HCIA 实验 10 DHCP

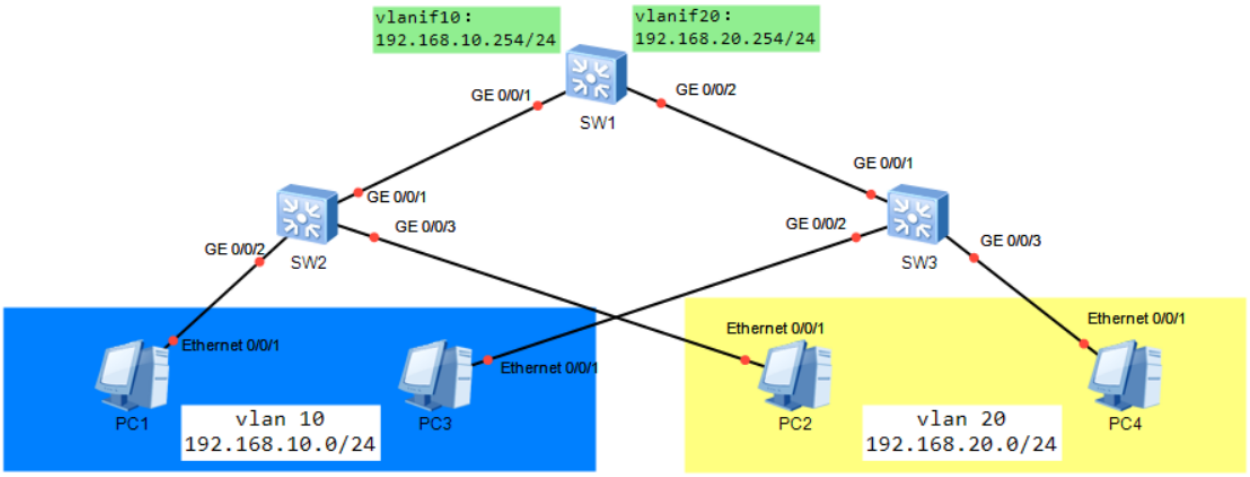
版本 **V1.0**

密级 ☑开放 ☐内部 ☐机密

类型 ☐讨论版 ☐测试版 ☑正式版

修订记录				
修订日期	**修订人**	**版本号**	**审核人**	**修订说明**
2019-11-14	**Ryan**	1.0		

1 实验拓扑



2 实验需求

1. 如图所示，配置设备名称和IP地址。其中PC全部使用DHCP自动获取IP/mask/GW。

2. 在所有交换机上创建VLAN10和20

3. 交换机之间配置trunk链路，并且仅允许必要的vlan通过

4. 交换机与PC之间配置access链路，并划入对应的vlan

5. SW1上创建vlan10和vlan20的网关，地址如图所示

6. SW1上开启DHCP服务功能，创建两个全局地址池，满足以下需求：

   a) 地址池名称分别为10和20

   b) 地址池10为vlan10分配IP地址和网关

   c) 地址池20为vlan20分配IP地址和网关

7. 在PC上获取IP地址后，进行互联测试

3 配置思路及验证结果

3.1 在交换价上创建 VLAN 并划分接口

SW1

```
[Huawei] sysname SW1
[SW1] vlan batch 10 20
[SW1] interface g0/0/1
[SW1-GigabitEthernet0/0/1] port link-type trunk
[SW1-GigabitEthernet0/0/1] port trunk allow-pass vlan 10 20
[SW1-GigabitEthernet0/0/1] interface g0/0/2
[SW1-GigabitEthernet0/0/2] port link-type trunk
[SW1-GigabitEthernet0/0/2] port trunk allow-pass vlan 10 20
```

SW2

```
[Huawei] sysname SW2
[SW2] vlan batch 10 20
[SW2] interface g0/0/1
[SW2-GigabitEthernet0/0/1] port link-type trunk
[SW2-GigabitEthernet0/0/1] port trunk allow-pass vlan 10 20
[SW2-GigabitEthernet0/0/1] interface g0/0/2
[SW2-GigabitEthernet0/0/2] port link-type access
[SW2-GigabitEthernet0/0/2] port default vlan 10
[SW2-GigabitEthernet0/0/2] interface g0/0/3
```

[SW2-GigabitEthernet0/0/3] port link-type access
[SW2-GigabitEthernet0/0/3] port default vlan 20

