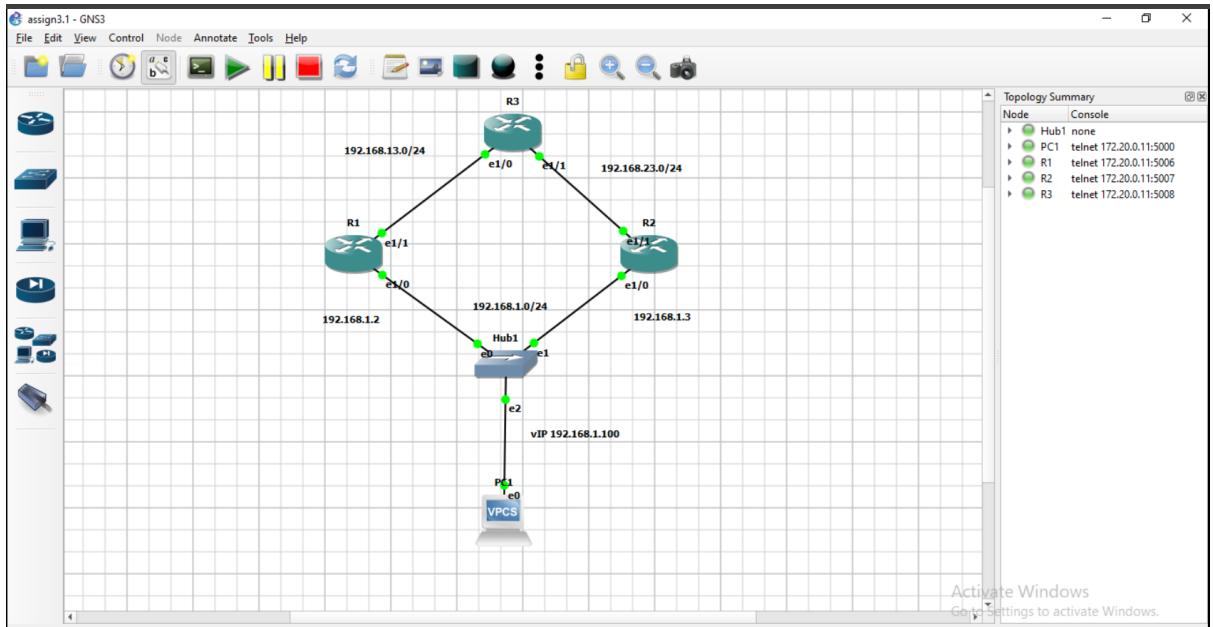


DATACOM DAY 3

1. HSRP

Topology



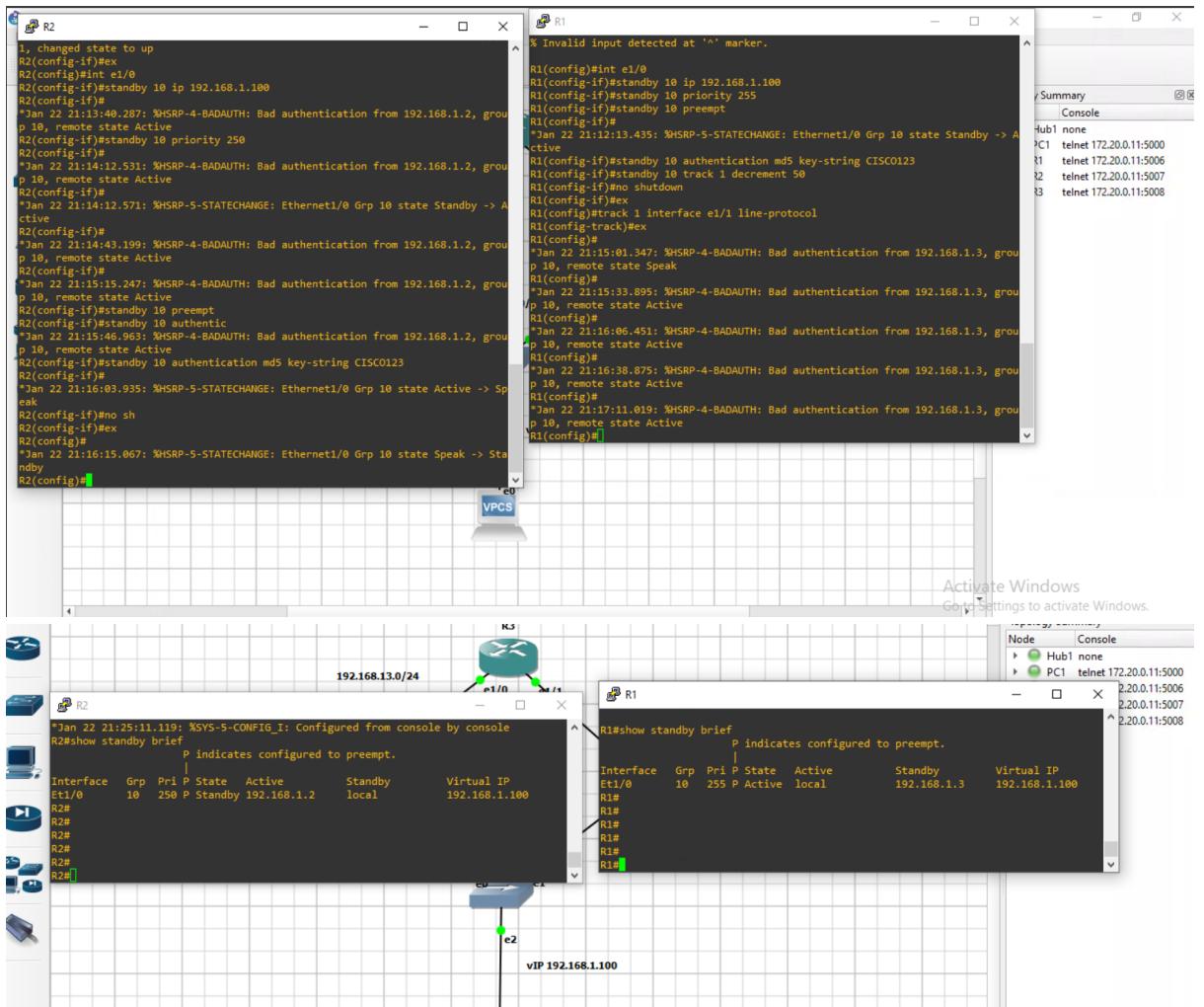
Router ipv4 configuration

```

R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int e1/0
R2(config-if)#ip address 192.168.1.3 255.255.255.0
R2(config-if)#no sh
R2(config-if)#exit
R2(config)#
*Jan 22 21:02:36.683: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 21:02:37.683: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R2(config)#int e1/1
R2(config-if)#ip address 192.168.23.2 255.255.255.0
R2(config-if)#no sh
R2(config-if)#
*Jan 22 21:02:09.879: %LINK-3-UPDOWN: Interface Ethernet1/1, changed state to up
*Jan 22 21:03:10.879: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up
R2(config-if)#exit
R2(config)#
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int e1/0
R1(config-if)#ip address 192.168.1.2 255.255.255.0
R1(config-if)#
% Invalid input detected at '^' marker.
R1(config-if)#ip address 192.168.1.2 255.255.255.0
R1(config-if)#no sh
R1(config-if)#
R1(config)#
*Jan 22 21:00:12.215: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 21:00:13.215: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R1(config)#int e1/1
R1(config-if)#ip address 192.168.13.1 255.255.255.0
R1(config-if)#no sh
R1(config-if)#
R1(config)#
*Jan 22 21:01:08.095: %LINK-3-UPDOWN: Interface Ethernet1/1, changed state to up
*Jan 22 21:01:09.095: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up
R1(config-if)#exit
R1(config)#
R1(config)#
R3#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R3(config)#int e1/0
R3(config-if)#ip address 192.168.13.2 255.255.255.0
R3(config-if)#no sh
R3(config-if)#
R3(config)#
*Jan 22 21:03:40.123: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 21:03:41.123: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R3(config)#int e1/1
R3(config-if)#ip address 192.168.23.1 255.255.255.0
R3(config-if)#no sh
R3(config-if)#
*Jan 22 21:04:32.083: %LINK-3-UPDOWN: Interface Ethernet1/1, changed state to up
*Jan 22 21:04:33.083: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up
R3(config-if)#exit
R3(config)#

