

# 廈門大學



## 信息学院软件工程系

### 《计算机网络》实验报告

题    目 实验四 CISCO IOS 路由器基本配置

班    级 软件工程 2019 级 4 班

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实验时间 2021 年 5 月 30 日

2021 年 5 月 30 日

## 1 实验目的

使用 Router\_eSIM v1.1 模拟器来模拟路由器的配置环境；使用 CCNA Network Visualizer 6.0 配置静态路由、动态路由和交换机端口的 VLAN（虚拟局域网）。

按照课本描述使用 Router\_eSIM v1.1 模拟器来模拟路由器的配置环境；使用 CCNA Network Visualizer 6.0 配置静态路由、动态路由和交换机端口的 VLAN（虚拟局域网）。

## 2 实验环境

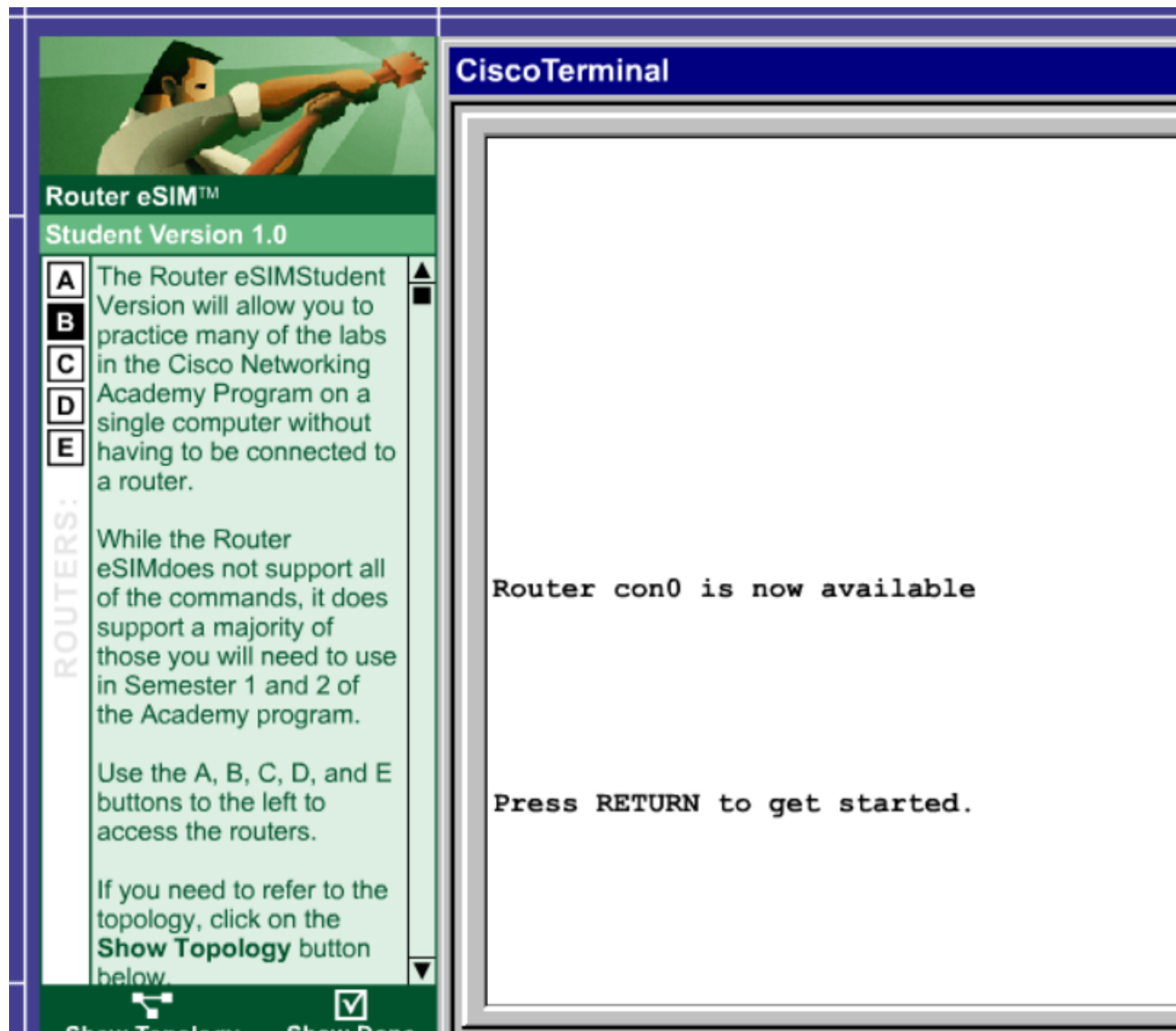
操作系统： Windows 10 64 位操作系统

操作的软件： Router\_eSIM v1.1 模拟器、CCNA Network Visualizer 6.0

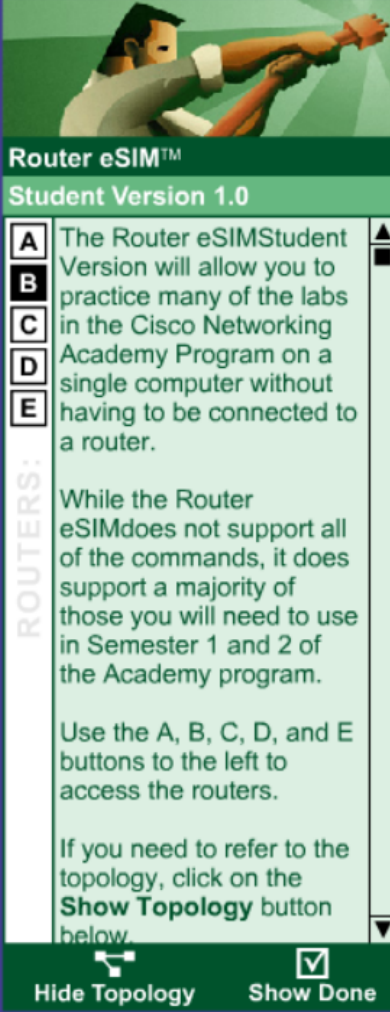
## 3 实验结果

### 一、 Cisco IOS 的基本操作和路由器的常规配置

启动 RoutereSIM 软件，进入启动界面，单击左侧字母可以在 5 台路由器间进行切换，右窗格就是对路由器的配置界面，在该窗格中输入命令行可以对相应路由器进行配置。



单击左下的"ShowTopology"按钮可以显示 RoutersIM 模拟的网络拓扑图，



**Router eSIM™**  
**Student Version 1.0**

**A** The Router eSIM Student Version will allow you to practice many of the labs in the Cisco Networking Academy Program on a single computer without having to be connected to a router.

**B**

**C**

**D**

**E**

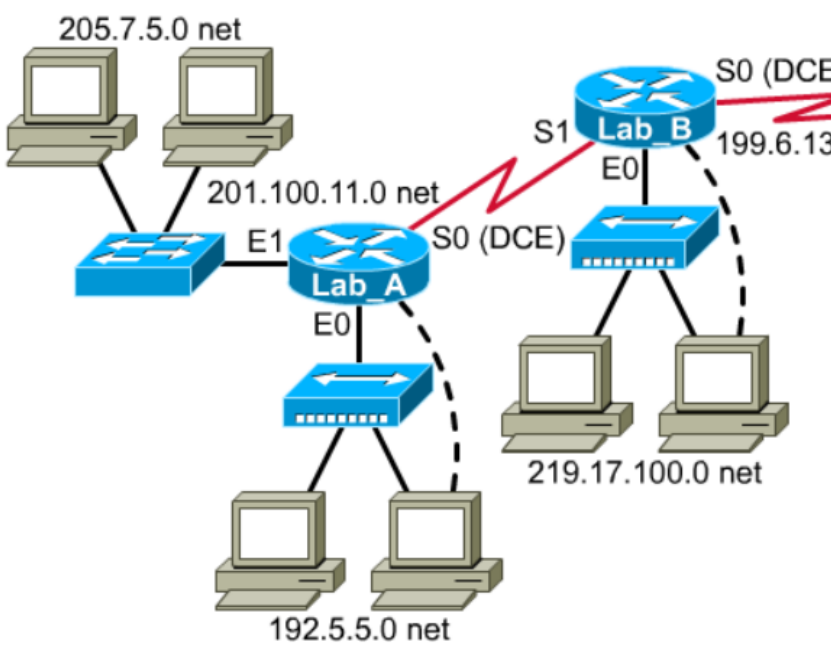
