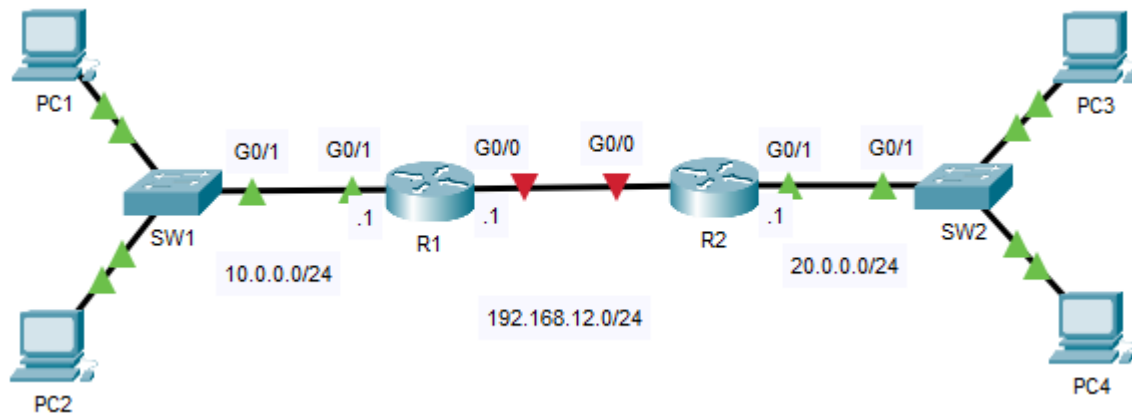


ACTIVITY 35: DHCP



1. Configure three DHCP pools on R1:

- 10pool: Range: 10.0.0.0/24
Default gateway: 10.0.0.1
DNS server: 10.0.0.1
Excluded addresses: 10.0.0.1 - 10.0.0.10

```
R1(config)#ip dhcp pool 10pool
R1(dhcp-config)#network 10.0.0.0 255.255.255.0
R1(dhcp-config)#default-router 10.0.0.1
R1(dhcp-config)#dns-server 10.0.0.1
R1(dhcp-config)#ip dhcp excluded-address 10.0.0.1 10.0.0.10
```

- 20pool: Range: 20.0.0.0/24
Default gateway: 20.0.0.1
DNS server: 20.0.0.1
Excluded addresses: 20.0.0.1 - 20.0.0.10

```
R1(config)#ip dhcp pool 20pool
R1(dhcp-config)#network 20.0.0.0 255.255.255.0
R1(dhcp-config)#default-router 20.0.0.1
R1(dhcp-config)#dns-server 20.0.0.1
R1(dhcp-config)#ip dhcp excluded-address 20.0.0.1 20.0.0.10
```

- 12pool: Range: 192.168.12.0/24

```
R1(config)#ip dhcp pool 12pool
R1(dhcp-config)#network 192.168.12.0 255.255.255.0
```

2. Configure R2's G0/0 interface as a DHCP client, then enable the interface

```
R2(config)#interface g0/0
R2(config-if)#ip address dhcp
R2(config-if)#no shutdown
```

3. Configure R2's G0/1 interface as a DHCP relay agent so that hosts on the 20.0.0.0/24 network can get IP addresses

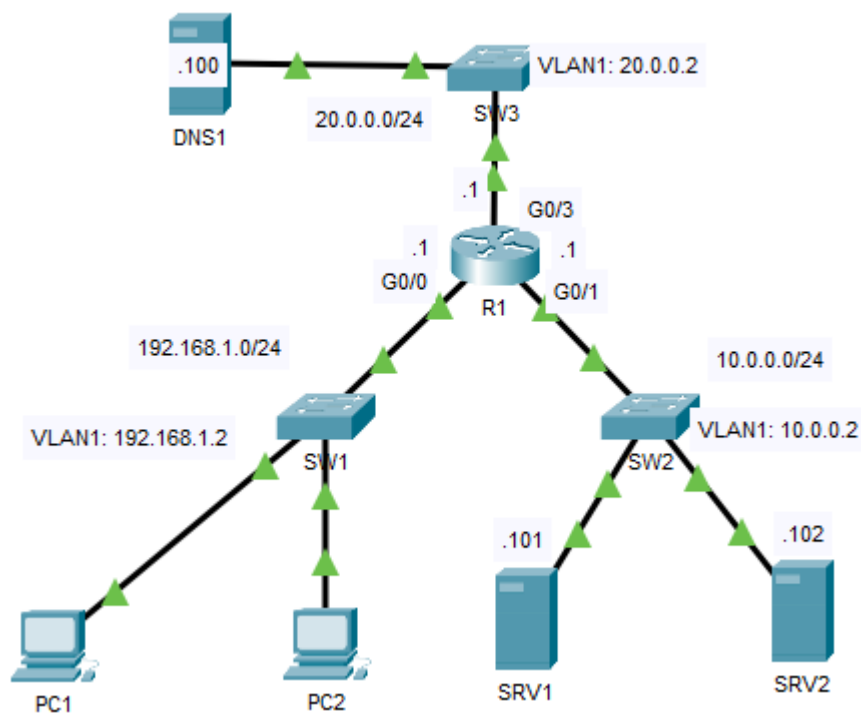
```
R2(config-if)#interface g0/1
R2(config-if)#ip helper-address 192.168.12.1
```