```

HSRP CONFIGURATION



VPC1

assign3.1 - GNS3

File Edit View Control Node Annotate Tools Help

```

PC1> ip 192.168.1.4 255.255.255.0 192.168.1.100
Checking for duplicate address...
PC1 : 192.168.1.4 255.255.255.0 gateway 192.168.1.100

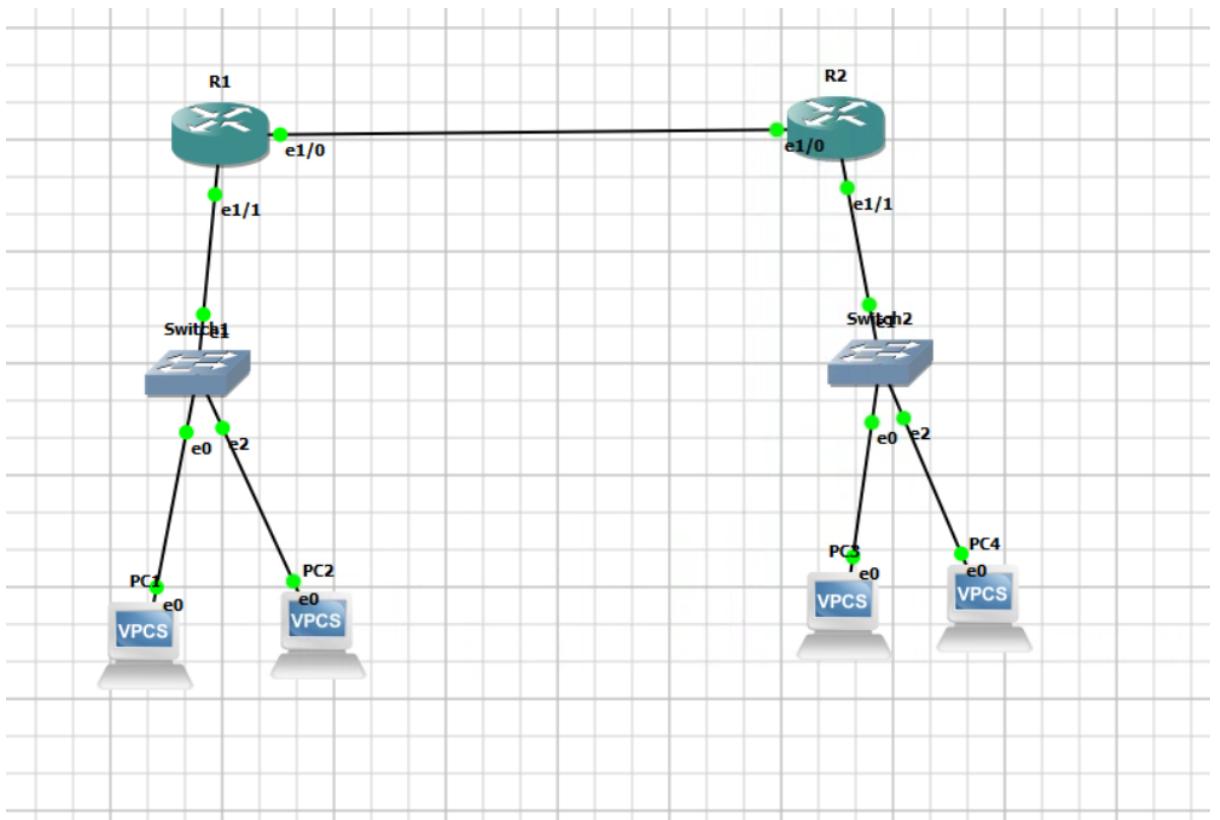
PC1> ping 3.3.3.3 -t

84 bytes from 3.3.3.3 icmp_seq=1 ttl=254 time=17.714 ms
84 bytes from 3.3.3.3 icmp_seq=2 ttl=254 time=20.425 ms
84 bytes from 3.3.3.3 icmp_seq=3 ttl=254 time=19.906 ms
84 bytes from 3.3.3.3 icmp_seq=4 ttl=254 time=20.100 ms
84 bytes from 3.3.3.3 icmp_seq=5 ttl=254 time=19.157 ms
84 bytes from 3.3.3.3 icmp_seq=6 ttl=254 time=23.669 ms
84 bytes from 3.3.3.3 icmp_seq=7 ttl=254 time=30.893 ms
84 bytes from 3.3.3.3 icmp_seq=8 ttl=254 time=18.761 ms
84 bytes from 3.3.3.3 icmp_seq=9 ttl=254 time=18.362 ms
84 bytes from 3.3.3.3 icmp_seq=10 ttl=254 time=18.301 ms
84 bytes from 3.3.3.3 icmp_seq=11 ttl=254 time=18.914 ms
84 bytes from 3.3.3.3 icmp_seq=12 ttl=254 time=19.904 ms
84 bytes from 3.3.3.3 icmp_seq=13 ttl=254 time=30.742 ms
84 bytes from 3.3.3.3 icmp_seq=14 ttl=254 time=28.676 ms
84 bytes from 3.3.3.3 icmp_seq=15 ttl=254 time=30.579 ms
84 bytes from 3.3.3.3 icmp_seq=16 ttl=254 time=28.989 ms

