////////////////////

Ip routing

Interface GigabitEthernet0/0

No shutdown

interface GigabitEthernet0/0.99

encapsulation dot1Q 99 native

ip address 192.168.99.1 255.255.255.0

interface GigabitEthernet0/0.10

encapsulation dot1Q 10

ip address 192.168.10.2 255.255.255.0

standby 10 ip 192.168.10.1

standby 10 priority 110

standby 10 preempt

interface GigabitEthernet0/0.20

encapsulation dot1Q 20

ip address 192.168.20.2 255.255.255.0

standby 20 ip 192.168.20.1

standby 20 priority 110

standby 20 preempt

interface GigabitEthernet0/0.30

encapsulation dot1Q 30

ip address 192.168.30.2 255.255.255.0

standby 30 ip 192.168.30.1

standby 30 priority 110

standby 30 preempt

interface GigabitEthernet0/0.40

encapsulation dot1Q 40

ip address 192.168.40.2 255.255.255.0

standby 40 ip 192.168.30.1

standby 40 priority 90

standby 40 preempt

interface GigabitEthernet0/0.50

encapsulation dot1Q 50

ip address 192.168.50.2 255.255.255.0

standby 50 ip 192.168.50.1

standby 50 priority 90

standby 50 preempt

interface GigabitEthernet0/0.60

encapsulation dot1Q 60

ip address 192.168.60.2 255.255.255.0

standby 60 ip 192.168.60.1

standby 60 priority 90

standby 60 preempt

interface GigabitEthernet0/0.70

encapsulation dot1Q 70

ip address 192.168.70.2 255.255.255.0

standby 70 ip 192.168.70.1

standby 70 priority 110

standby 70 preempt

interface GigabitEthernet0/0.80

encapsulation dot1Q 80

ip address 192.168.80.2 255.255.255.0

standby 80 ip 192.168.80.1

standby 80 priority 90

standby 80 preempt

interface GigabitEthernet0/0.90

```
encapsulation dot1Q 90
ip address 192.168.60.2 255.255.255.0
standby 90 ip 192.168.90.1
standby 90 priority 110
standby 90 preempt
```

```
interface GigabitEthernet0/1
ip address 10.10.10.1 255.255.255.0
no shutdown
exit
```

```
interface GigabitEthernet0/2
ip address 10.10.20.1 255.255.255.0
no shutdown
exit
```

```
int range g0/1-2
ip address 10.1.2.2 255.255.255.252
no shutdown
exit
```

//////////////////////////////////On Router 2 intervlan //////////////////////////////////

Ip routing

Interface GigabitEthernet0/0

No shutdown

```
interface GigabitEthernet0/0.99
 encapsulation dot1Q 99 native
 ip address 192.168.99.2 255.255.255.0
```

```
interface GigabitEthernet0/0.10
 encapsulation dot1Q 10
 ip address 192.168.10.3 255.255.255.0
 standby 10 ip 192.168.10.1
 standby 10 priority 90
 standby 10 preempt
```

```
interface GigabitEthernet0/0.20
 encapsulation dot1Q 20
 ip address 192.168.20.3 255.255.255.0
 standby 20 ip 192.168.20.1
 standby 20 priority 90
 standby 20 preempt
```

```
interface GigabitEthernet0/0.30
 encapsulation dot1Q 30
 ip address 192.168.30.3 255.255.255.0
 standby 30 ip 192.168.30.1
 standby 30 priority 90
 standby 30 preempt
```



```
interface GigabitEthernet0/0.40
encapsulation dot1Q 40
ip address 192.168.40.3 255.255.255.0
standby 40 ip 192.168.30.1
standby 40 priority 110
standby 40 preempt
```

```
interface GigabitEthernet0/0.50
encapsulation dot1Q 50
ip address 192.168.50.3 255.255.255.0
standby 30 ip 192.168.50.1
standby 50 priority 110
standby 50 preempt
```

```
interface GigabitEthernet0/0.60
encapsulation dot1Q 60
ip address 192.168.60.3 255.255.255.0
standby 60 ip 192.168.60.1
standby 60 priority 110
standby 60 preempt
```

```
interface GigabitEthernet0/0.70
 encapsulation dot1Q 70
 ip address 192.168.70.3 255.255.255.0
 standby 70 ip 192.168.70.1
 standby 70 priority 90
 standby 70 preempt
```

```
interface GigabitEthernet0/0.80
 encapsulation dot1Q 80
 ip address 192.168.80.3 255.255.255.0
 standby 80 ip 192.168.80.1
 standby 80 priority 110
 standby 80 preempt
```

```
interface GigabitEthernet0/0.90
 encapsulation dot1Q 90
 ip address 192.168.60.3 255.255.255.0
 standby 90 ip 192.168.90.1
 standby 90 priority 90
 standby 90 preempt
```

```
interface GigabitEthernet0/1
 ip address 10.10.30.1 255.255.255.0
 no shutdown
```

