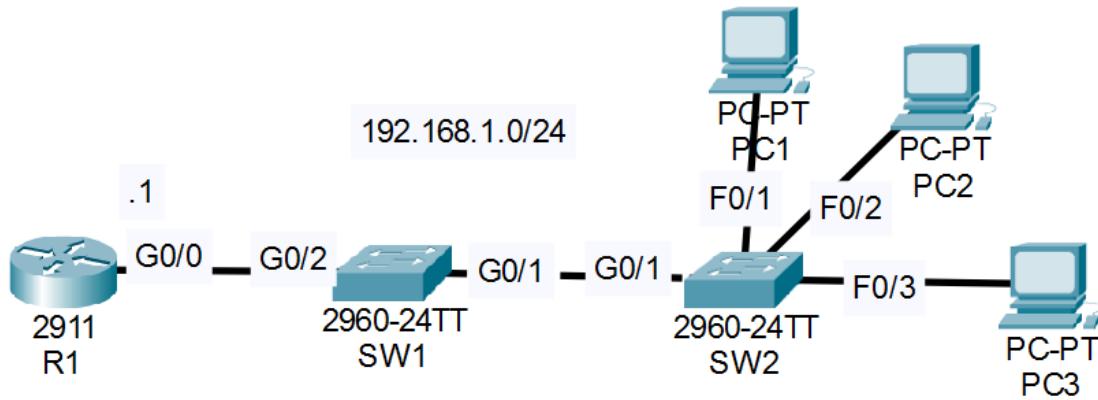


## Network Topology:



## Instructions and actions:

1. Configure R1 as a DHCP server.

Exclude 192.168.1.1 - 192.168.1.9 from the pool

Default gateway: R1

R1 CLI:

```
R1(config)#ip dhcp excluded address 192.168.1.1 192.168.1.9
          ^
% Invalid input detected at '^' marker.

R1(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.9
R1(config)#ip dhcp pool POOL
R1(dhcp-config)#network 192.168.1.0 255.255.255.0
R1(dhcp-config)#default-router 192.168.1.1
R1(dhcp-config)#lease 0 5 30
          ^
% Invalid input detected at '^' marker.

R1(dhcp-config)#lease ?
% Unrecognized command
R1(dhcp-config)#exit
R1(config)#do sh ip binding
sh ip binding
          ^
% Invalid input detected at '^' marker.

R1(config)#do sh ip dhcp binding
IP address      Client-ID/
                  Hardware address      Lease expiration      Type
R1(config) #
```

2. Configure DHCP snooping on SW1 and SW2. Configure the uplink interfaces as trusted ports.

SW1 CLI:

```
SW1>en
SW1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
SW1(config)#ip dhcp snooping
SW1(config)#ip dhcp snooping vlan 1
SW1(config)#no ip dhcp snooping information option
SW1(config)#int g0/2
SW1(config-if)#ip dhcp snooping ?
  limit  DHCP Snooping limit
  trust  DHCP Snooping trust config
SW1(config-if)#ip dhcp snooping trust
SW1(config-if) #
```

SW2 CLI:

```
SW2>en
SW2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SW2(config)#ip dhcp snooping
SW2(config)#ip dhcp snooping vlan 1
SW2(config)#no ip dhcp snooping information option
SW2(config)#int g0/1
SW2(config-if)#ip dhcp snooping trust
SW2(config-if)#
```

The uplink interface refers to traffic from the router, which can be trusted. Downlink interfaces receive traffic from end hosts that cannot be trusted.

### 3. Checking

PC1:

```
C:\>ipconfig /renew

IP Address.....: 192.168.1.10
Subnet Mask.....: 255.255.255.0
Default Gateway.: 192.168.1.1
DNS Server.....: 0.0.0.0

C:\>
```

PC2:

```
C:\>ipconfig /renew

IP Address.....: 192.168.1.11
Subnet Mask.....: 255.255.255.0
Default Gateway.: 192.168.1.1
DNS Server.....: 0.0.0.0
```

PC3:

```
C:\>ipconfig /renew

IP Address.....: 192.168.1.12
Subnet Mask.....: 255.255.255.0
Default Gateway.: 192.168.1.1
DNS Server.....: 0.0.0.0
```

They were assigned IP addresses out of the excluded address pool.