SW3

[Huawei] sysname SW3
[SW3] vlan batch 10 20
[SW3] interface g0/0/1
[SW3-GigabitEthernet0/0/1] port link-type trunk
[SW3-GigabitEthernet0/0/1] port trunk allow-pass vlan 10 20
[SW3-GigabitEthernet0/0/1] interface g0/0/2
[SW3-GigabitEthernet0/0/2] port link-type access
[SW3-GigabitEthernet0/0/2] port default vlan 10
[SW3-GigabitEthernet0/0/2] interface g0/0/3
[SW3-GigabitEthernet0/0/3] port link-type access
[SW3-GigabitEthernet0/0/3] port default vlan 20

3.2 配置网关

SW1

[SW1] interface vlanif 20
[SW1-Vlanif10] ip address 192.168.10.254 24
[SW1-Vlanif10] interface vlanif 20
[SW1-Vlanif20] ip address 192.168.20.254 24

3.3 在交换机上开启 DHCP 服务功能并创建全局地址池

SW1

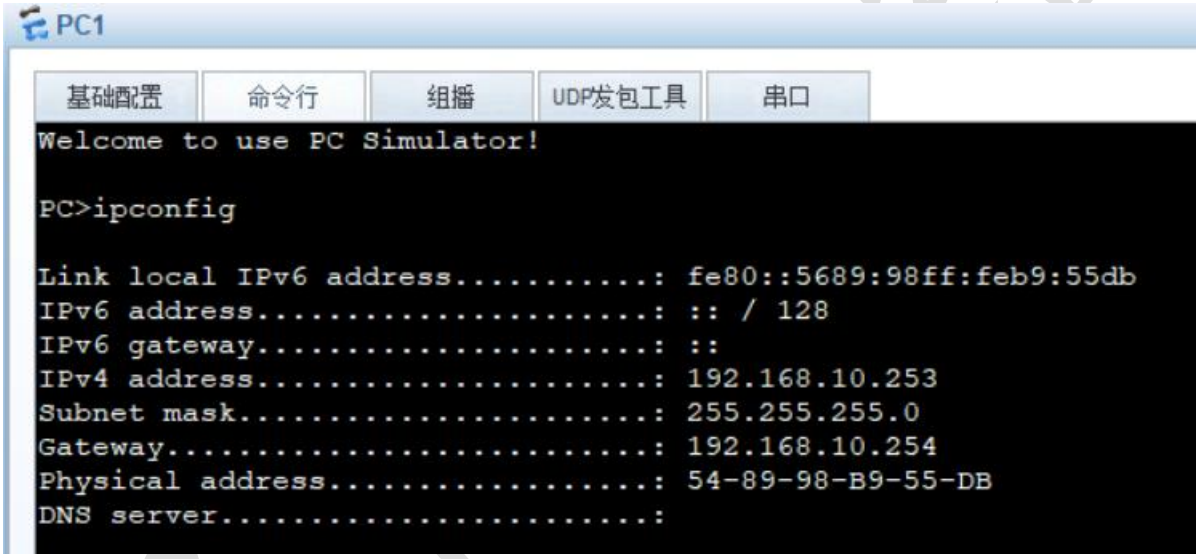
[SW1] dhcp enable
[SW1] ip pool 10
[SW1-ip-pool-10] network 192.168.10.0 mask 255.255.255.0
[SW1-ip-pool-10] gateway-list 192.168.10.254
[SW1] ip pool 20
[SW1-ip-pool-20] network 192.168.20.0 mask 255.255.255.0
[SW1-ip-pool-20] gateway-list 192.168.20.254

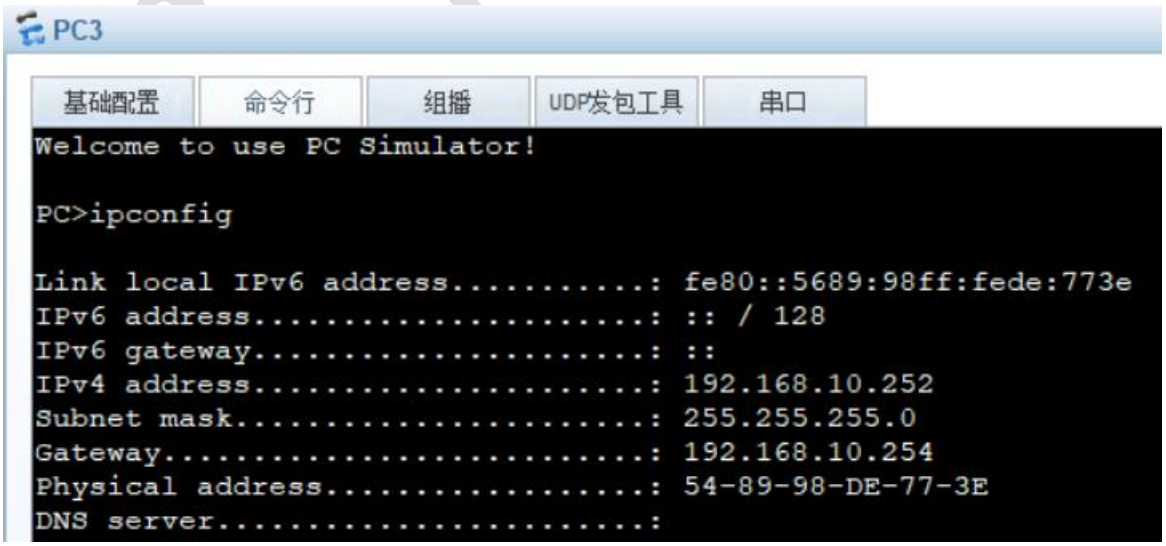
3.4 在接口上调用全局地址池

```
[SW1] interface Vlanif10
[SW1-Vlanif10] dhcp select global
[SW1-Vlanif10] interface vlanif 20
[SW1-Vlanif20] dhcp select global
```

