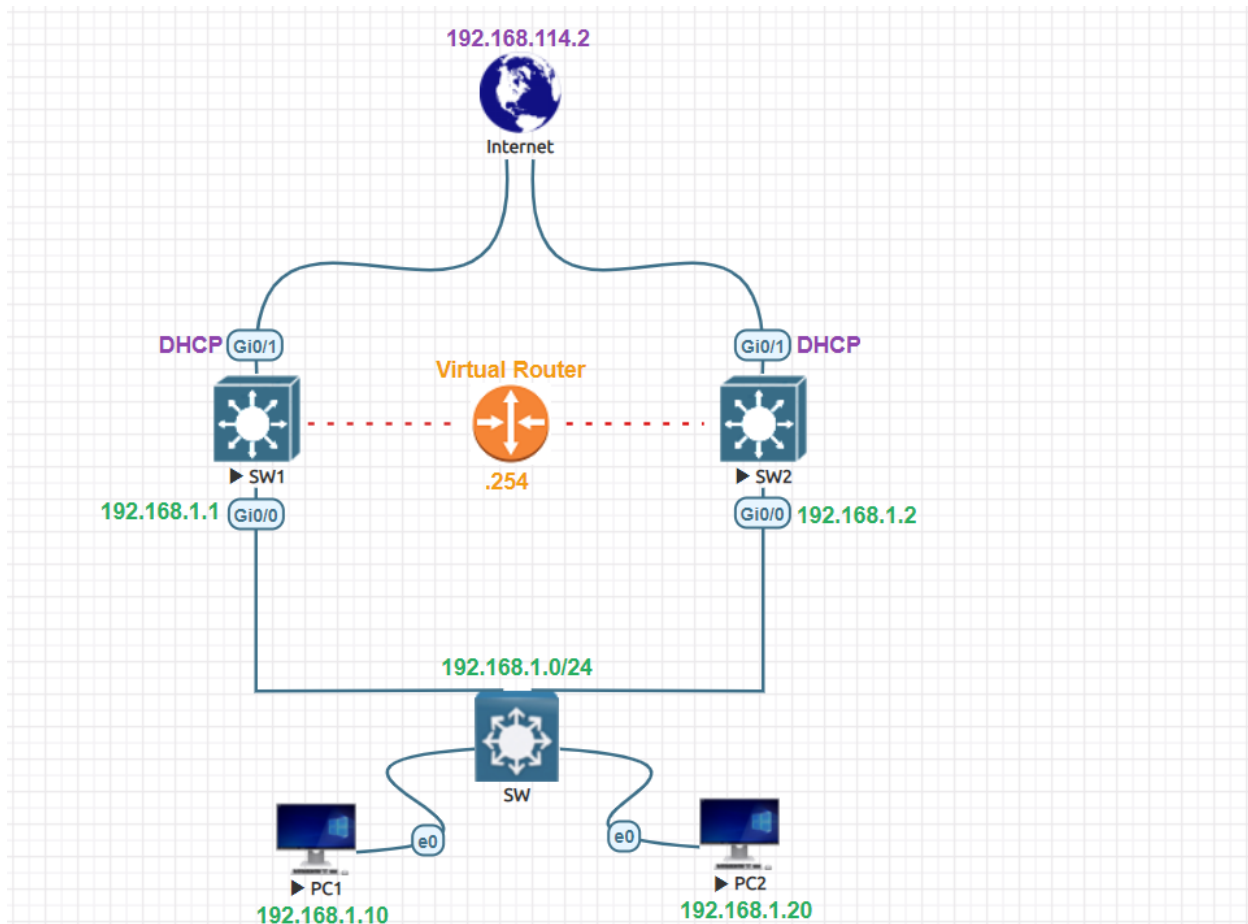


HSRP Lab:



Switch Images	vios_l2-adventerprisek9-m.ssa.high_iron_20190423
Cloud	Management(Cloud-0)
Clients	Linux-Slax-9.11.0 or VPCS
Switch GigabitEthernet0/1	Layer 3 Ports
Switch GigabitEthernet0/0	Layer 2 Ports
Internal Subnet	192.168.1.0/24
External Subnet	192.168.114.0/24
Virtual IP Address	192.168.1.254
SW1 IP Address	192.168.1.1
SW2 IP Address	192.168.1.2
External Gateway IP Address	192.168.114.2
PC1 IP Address	192.168.1.10
PC2 IP Address	192.168.1.20
PC1 and PC2 Gateway	192.168.1.254

