

```
## R1_VLAN
```

```
...
```

```
hostname R1_VLAN
```

```
interface loopback 128
```

```
ip address 172.21.128.1 255.255.224.0
```

```
exit
```

```
interface f0/0
```

```
ip address 172.21.12.1 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
interface f0/1.1
```

```
encapsulation dot1q 1
```

```
ip address 172.21.32.1 255.255.255.0
```

```
exit
```

```
interface f0/1.5
```

```
encapsulation dot1q 5 native
```

```
ip address 172.21.34.1 255.255.254.0
```

```
exit
```

```
interface f0/1.15
```

```
encapsulation dot1q 15
```

```
ip address 172.21.40.1 255.255.252.0
```

```
exit
```

```
interface f0/1.25
```

```
encapsulation dot1q 25
```

```
ip address 172.21.48.1 255.255.248.0
```

```
exit
```

```
router ospf 2
```

```
interface f0/0
```

```
ip ospf 2 area 0
```

```
exit
```

```
interface loopback 128
```

```
ip ospf 2 area 0
```

```
exit
```

```
interface f0/1.1
```

```
ip ospf 2 area 0
```

```
exit
```

```
interface f0/1.5
```

```
ip ospf 2 area 0
```

```
exit
```

```
interface f0/1.15
```

```
ip ospf 2 area 0
```

```
exit
```

```
interface f0/1.25
```

```
ip ospf 2 area 0
```

```
exit
```

```
router ospf 2
```

```
router-id 1.1.1.1
```

```
clear ip ospf process
```

```
router ospf 2
```

```
auto-cost reference-bandwidth 100000
```

```
passive-interface default
```

```
no passive-interface f0/0
```

```
...
```

```
## R2_Reuna
```

```
...
```

```
hostname R2_Reuna
```

```
interface loopback 192
```

```
ip address 172.21.192.1 255.255.224.0
```

```
exit
```

```
interface g0/0
```

```
ip address 172.21.12.2 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
interface g0/2
```

```
ip address 192.168.1.2 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
ip route 0.0.0.0 0.0.0.0 192.168.1.1
```

```
interface g0/1.1
encapsulation dot1q 1
ip address 172.21.64.1 255.255.255.0
exit
```

```
interface g0/1.7
encapsulation dot1q 7 native
ip address 172.21.66.1 255.255.254.0
exit
```

```
interface g0/1.17
encapsulation dot1q 17
ip address 172.21.72.1 255.255.252.0
exit
```

```
interface g0/1.27
encapsulation dot1q 27
ip address 172.21.80.1 255.255.248.0
exit
```

```
router ospf 2
interface g0/0
ip ospf 2 area 0
exit
```

```
interface loopback 192
ip ospf 2 area 0
exit
```

```
interface g0/1.1
ip ospf 2 area 0
```

exit

interface g0/1.7

ip ospf 2 area 0

exit

interface g0/1.17

ip ospf 2 area 0

exit

interface g0/1.27

ip ospf 2 area 0

exit

router ospf 2

router-id 2.2.2.2

clear ip ospf process

router ospf 2

auto-cost reference-bandwidth 100000

passive-interface default

no passive-interface g0/0

Default-information originate

```

## R3\_ISP

```

```
hostname R3_ISP
```

```
interface loopback 0
```

```
ip address 111.112.113.1 255.255.255.255
```

```
exit
```

```
interface f0/0
```

```
ip address 192.168.1.1 255.255.255.252
```

```
no shutdown
```

```
exit
```

```
ip route 0.0.0.0 0.0.0.0 192.168.1.2
```

```

```
## SW1_3560
```

```

```
hostname SW1_3560
```

```
vlan 5
```

```
name VerHa1
```

```
exit
```

```
vlan 15
```

```
name WLAN1
```

```
exit
```

```
vlan 25
name Muu1
exit
```

```
interface f0/22
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 1,5,15,25
switchport trunk native vlan 5
no shutdown
exit
```

```
interface range f0/23-24
channel-group 1 mode on
exit
interface port-channel 1
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 1,5,15,25
switchport trunk native vlan 5
exit
```

```
interface f0/1
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface f0/21
switchport mode access
switchport access vlan 1
```

```
switchport nonegotiate
```

```
exit
```

```
interface range f0/2-5
```

```
switchport mode access
```

```
switchport access vlan 5
```

```
switchport nonegotiate
```

```
exit
```

```
interface range f0/6-12
```

```
switchport mode access
```

```
switchport access vlan 15
```

```
switchport nonegotiate
```

```
exit
```

```
interface range f0/13-20
```

```
switchport mode access
```

```
switchport access vlan 25
```

```
switchport nonegotiate
```

```
exit
```

```
interface vlan 5
```

```
ip address 172.21.34.21 255.255.254.0
```

```
exit
```

```
ip default-gateway 172.21.34.1
```

```
...
```

```
## SW2_2960
```



```