```

2. Static NAT

TOPOLOGY



Router ipv4 configuration

The diagram illustrates a network topology. At the top left is Router R1, which has two interfaces: e1/0 and e1/1. Both interfaces are administratively down. Router R2 is at the top right, also with two interfaces: e1/0 and e1/1. Both of R2's interfaces are administratively down. In the center is a Switch2 device. On the left, there is a PC1 node connected to the network via a VPCS module. On the right, there is a PC2 node connected to the network via a VPCS module. The connections are as follows: Router R1's e1/0 interface connects to the VPCS module on PC1; Router R1's e1/1 interface connects to the VPCS module on PC2; Router R2's e1/0 interface connects to the VPCS module on PC1; Router R2's e1/1 interface connects to the VPCS module on PC2.

```
assign 3.2 - GNS3
File R1
R1# 
R1<conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int e1/1
R1(config-if)#ip address 192.168.1.1 255.255.255.0
% Invalid input detected at '^' marker.

R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#no sh
R1(config-if)#
*Jan 22 21:59:21.243: %LINK-3-UPDOWN: Interface Ethernet1/1, changed state to up
*Jan 22 21:59:21.243: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up
R1(config-if)#int e1/0
R1(config-if)#ip address 100.1.1.1 255.255.255.0
R1(config-if)#no sh
R1(config-if)#
*Jan 22 21:59:54.195: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 21:59:55.195: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R1(config-if)#exit
R1(config)#
*Jan 22 22:00:36.091: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 22:00:37.091: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R2#
R2<conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int e1/0
R2(config-if)#ip address 100.1.1.2 255.255.255.0
% Incomplete command.

R2(config-if)#ip address 100.1.1.2 255.255.255.0
R2(config-if)#no sh
R2(config-if)#
R2(config-if)#
*Jan 22 22:01:14.991: %LINK-3-UPDOWN: Interface Ethernet1/1, changed state to up
*Jan 22 22:01:15.991: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/1, changed state to up
R2(config-if)#exit
R2(config)#
*Jan 22 22:01:36.091: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 22:01:37.091: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/0, changed state to up
R2(config)#

```

CONFIGURE ROUTING

assign 3.2 - GNS3

```

R1(config-if)#ex
R1(config)#ip route 0.0.0.0 0.0.0.0 100.1.1.2
R1(config)#ip nat inside source static 192.168.1.1 50.1.1.1
R1(config)#
R2(config-if)#ex
R2(config)#ip route 50.1.1.0 255.255.255.0 100.1.1.1
R2(config)#

```

```

File R1
R1(config-if)#int e1/0
R1(config-if)#ip net outside
^
% Invalid input detected at '^' marker.

R1(config-if)#ip nat outside
R1(config-if)#
R1(config-if)#ex
R1(config)#int e1/1
R1(config-if)#ip nat inside
R1(config-if)#sh ip
^
% Invalid input detected at '^' marker.

R1(config-if)#do sh ip
sh ip
% Incomplete command.

R1(config-if)#do sh ip route
Codes: C - connected, S - static, R - RIP, M - mobile, B - BGP
      D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
      N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
      E1 - OSPF external type 1, E2 - OSPF external type 2
      i - IS-IS, su - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
      ia - IS-IS inter area, * - candidate default, U - per-user static route
      o - ODR, P - periodic downloaded static route

Gateway of last resort is 100.1.1.2 to network 0.0.0.0

      100.0.0.0/24 is subnetted, 1 subnets
C        100.1.1.0 is directly connected, Ethernet1/0
C        192.168.1.0/24 is directly connected, Ethernet1/1
S*    0.0.0.0/0 [1/0] via 100.1.1.2
R1(config-if)#^Z
R1#
*Jan 22 22:24:41.671: %SYS-5-CONFIG_I: Configured from console by console
R1#ping 200.1.1.100

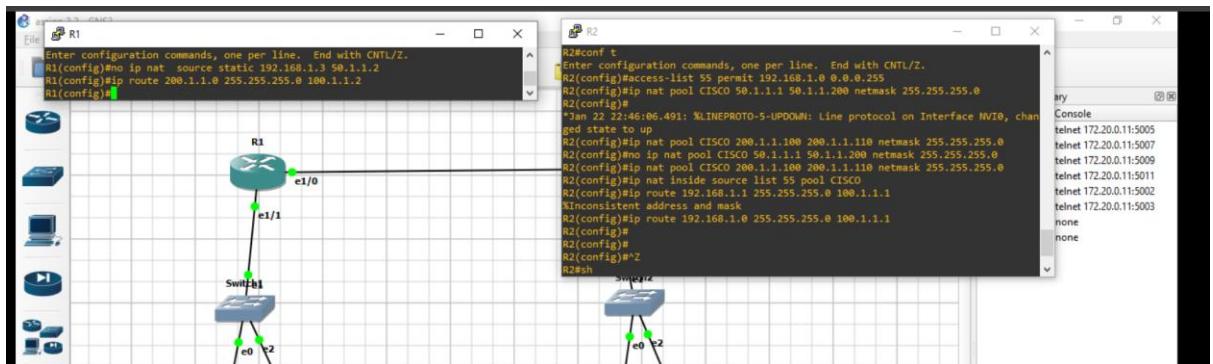
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 200.1.1.100, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5)
R1#

