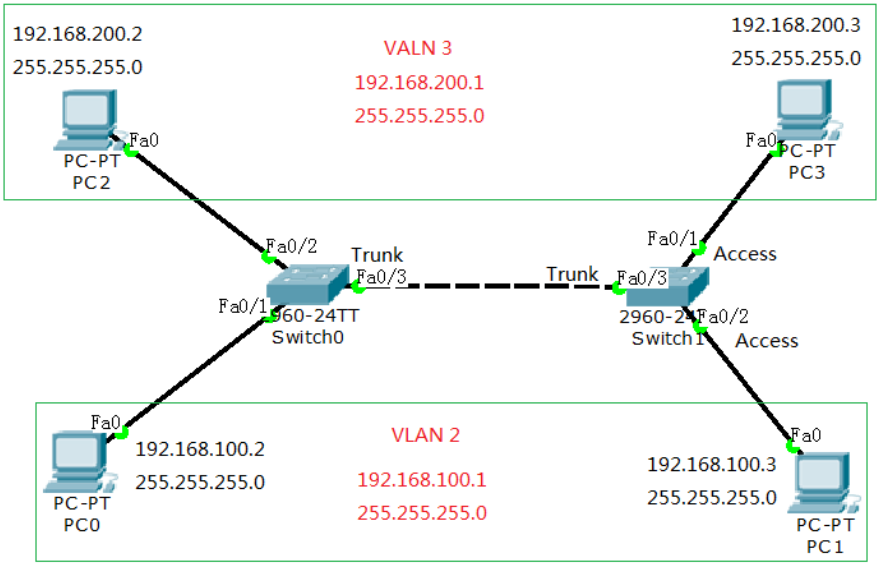
实验二：在 Cisco Packet Tracer 模拟器上进行 Trunk+Access 端口混合模式实验

1 配置图



2 配置命令

Switch0 的 VLAN 配置如下：

```
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#interface fa0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 2
Switch(config-if)#exit
Switch(config)#vlan 3
Switch(config-vlan)#interface f0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 3
Switch(config-if)#interface f0/3
Switch(config-if)#swtichport mode trunk
                  ^
% Invalid input detected at '^' marker.

Switch(config-if)#switchport mode trunk

Switch(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o down

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/3, changed state t
o up

Switch(config-if)#switchport trunk allowed vlan 2,3
Switch(config-if)#
```

查看 Switch0 的 vlan 配置如下：

```
Switch#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/4, Fa0/5, Fa0/6, Fa0/7
                                                Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                                Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                Fa0/24, Gig1/1, Gig1/2
2    VLAN0002                         active    Fa0/1
3    VLAN0003                         active    Fa0/2
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch#
```

Switch0 的 Trunk 端口配置如下：

```
Switch#show interfaces trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/3       2-3

Port        Vlans allowed and active in management domain
Fa0/3       2,3

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/3       2,3
Switch#
```

Switch1 的 VLAN 配置如下：

```
Switch#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#vlan 2
Switch(config-vlan)#interface f0/2
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 2
Switch(config-if)#vlan 3
Switch(config-vlan)#interface fa0/1
Switch(config-if)#switchport mode access
Switch(config-if)#switchport access vlan 3
Switch(config-if)#interface fa0/3
Switch(config-if)#switchport mode trunk
Switch(config-if)#switchport trunk allowed vlan 2,3
Switch(config-if)#
```

查看 Switch1 的 VLAN 配置如下：

```
Switch>show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/4, Fa0/5, Fa0/6, Fa0/7
                                                Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                                Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                Fa0/24, Gig1/1, Gig1/2
2    VLAN0002                         active    Fa0/2
3    VLAN0003                         active    Fa0/1
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Switch>
```

Switch1 的 Trunk 端口配置如下：

```
Switch>show interfaces trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/3       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/3       2-3

Port        Vlans allowed and active in management domain
Fa0/3       2,3

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/3       2,3
Switch>
```

3 实验现象

VLAN 3 内 PC2 访问 PC3，可以 ping 通。

```
PC>ipconfig

FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::260:70FF:FEA3:BAE1
IP Address.....: 192.168.200.2
Subnet Mask.....: 255.255.255.0
Default Gateway.....: 192.168.200.1

PC>ping 192.168.200.3

Pinging 192.168.200.3 with 32 bytes of data:

Reply from 192.168.200.3: bytes=32 time=1ms TTL=128
Reply from 192.168.200.3: bytes=32 time=0ms TTL=128
Reply from 192.168.200.3: bytes=32 time=2ms TTL=128
Reply from 192.168.200.3: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.200.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 2ms, Average = 0ms
```

VLAN 2 内 PC0 访问 PC1，可以 ping 通。

```
PC>ipconfig

FastEthernet0 Connection:(default port)
Link-local IPv6 Address.....: FE80::2D0:97FF:FE3D:89C5
IP Address.....: 192.168.100.2
Subnet Mask.....: 255.255.255.0
Default Gateway.....: 192.168.100.1

PC>ping 192.168.100.3

Pinging 192.168.100.3 with 32 bytes of data:

Reply from 192.168.100.3: bytes=32 time=0ms TTL=128
Reply from 192.168.100.3: bytes=32 time=1ms TTL=128
Reply from 192.168.100.3: bytes=32 time=0ms TTL=128
Reply from 192.168.100.3: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.100.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms
```