SW1 Configuration:

```
Switch(config)#hostname SW1
SW1(config)#interface GigabitEthernet0/1
SW1(config-if)#no switchport
SW1(config-if)#ip address dhcp
SW1(config-if)#no shutdown
SW1(config-if)#exit
SW1(config)#interface Vlan1
SW1(config-if)#ip address 192.168.1.1 255.255.255.0
SW1(config-if)#no shutdown
```

SW2 Configuration:

```
Switch(config)#hostname SW2
SW2(config)#interface GigabitEthernet0/1
SW2(config-if)#no switchport
SW2(config-if)#ip address dhcp
SW2(config-if)#no shutdown
SW2(config-if)#exit
SW2(config)#interface Vlan1
SW2(config-if)#ip address 192.168.1.2 255.255.255.0
SW2(config-if)#no shutdown
```

SW1 HSRP Configuration

```
SW1(config)#interface Vlan 1
SW1(config-if)#standby 1 ip 192.168.1.254
SW1(config-if)#standby 1 name Group1
SW1(config-if)#standby 1 authentication text abc
SW1(config-if)#standby 1 authentication md5 key-string abc
SW1(config-if)#standby 1 timers 2 3
SW1(config-if)#standby 1 timers msec 100 msec 300
SW1(config-if)#standby 1 priority 150
SW1(config-if)#standby 1 preempt
SW1(config-if)#standby 1 preempt delay minimum 60
SW1(config-if)#standby 1 track 1 decrement 60
SW1(config-if)#exit
SW1(config)#track 1 interface gigabitEthernet 0/1 line-protocol
SW1#show standby
SW1#show standby brief
SW1#debug standby packets
SW1#debug standby events
SW1#show standby | include Priority
```