```

Console

- PC1 telnet 172.20.0.11:5005
- PC2 telnet 172.20.0.11:5007
- PC3 telnet 172.20.0.11:5009
- PC4 telnet 172.20.0.11:5011
- R1 telnet 172.20.0.11:5002
- R2 telnet 172.20.0.11:5003
- Switch1 none
- Switch2 none

3. Dynamic NAT



4. Enable secret

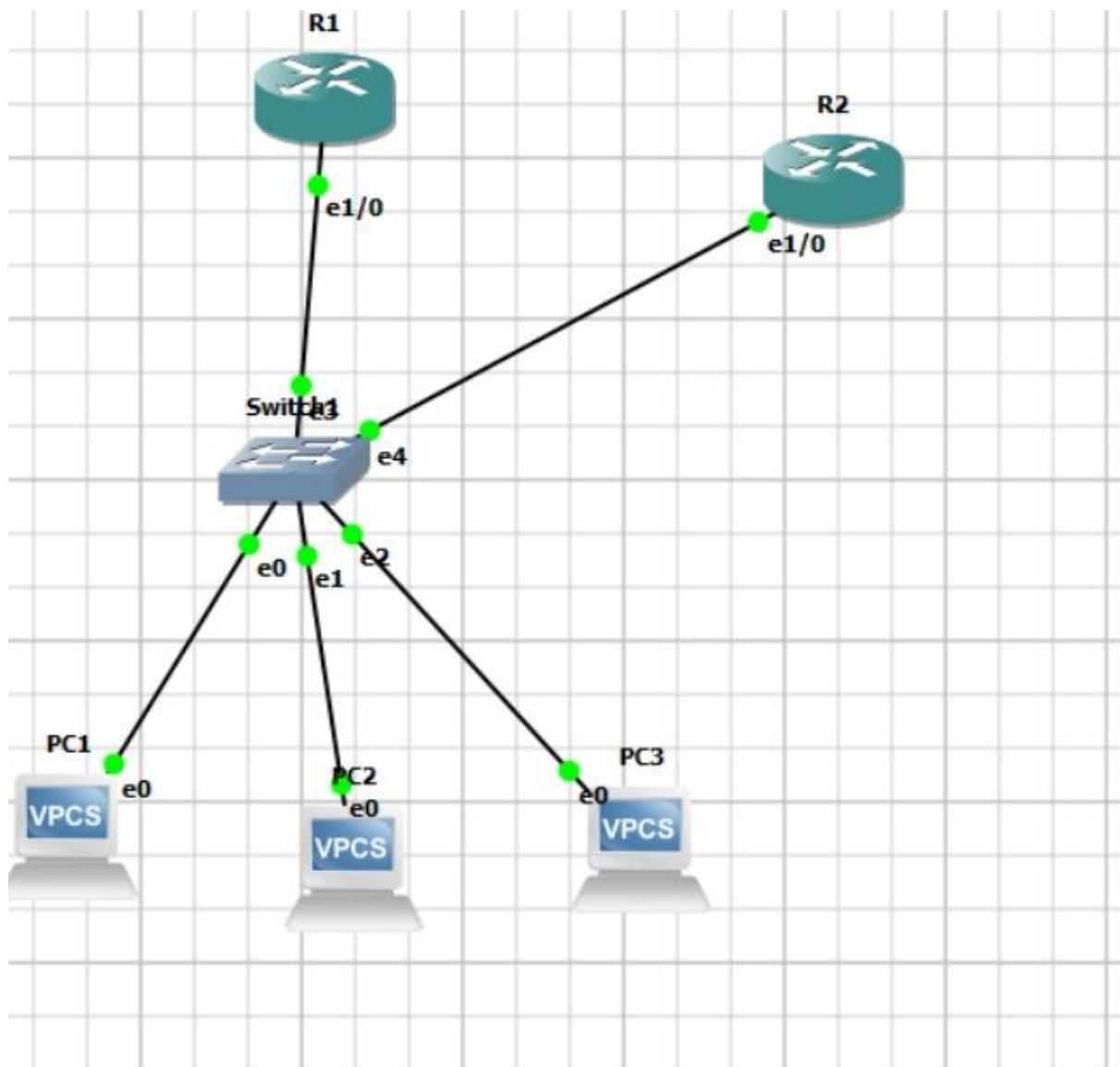
```
R1(config)#  
R1(config)#  
R1(config)#enable secret JUNIPER  
R1(config)#do show run | sec secret  
enable secret 5 $1$xAnQ$JrHcvb\moZ2rFrEQXXj9tv1  
R1(config)#
```