exit

interface GigabitEthernet0/2

ip address 10.10.20.2 255.255.255.0

no shutdown

exit

int range g0/1-2

ip address 10.1.1.2 255.255.255.252

no shutdown

exit

//////////////////////////////////SW1 ETHERCHANNEL//////////////////////////////////

Interface range fa0/23-24

Channel group 1 mode active

Exit

Interface port-channel 1

Switchport mode trunk

Switchport trunk allowed vlan 10,20,30,40,50,60,70,80,90,99

//////////////////////////////////SW2 ETHERCHANNEL//////////////////////////////////

Interface range fa0/23-24

Channel group 1 mode on

Exit

Interface port-channel 1

Switchport mode trunk

Switchport trunk allowed vlan 10,20,30,40,50,60,70,80,90,99

//////////////////////////////////ASA FIREWALL//////////////////////////////////

Conf t

Hostname TipoFirewall

Domain-name groupone.com

Enable password group\$1

Clock set 02:42:00 8 feb 2025

Int g1/1

Nameif inside1

Security-level 100

Ip address 10.1.2.1 255.255.255.252

No sh

Int g1/2

Nameif inside

Security-level 100

Ip address 10.1.1.1 255.255.255.252

No sh

Int g1/3

Nameif dmz

Security-level 50

Ip address 192.168.100.1 255.255.255.0

No sh

Int g1/4

Nameif outside

Security-level 0

Ip address 209.165.200.226 255.255.255.248

No sh

Access-list outsideto-dmz permit icmp any host 192.168.100.3

Access-list outsideto-dmz permit tcp any host 192.168.100.3 eq 80

Access-list outsideto-dmz permit icmp any host 192.168.100.2

Access-list outsideto-dmz permit tcp any host 192.168.100.2 eq 20

Access-list outsideto-dmz permit tcp any host 192.168.100.2 eq 21

access-list outsideto-dmz extended permit icmp any any echo-reply

access-group outside-icmp in interface dmz

access-group outside-icmp in interface outside

Route Outside 0.0.0.0 0.0.0.0 209.165.200.225

router ospf 1

router-id 3.3.3.3

network 10.1.2.0 255.255.255.252 area 0

network 10.1.1.0 255.255.255.252 area 0

network 192.168.100.0 255.255.255.0 area 0

object network inside-nat

subnet 192.168.0.0 255.255.0.0

nat (inside,outside) dynamic interface

object network insideone-nat

subnet 192.168.0.0 255.255.0.0

nat (insideone,outside) dynamic interface

Object network WEB-SERVER

Host 192.168.100.3

Nat (DMZ,OUTSIDE) static 209.165.200.227

Exit

Object network FTP-SERVER

Host 192.168.100.2

Nat (DMZ,OUTSIDE) static 209.165.200.228

Exit

//////////////////////////////////Router 1 and Router 2//////////////////////////////////

