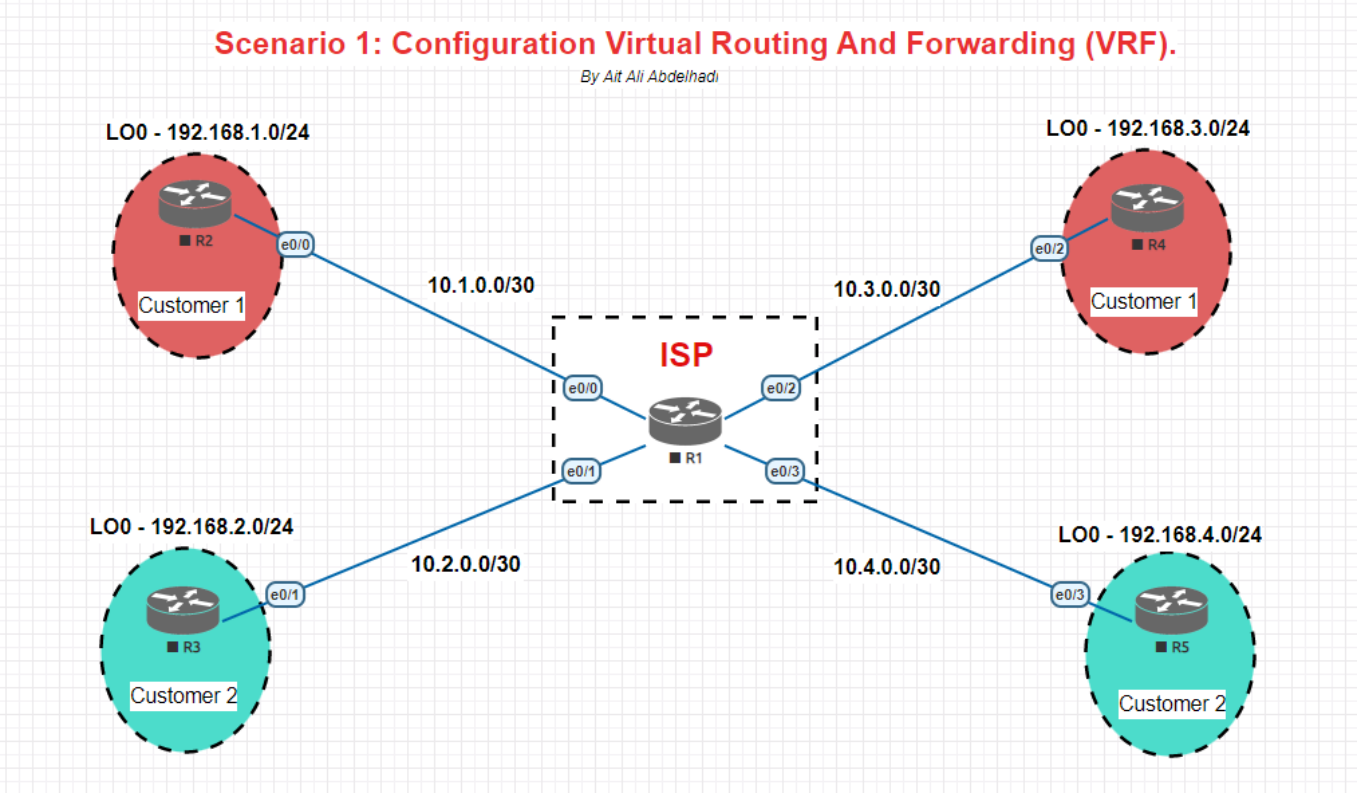
Scenario 1: Configuration Virtual Routing And Forwarding (VRF)

Lab Objective:
This is a challenge lab designed to test and validate the skills, The purpose of this lab is to configure Virtual Routing And Forwarding (VRF) with OSPF routing.
Lab Topology:
The lab network topology is illustrated below:



Configuration R2:

R2> en

R2#conf t

R2(config)# hostname R2

R2(config)#int e0/0

R2(config-if)# ip add 10.1.0.2 255.255.255.252

R2(config-if)# No sh

R2(config-if)# exit

R2(config)#int lo0

R2(config-if)# ip add 192.168.1.1 255.255.255.0

R2(config-if)# No sh

R2(config-if)# exit

R2(config)# router ospf 1

R2(config-router)# network 10.1.0.0 0.0.0.3 area 0

R2(config-router)# network 192.168.1.0 0.0.0.255 area 0

R2(config-router)# exit

Configuration R3:

R3> en

R3#conf t

R3 (config)# hostname R3

R3 (config)#int e0/0

R3 (config-if)# ip add 10.2.0.2 255.255.255.252

R3 (config-if)# No sh

R3 (config-if)# exit

R3 (config)#int lo0

R3 (config-if)# ip add 192.168.2.1 255.255.255.0

R3 (config-if)# No sh

R3 (config-if)# exit

R3(config)# router ospf 1

R3 (config-router)# network 10.2.0.0 0.0.0.3 area 0

R3 (config-router)# network 192.168.2.0 0.0.0.255 area 0

R3 (config-router)# exit

Configuration R4:

R4> en

R4#conf t

R4 (config)# hostname R4

R4 (config)#int e0/0

R4 (config-if)# ip add 10.3.0.2 255.255.255.252

R4 (config-if)# No sh

R4 (config-if)# exit

R4 (config)#int lo0

R4 (config-if)# ip add 192.168.3.1 255.255.255.0

R4 (config-if)# No sh

R4 (config-if)# exit

R4(config)# router ospf 1

R4 (config-router)# network 10.3.0.0 0.0.0.3 area 0

R4 (config-router)# network 192.168.3.0 0.0.0.255 area 0

R4 (config-router)# exit

Configuration R5:

R5> en

R5#conf t

R5 (config)# hostname R2

R5 (config)#int e0/0

R5 (config-if)# ip add 10.4.0.2 255.255.255.252

R5 (config-if)# No sh

R5 (config-if)# exit

R5 (config)#int lo0

R5 (config-if)# ip add 192.168.4.1 255.255.255.0

R5 (config-if)# No sh

R5 (config-if)# exit

R5(config)# router ospf 1

R5 (config-router)# network 10.4.0.0 0.0.0.3 area 0

R5 (config-router)# network 192.168.4.0 0.0.0.255 area 0

R5 (config-router)# exit

Configuration R1:

R1> en

R1#conf t

R1 (config)# hostname R1

R1 (config)# ip vrf CUSTOMER-1

R1 (config-if)# exit

R1 (config)# ip vrf CUSTOMER-1

R1 (config-if)# exit

R1 (config)# interface Ethernet0/0

R1 (config-if)# ip vrf forwarding CUSTOMER-1

R1 (config-if)#   ip address 10.1.0.1 255.255.255.252

R1 (config-if)# no sh

R1 (config-if)# exit

R1 (config)# interface Ethernet0/1

R1 (config-if)#   ip vrf forwarding CUSTOMER-2

R1 (config-if)#   ip address 10.2.0.1 255.255.255.252

R1 (config-if)# no sh

R1 (config-if)# exit

R1 (config)# interface Ethernet0/2

R1 (config-if)#   ip vrf forwarding CUSTOMER-1

R1 (config-if)#   ip address 10.3.0.1 255.255.255.252

R1 (config-if)# no sh

R1 (config-if)# exit

R1 (config)# interface Ethernet0/3

R1 (config-if)#   ip vrf forwarding CUSTOMER-2

R1 (config-if)# ip address 10.4.0.1 255.255.255.252

R1 (config-if)# no sh

R1 (config-if)# exit

R1 (config-if)# router ospf 10 vrf CUSTOMER-1

R1 (config-router)# network 10.1.0.0 0.0.0.3 area 0

R1 (config-router)# network 10.3.0.0 0.0.0.3 area 0

R1 (config-if)# router ospf 20 vrf CUSTOMER-2

R1 (config-router)# network 10.2.0.0 0.0.0.3 area 0

R1 (config-router)# network 10.4.0.0 0.0.0.3 area 0