```
hostname SW2_2960
```

```
vlan 5
```

```
name VerHa1
```

```
exit
```

```
vlan 15
```

```
name WLAN1
```

```
exit
```

```
vlan 25
```

```
name Muu1
```

```
exit
```

```
interface range f0/23-24
```

```
channel-group 1 mode on
```

```
exit
```

```
interface port-channel 1
```

```
switchport mode trunk
```

```
switchport trunk allowed vlan 1,5,15,25
```

```
switchport trunk native vlan 5
```

```
exit
```

```
interface f0/1
```

```
switchport mode access
```

```
switchport access vlan 1
```

```
switchport nonegotiate
```

```
exit
```

```
interface f0/21
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface range f0/2-5
switchport mode access
switchport access vlan 5
switchport nonegotiate
exit
```

```
interface range f0/6-12
switchport mode access
switchport access vlan 15
switchport nonegotiate
exit
```

```
interface range f0/13-20
switchport mode access
switchport access vlan 25
switchport nonegotiate
exit
```

```
interface vlan 5
ip address 172.21.34.22 255.255.254.0
exit
```

```
ip default-gateway 172.21.34.1
```

```
...
```

```
## SW3_3560
```

```
...
```

```
hostname SW3_3560
```

```
vlan 7
```

```
name VerHa2
```

```
exit
```

```
vlan 17
```

```
name WLAN2
```

```
exit
```

```
vlan 27
```

```
name Muu2
```

```
exit
```

```
interface f0/22
```

```
switchport trunk encapsulation dot1q
```

```
switchport mode trunk
```

```
switchport trunk allowed vlan 1,7,17,27
```

```
switchport trunk native vlan 7
```

```
no shutdown
```

```
exit
```

```
interface range f0/23-24
```

```
channel-group 2 mode on
```

```
exit
```

```
interface port-channel 2
```

```
switchport trunk encapsulation dot1q
switchport mode trunk
switchport trunk allowed vlan 1,7,17,27
switchport trunk native vlan 7
exit
```

```
interface f0/1
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface f0/21
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface range f0/2-5
switchport mode access
switchport access vlan 7
switchport nonegotiate
exit
```

```
interface range f0/6-12
switchport mode access
switchport access vlan 17
switchport nonegotiate
exit
```

```
interface range f0/13-20
```

```
switchport mode access
switchport access vlan 27
switchport nonegotiate
exit
```

```
interface vlan 7
ip address 172.21.66.23 255.255.254.0
exit
```

```
ip default-gateway 172.21.66.1
```

```
...
```

```
## SW4_2960
```

```
...
```

```
hostname SW4_2960
```

```
vlan 7
name VerHa2
exit
```

```
vlan 17
name WLAN2
exit
```

```
vlan 27
name Muu2
exit
```

```
interface range f0/23-24
channel-group 2 mode on
exit
interface port-channel 2
switchport mode trunk
switchport trunk allowed vlan 1,7,17,27
switchport trunk native vlan 7
exit
```

```
interface f0/1
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface f0/21
switchport mode access
switchport access vlan 1
switchport nonegotiate
exit
```

```
interface range f0/2-5
switchport mode access
switchport access vlan 7
switchport nonegotiate
exit
```

```
interface range f0/6-12
switchport mode access
switchport access vlan 17
switchport nonegotiate
```

exit

interface range f0/13-20

switchport mode access

switchport access vlan 27

switchport nonegotiate

exit

interface vlan 7

ip address 172.21.66.24 255.255.254.0

exit

ip default-gateway 172.21.66.1

...

## PC

...

PC1

default gateway: 172.21.xxx.1

172.21.xxx.51 255.255.255.0

PC2

default gateway: 172.21.xxx.1

172.21.xxx.52 255.255.255.0

PC3

default gateway: 172.21.xxx.1

172.21.xxx.53 255.255.255.0

PC4

default gateway: 172.21.xxx.1

172.21.xxx.54 255.255.255.0

...

R1 OSPF Mainonta

...

router ospf 2

passive-interface default

no passive-interface f0/0

...

R2 OSPF Mainonta

...

router ospf 2

passive-interface default

no passive-interface g0/0

...



Configure ospf md5 key for all routers in area 0 (R1-R2)

```

Router ospf 2

area 0 authentication message-digest

```

Configure password "cisco" (R1)

```

interface f0/0

ip ospf message-digest-key 1 md5 cisco

```

Configure password "cisco" (R2)

```

interface g0/0

ip ospf message-digest-key 1 md5 cisco

```

OSPF Priority (goes from 0-255, highest will be chosen or 0 will not participate)

```

interface f0/0

ip ospf priority 255

clear ip ospf process <-- in all routers

```