SW2 HSRP Configuration

```
SW2(config)#interface Vlan 1
SW2(config-if)#standby 1 ip 192.168.1.254
SW2(config-if)#standby 1 name Group1
SW2(config-if)#standby 1 authentication text abc
SW2(config-if)#standby 1 authentication md5 key-string abc
SW2(config-if)#standby 1 timers 2 3
SW2(config-if)#standby 1 timers msec 100 msec 300
SW2(config-if)#standby 1 preempt
SW2(config-if)#standby 1 preempt delay minimum 60
```

```
SW2#show standby
```

```
SW2#show standby brief
```

```
SW2#show standby neighbors
```

```
SW2#debug standby packets
```

```
SW2#debug standby events
```

```
SW1(config-if)#do show standby
Vlan1 - Group 1
  State is Standby
    3 state changes, last state change 00:02:17
  Virtual IP address is 192.168.1.254
  Active virtual MAC address is 0000.0c07.ac01 (MAC Not In Use)
    Local virtual MAC address is 0000.0c07.ac01 (v1 default)
  Hello time 3 sec, hold time 10 sec
    Next hello sent in 2.736 secs
  Preemption disabled
  Active router is 192.168.1.2, priority 100 (expires in 8.848 sec)
  Standby router is local
  Priority 100 (default 100)
  Group name is "hsrp-Vl1-1" (default)
```

```
SW2(config-if)#do show standby
Vlan1 - Group 1
  State is Active
    2 state changes, last state change 00:06:10
  Virtual IP address is 192.168.1.254
  Active virtual MAC address is 0000.0c07.ac01 (MAC In Use)
    Local virtual MAC address is 0000.0c07.ac01 (v1 default)
  Hello time 3 sec, hold time 10 sec
    Next hello sent in 0.032 secs
  Preemption disabled
  Active router is local
  Standby router is 192.168.1.1, priority 100 (expires in 8.624 sec)
  Priority 100 (default 100)
  Group name is "hsrp-Vl1-1" (default)
```

```
SW2(config-if)#do show standby br
                P indicates configured to preempt.
                |
Interface   Grp  Pri  P State   Active      Standby      Virtual IP
Vl1         1    100  P Active local      192.168.1.1  192.168.1.254
```

```
SW1#debug standby events
SW2(config)#interface vlan 1
SW2(config-if)#shutdown
```

```
SW1#
*Jul 22 11:11:00.047: HSRP: V1 Grp 1 Standby: c/Active timer expired (192.168.1.2)
*Jul 22 11:11:00.049: HSRP: V1 Grp 1 Active router is local, was 192.168.1.2
*Jul 22 11:11:00.051: HSRP: V1 Nbr 192.168.1.2 no longer active for group 1 (Standby)
*Jul 22 11:11:00.052: HSRP: V1 Nbr 192.168.1.2 Was active or standby - start passive
holddown
*Jul 22 11:11:00.054: HSRP: V1 Grp 1 Standby router is unknown, was local
*Jul 22 11:11:00.057: HSRP: V1 Grp 1 Standby -> Active
*Jul 22 11:11:00.070: %HSRP-5-STATECHANGE: Vlan1 Grp 1 state Standby -> Active
*Jul 22 11:11:00.071: HSRP: V1 Grp 1 Redundancy "hsrp-V1-1" state Standby -> Active
*Jul 22 11:11:00.096: HSRP: V1 Grp 1 Added 192.168.1.254 to ARP (0000.0c07.ac01)
*Jul 22 11:11:00.121: HSRP: V1 Grp 1 Activating MAC 0000.0c07.ac01
*Jul 22 11:11:00.123: HSRP: V1 Grp 1 Adding 0000.0c07.ac01 to MAC address filter - re
setting the interface
*Jul 22 11:11:00.146: HSRP: V1 IP Redundancy "hsrp-V1-1" standby, local -> unknown
*Jul 22 11:11:00.149: HSRP: V1 IP Redundancy "hsrp-V1-1" update, Standby -> Active
*Jul 22 11:11:03.118: HSRP: V1 IP Redundancy "hsrp-V1-1" update, Active -> Active
*Jul 22 11:11:09.718: HSRP: V1 Grp 1 ARP src 192.168.1.20 tgt 192.168.1.254, reply wi
th mac 0000.0c07.ac01
```

```
SW1(config-if)#no shutdown
SW1(config-if)#
*Jul 22 11:13:30.728: HSRP: V1 ARP reload
*Jul 22 11:13:30.743: HSRP: V1 ARP reload
*Jul 22 11:13:32.677: %LINK-3-UPDOWN: Interface Vlan1, changed state to up
*Jul 22 11:13:33.679: %LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan1, changed s
tate to up
*Jul 22 11:13:33.682: HSRP: V1 Interface UP
*Jul 22 11:13:33.683: HSRP: V1 Starting minimum intf delay (1 secs) - uptime 2518
*Jul 22 11:13:34.727: HSRP: V1 Intf min delay expired - uptime 2519
*Jul 22 11:13:34.728: HSRP: V1 Grp 1 Init: a/HSRP enabled
*Jul 22 11:13:34.729: HSRP: V1 Grp 1 Init -> Listen
*Jul 22 11:13:34.744: HSRP: V1 Grp 1 Redundancy "hsrp-V1-1" state Init -> Backup
*Jul 22 11:13:34.758: HSRP: V1 IP Redundancy "hsrp-V1-1" update, Init -> Backup
*Jul 22 11:13:46.007: HSRP: V1 Grp 1 Listen: d/Standby timer expired (unknown)
*Jul 22 11:13:46.009: HSRP: V1 Grp 1 Listen -> Speak
*Jul 22 11:13:46.010: HSRP: V1 Grp 1 Redundancy "hsrp-V1-1" state Backup -> Speak
*Jul 22 11:13:46.017: HSRP: V1 IP Redundancy "hsrp-V1-1" update, Backup -> Speak
*Jul 22 11:13:58.611: HSRP: V1 Grp 1 Speak: d/Standby timer expired (unknown)
*Jul 22 11:13:58.613: HSRP: V1 Grp 1 Standby router is local
*Jul 22 11:13:58.615: HSRP: V1 Grp 1 Speak -> Standby
*Jul 22 11:13:58.617: HSRP: V1 Grp 1 Redundancy "hsrp-V1-1" state Speak -> Standby
*Jul 22 11:13:58.630: HSRP: V1 IP Redundancy "hsrp-V1-1" standby, unknown -> local
*Jul 22 11:13:58.632: HSRP: V1 IP Redundancy "hsrp-V1-1" update, Speak -> Standby
*Jul 22 11:14:10.054: HSRP: V1 Nbr 192.168.1.2 Passive timer expired
*Jul 22 11:14:10.055: HSRP: V1 Nbr 192.168.1.2 is no longer passive
*Jul 22 11:14:10.057: HSRP: V1 Nbr 192.168.1.2 destroyed
*Jul 22 11:14:10.305: HSRP: V1 Grp 1 Standby: c/Active timer expired (unknown)
*Jul 22 11:14:10.307: HSRP: V1 Grp 1 Active router is local
*Jul 22 11:14:10.308: HSRP: V1 Grp 1 Standby router is unknown, was local
*Jul 22 11:14:10.310: HSRP: V1 Grp 1 Standby -> Active
*Jul 22 11:14:10.321: %HSRP-5-STATECHANGE: Vlan1 Grp 1 state Standby -> Active
```