5. Enable password

```
R1(config)#  
R1(config)#enable password CISCO123  
R1(config)#^Z  
R1#  
R1#  
R1#  
R1#dis  
*Jan 22 09:07:11.675: %SYS-5-CONFIG_I: Configured from console by console  
R1#disable  
R1>enable  
Password:  
R1#
```

6. DHCP

Topology



```
R1#
R1#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#int e1/0
R1(config-if)#ip address 192.168.1.1
% Incomplete command.

R1(config-if)#ip address 192.168.1.1 255.255.255.0
R1(config-if)#no sh
```

```

R1(dhcp-config)#ip dhcp pool wipro
R1(dhcp-config)#network
% Incomplete command.

R1(dhcp-config)#network 192.168.1.0 255.255.255.0
R1(dhcp-config)#default
R1(dhcp-config)#default
R1(dhcp-config)#default-router 192.168.1.1
R1(dhcp-config)#dns
R1(dhcp-config)#dns-server 192.168.1.2
R1(dhcp-config)#
R1(dhcp-config)#
DHCP pool configuration commands:
  accounting           Send Accounting Start/Stop messages
  bootfile             Boot file name
  class                Specify a DHCP class
  client-identifier   Client identifier
  client-name          Client name
  default-router       Default routers
  dns-server           DNS servers
  domain-name          Domain name
<cr>

```

```
R1(config)#ip dhcp excluded-address 192.168.1.1 192.168.1.2
```

```

R2#
R2#conf t
Enter configuration commands, one per line. End with CNTL/Z.
R2(config)#int e1/0
R2(config-if)#ip address dhcp
R2(config-if)#no sh
R2(config-if)#
*Jan 22 05:19:33.203: %LINK-3-UPDOWN: Interface Ethernet1/0, changed state to up
*Jan 22 05:19:34.203: %LINEPROTO-5-UPDOWN: Line protocol on Interface Ethernet1/
0, changed state to up
R2(config-if)#
*Jan 22 05:19:43.731: %DHCP-6-ADDRESS_ASSIGN: Interface Ethernet1/0 assigned DHC
P address 192.168.1.4, mask 255.255.255.0, hostname R2

R2(config-if)^Z
R2#
*Jan 22 05:19:56.827: %SYS-5-CONFIG_I: Configured from console by console
R2#show ip int bri
Interface          IP-Address      OK? Method Status          Prot
ocel
FastEthernet0/0    unassigned      YES unset administratively down down
Ethernet1/0        192.168.1.4    YES DHCP   up               up
Ethernet1/1        unassigned      YES unset administratively down down
Ethernet1/2        unassigned      YES unset administratively down down
Ethernet1/3        unassigned      YES unset administratively down down
Ethernet1/4        unassigned      YES unset administratively down down
Ethernet1/5        unassigned      YES unset administratively down down
Ethernet1/6        unassigned      YES unset administratively down down
Ethernet1/7        unassigned      YES unset administratively down down
R2#

```