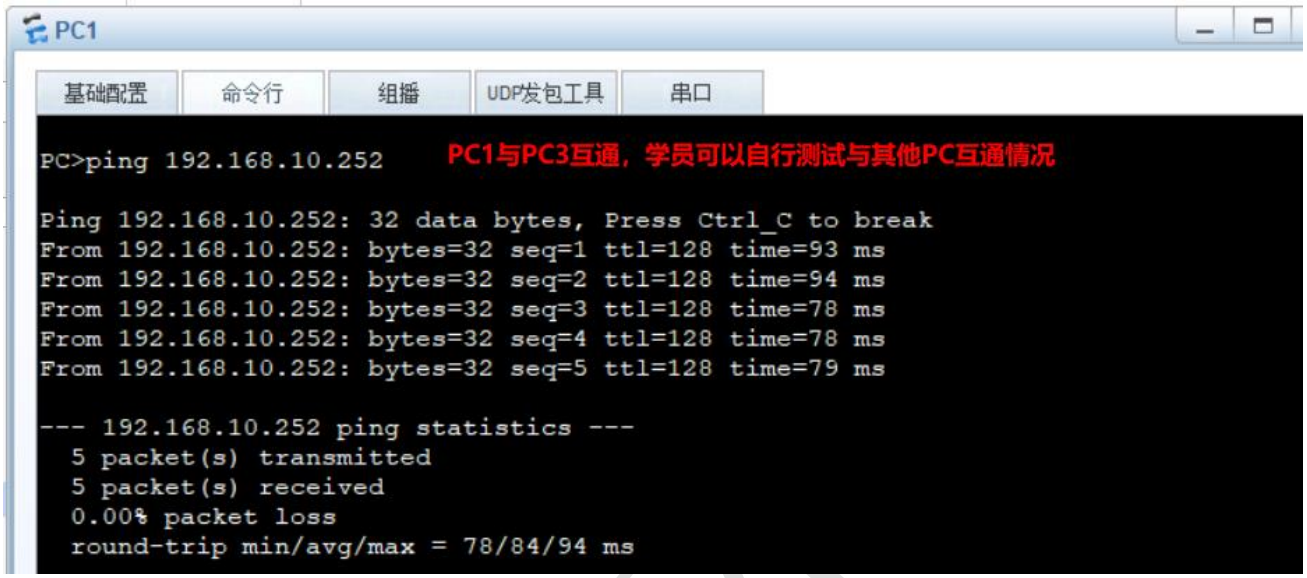
3.5 验证实验结果

PC 机可以获取到地址





PC 机之间可以互访


PC1
基础配置
命令行
组播
UDP发包工具
串口
PC>ping 192.168.10.252
PC1与PC3互通，学员可以自行测试与其他PC互通情况
Ping 192.168.10.252: 32 data bytes, Press Ctrl_C to break
From 192.168.10.252: bytes=32 seq=1 ttl=128 time=93 ms
From 192.168.10.252: bytes=32 seq=2 ttl=128 time=94 ms
From 192.168.10.252: bytes=32 seq=3 ttl=128 time=78 ms
From 192.168.10.252: bytes=32 seq=4 ttl=128 time=78 ms
From 192.168.10.252: bytes=32 seq=5 ttl=128 time=79 ms
--- 192.168.10.252 ping statistics ---
5 packet(s) transmitted
5 packet(s) received
0.00% packet loss
round-trip min/avg/max = 78/84/94 ms