R1

Int g0/1

Ip address 10.1.2.2 255.255.255.252

No sh

R2

Int g0/1

Ip address 10.1.1.2 255.255.255.252

No sh

ip dhcp excluded-address 192.168.10.1 192.168.10.3

ip dhcp excluded-address 192.168.20.1 192.168.20.3

ip dhcp excluded-address 192.168.30.1 192.168.30.3

ip dhcp excluded-address 192.168.40.1 192.168.40.3

ip dhcp excluded-address 192.168.50.1 192.168.50.3

ip dhcp excluded-address 192.168.60.1 192.168.60.3

ip dhcp excluded-address 192.168.70.1 192.168.70.3

```
ip dhcp pool HR
network 192.168.10.0 255.255.255.0
default-router 192.168.10.1
exit
```

```
ip dhcp pool FINANCE
network 192.168.20.0 255.255.255.0
default-router 192.168.20.1
exit
```

```
ip dhcp pool MARKETING
network 192.168.30.0 255.255.255.0
default-router 192.168.30.1
exit
```

```
ip dhcp pool SALES
network 192.168.40.0 255.255.255.0
default-router 192.168.40.1
exit
```

```
ip dhcp pool CUSTOMERSERVICE
network 192.168.50.0 255.255.255.0
default-router 192.168.50.1
exit
```



```
ip dhcp pool IT
network 192.168.60.0 255.255.255.0
default-router 192.168.60.1
exit
```

```
ip dhcp pool ACCESSPOINT
network 192.168.70.0 255.255.255.0
default-router 192.168.70.1
exit
```

//////////////////////////////////OSPF configuration R1//////////////////////////////////

```
Conf t
router ospf 1
Router-id 1.1.1.1
passive-interface GigabitEthernet0/0

network 192.168.10.0 0.0.0.255 area 0
network 192.168.20.0 0.0.0.255 area 0
network 192.168.30.0 0.0.0.255 area 0
network 192.168.40.0 0.0.0.255 area 0
network 192.168.50.0 0.0.0.255 area 0
network 192.168.60.0 0.0.0.255 area 0
network 192.168.70.0 0.0.0.255 area 0
network 192.168.80.0 0.0.0.255 area 0
```

```
network 192.168.90.0 0.0.0.255 area 0
```

```
network 192.168.99.0 0.0.0.255 area 0
```

```
! Advertise connection to ASA Firewall
```

```
network 10.1.2.0 0.0.0.3 area 0
```

```
exit
```

```
ip route 0.0.0.0 0.0.0.0 10.1.2.1
```

```
//////////////////////////////////////OSPF configuration R2//////////////////////////////////////
```

```
Conf t
```

```
router ospf 1
```

```
Router-id 2.2.2.2
```

```
passive-interface GigabitEthernet0/0
```

```
network 192.168.10.0 0.0.0.255 area 0
```

```
network 192.168.20.0 0.0.0.255 area 0
```

```
network 192.168.30.0 0.0.0.255 area 0
```

```
network 192.168.40.0 0.0.0.255 area 0
```

```
network 192.168.50.0 0.0.0.255 area 0
```

```
network 192.168.60.0 0.0.0.255 area 0
```

```
network 192.168.70.0 0.0.0.255 area 0
```

```
network 192.168.80.0 0.0.0.255 area 0
```

```
network 192.168.90.0 0.0.0.255 area 0
```

```
network 192.168.99.0 0.0.0.255 area 0
```

```
! Advertise connection to ASA Firewall
```

```
network 10.1.2.0 0.0.0.3 area 0
```

```
exit
```

```
ip route 0.0.0.0 0.0.0.0 10.1.1.1
```

```
//////////////////////////////////OSPF ASA Firewall//////////////////////////////////
```

```
Conf t
```

```
Router ospf 1
```

```
Router-id 3.3.3.3
```

```
network 10.1.2.0 255.255.255.252 area 0
```

```
network 10.1.1.0 255.255.255.252 area 0
```

```
network 192.168.100.0 255.255.255.0 area 0
```

```
//////////////////////////////////SW1 and SW2 Security//////////////////////////////////
```

```
interface range fa0/1 – 20 , fa0/22 , gig0/2
```

```
switchport port-security
```

```
switchport port-security maximum 2
```

```
switchport port-security violation restrict
```

```
switchport port-security mac-address sticky
```

```
switchport port-security aging time 60
```

```
int range fa0/23-24 , fa0/22 , gig0/2
```

```
switchport nonegotiate
```

```
ip dhcp snooping
```

```
no ip dhcp snooping information option
```

ip dhcp snooping vlan 10,20,30,40,50,60,70

interface range fa0/23-24 , gig0/1

ip dhcp snooping trust

exit

interface range fa0/1 – 20 , fa0/22

ip dhcp snooping limit rate 5

interface fa0/21

ip dhcp snooping limit rate 15

exit

ip arp inspection validate src-mac dst-mac ip

ip arp inspection vlan 10,20,30,40,50,60,70

interface range fa0/23-24, gi0/1

ip arp inspection trust

show ip arp inspection interfaces

Spanning-tree portfast default

Spanning tree portfast bpduguard default