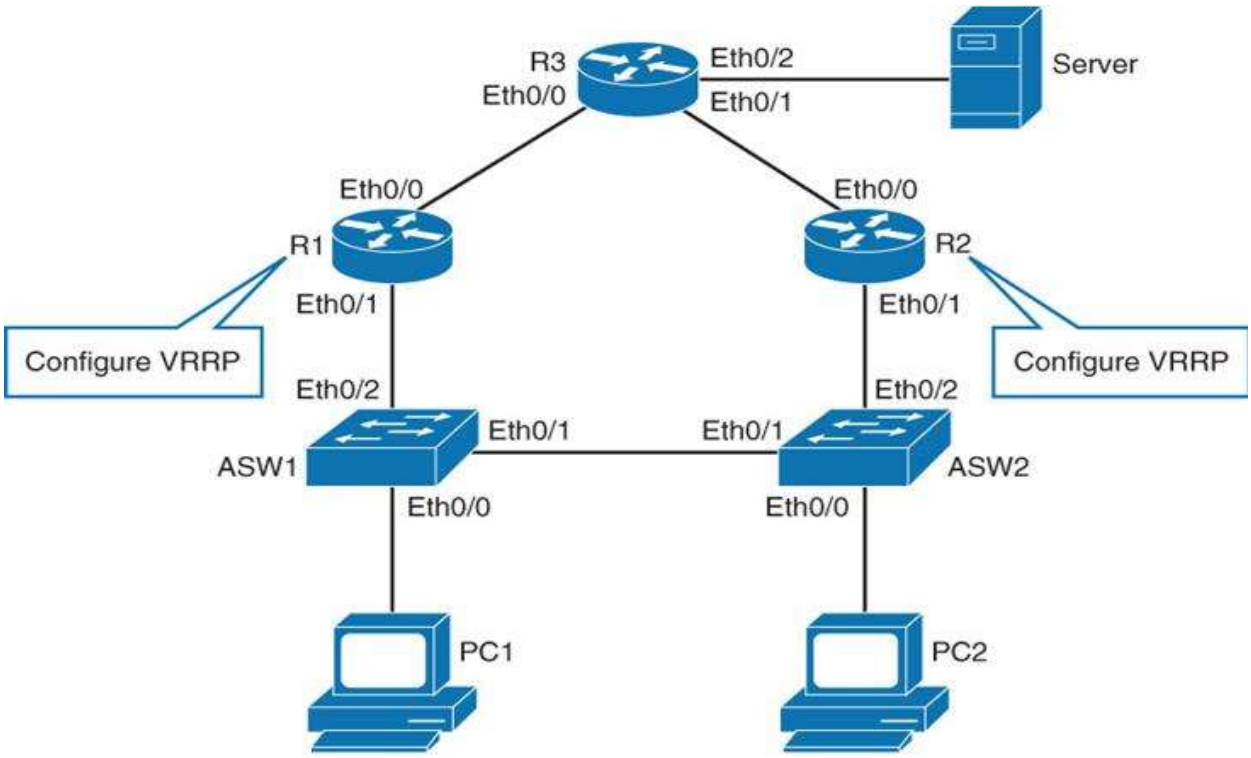
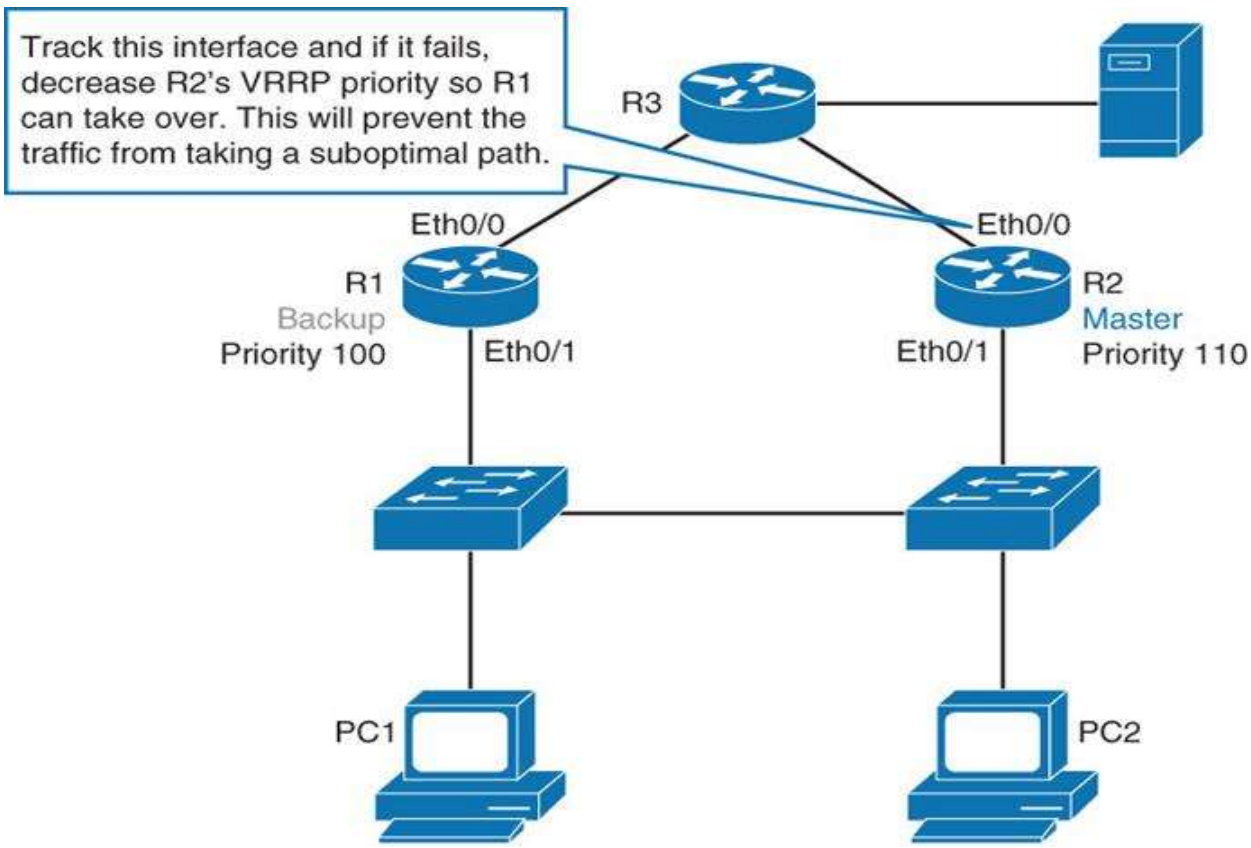
VRRP (Virtual Router Redundancy Protocol):