Test: On PC1 and PC 4

IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IPv4 Address	10.0.0.2
Subnet Mask	255.255.255.0
Default Gateway	10.0.0.1
DNS Server	0.0.0.0

IP Configuration	
<input checked="" type="radio"/> DHCP	<input type="radio"/> Static
IPv4 Address	20.0.0.12
Subnet Mask	255.255.255.0
Default Gateway	20.0.0.1
DNS Server	20.0.0.1

ACTIVITY 36: DNS



1. Configure the following DHCP pool named “1pool” on R1:

Network: 192.168.1.0/24

Default gateway: 192.168.1.1

Excluded address range: 192.168.1.1 - 192.168.1.10

```
R1(config)#ip dhcp pool 1pool
```

```
R1(dhcp-config)#network 192.168.1.0 255.255.255.0
```

```
R1(dhcp-config)#default-router 192.168.1.1
```

```
R1(dhcp-config)#ip dhcp excluded-address 192.168.1.1 192.168.1.10
```

2. From PC1, attempt to ping SRV1 by IP address, then by name. Does either fail?

```
C:\>ping srv1
Ping request could not find host srv1. Please check the name and try again.
```

3. Add 20.0.0.100 as a DNS server to the 1pool DHCP pool.

```
R1(config)#ip dhcp pool 1pool
```

```
R1(dhcp-config)#dns-server 20.0.0.100
```

4. From PC1, ping SRV1 and SRV2 by name. Do the pings succeed?

```
C:\>ipconfig /release
```

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

```
C:\>ipconfig /renew
```

```
IP Address.....: 192.168.1.11
Subnet Mask.....: 255.255.255.0
Default Gateway...: 192.168.1.1
DNS Server.....: 20.0.0.100
```

```
C:\>ping srv1
```

```
Pinging 10.0.0.101 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 10.0.0.101: bytes=32 time<1ms TTL=127
```

```
Reply from 10.0.0.101: bytes=32 time<1ms TTL=127
```

```
Reply from 10.0.0.101: bytes=32 time=13ms TTL=127
```

```
C:\>ping srv2
```

```
Pinging 10.0.0.102 with 32 bytes of data:
```

```
Request timed out.
```

```
Reply from 10.0.0.102: bytes=32 time<1ms TTL=127
```

```
Reply from 10.0.0.102: bytes=32 time<1ms TTL=127
```

```
Reply from 10.0.0.102: bytes=32 time<1ms TTL=127
```

5. On SW1, attempt to ping SRV1 by IP address and by name.

```
SW1#ping 10.0.0.101
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.0.0.101, timeout is 2 seconds:
```

```
.....
```

```
Success rate is 0 percent (0/5)
```

```
SW1#ping srv1
```

```
Translating "srv1"...domain server (255.255.255.255)
```

```
% Unrecognized host or address or protocol not running.
```

6. On SW1, manually specify R1 as the default gateway and DNS1 as the DNS server, then attempt the pings again.

```
SW1(config)#ip default-gateway 192.168.1.1
```

```
SW1(config)#ip name-server 20.0.0.100
```

```
SW1#ping 10.0.0.101
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.0.0.101, timeout is 2 seconds:
```

```
.!!!!
```

```
Success rate is 80 percent (4/5), round-trip min/avg/max = 0/0/0 ms
```

```
SW1#ping srv1
```

```
Translating "srv1"...domain server (20.0.0.100)
```

```
Type escape sequence to abort.
```

```
Sending 5, 100-byte ICMP Echos to 10.0.0.101, timeout is 2 seconds:
```

```
!!!!!
```

```
Success rate is 100 percent (5/5), round-trip min/avg/max = 0/0/0 ms
```