- VRRP is term which is stands for Virtual Router Redundancy Protocol.
- VRRP is open standard alternative to HSRP (Hot Standby Router Protocol).
- Uses terms master/backup same as active/standby in HSRP Protocols.
- In VRRP, one Router or Switch assumes the function of “Master” Device.
- In VRRP, other Router or Switch is known as “Backup” Router or Switch.
- Master sends VRRP advertisements to other routers in the same group.
- VRRP, uses multicast IP 224.0.0.18 for hello mechanism and elections.
- VRRP (Virtual Router Redundancy Protocol) uses own transport protocol 112.
- VRRP use the Virtual MAC address which is 0000.5E00.01XX. (XX is group no.).
- Unlike in HSRP protocol, in VRRP the preemption is enabled by default.
- Preemption can be disabled using the no vrrp preempt command under interface.
- In VRRP, the default Hello time is 1 seconds and the Hold time is set to 3 seconds.
- Virtual IP Address can be the same as the real IP address on the interface.
- In VRRP, the gateway become master using highest priority 255.
- Load sharing can be using multiple group & virtual IP with changing the priority.
- There are three versions of VRRP and VRRP version 3 support IPv6 as well.

R1 VRRP Configuration
R1(config)#interface FastEthernet 0/0 R1(config-if)# vrrp 1 ip 192.168.0.254 R1(config-if)# vrrp 1 name Group1 R1(config-if)# vrrp 1 priority 110 R1(config-if)# vrrp 1 preempt
R1#show vrrp
R1#show vrrp brief
R2#show vrrp neighbors
R2# show vrrp brief
R2# show vrrp all
R2 VRRP Configuration
R2(config)#interface FastEthernet 0/0 R2(config-if)# vrrp 1 ip 192.168.0.254 R2(config-if)# vrrp 1 name Group1 R2(config-if)# vrrp 1 priority 110 R2(config-if)# vrrp 1 preempt
R2#show vrrp
R2#show vrrp brief
R2#show vrrp neighbors
R2# show vrrp brief
R2# show vrrp all





```
R1#show vrrp
FastEthernet0/0 - Group 1
  State is Master
  Virtual IP address is 192.168.0.254
  Virtual MAC address is 0000.5e00.0101
  Advertisement interval is 1.000 sec
  Preemption enabled
  Priority is 100
  Master Router is 192.168.0.1 (local), priority is 100
  Master Advertisement interval is 1.000 sec
  Master Down interval is 3.609 sec
```

```
R1#show vrrp br
R1#show vrrp brief
Interface          Grp Pri Time  Own Pre State   Master addr     Group addr
Fa0/0              1   100 3609      Y  Master  192.168.0.1     192.168.0.254
```

```
R2#show vrrp
FastEthernet0/0 - Group 1
  State is Master
  Virtual IP address is 192.168.0.254
  Virtual MAC address is 0000.5e00.0101
  Advertisement interval is 1.000 sec
  Preemption enabled
  Priority is 100
  Authentication text "abc"
  Master Router is 192.168.0.2 (local), priority is 100
  Master Advertisement interval is 1.000 sec
  Master Down interval is 3.609 sec
```

VRRP Track
R2(config)#track 2 interface f1/0 line-protocol
R2(config)#interface f0/0 R2(config-if)#vrrp 1 track 2 decrement 20
R2(config)#interface f1/0 R2(config-if)#shutdown

```
R2#show track
Track 2
  Interface FastEthernet1/0 line-protocol
  Line protocol is Down (hw admin-down)
    2 changes, last change 00:05:43
  Tracked by:
    VRRP FastEthernet0/0 1
```

```
R2#show vrrp
FastEthernet0/0 - Group 1
  State is Backup
  Virtual IP address is 192.168.0.254
  Virtual MAC address is 0000.5e00.0101
  Advertisement interval is 1.000 sec
  Preemption enabled
  Priority is 80
  VRRS Group name abc
    Track object 2 state Down decrement 20
  Authentication text "abc"
```

```
R2#show vrrp all
FastEthernet0/0 - Group 1
  State is Backup
  Virtual IP address is 192.168.0.254
  Virtual MAC address is 0000.5e00.0101
  Advertisement interval is 1.000 sec
  Preemption enabled
  Priority is 80
  VRRS Group name abc
    Track object 2 state Down decrement 20
  Authentication text "abc"
  Master Router is 192.168.0.1, priority is 100
  Master Advertisement interval is 1.000 sec
  Master Down interval is 3.609 sec (expires in 3.485 sec) Learning
```