**ROUTERS:**

While the Router eSIM does not support all of the commands, it does support a majority of those you will need to use in Semester 1 and 2 of the Academy program.

Use the A, B, C, D, and E buttons to the left to access the routers.

If you need to refer to the topology, click on the **Show Topology** button below.

☐ Hide Topology ☒ Show Done



Router Name - Lab_A	Router Name - Lab_B	Router Name - L
Router Type - 2514	Router Type - 2503	Router Type - 2503
E0 = 192.5.5.1	E0 = 219.17.100.1	E0 = 223.8.151.1
E1 = 205.7.5.1	S0 = 199.6.13.1	S0 = 204.204.7.1
S0 = 201.100.11.1	S1 = 201.100.11.2	S1 = 199.6.13.2
SM = 255.255.255.0	SM = 255.255.255.0	SM = 255.255.255.0

单击"ShowDone"可以显示出各个路由器都完成了哪些操作以及哪些操作还没有完成，操作完成会显示"Done"，否则显示"Not Done"。

**实验要求：**把每个路由器都要配置端口的 IP 地址、DCE 端口的时钟速率，用 ip host 命令将主机名和 IP 地址映射起来，并配置简单的距离矢量路由协议 (RIP)。

在普通用户模式下,提示符为">", 不能对路由器的配置做任何改动，只能对路由器的一些状态做有限的检查。

- 1) 输入“enable”，就可以进入超级用户模式了，在超级用户模式下(提示符为“#”)可以进入全局配置模式，对路由器进行事关全局的配置。

```
Router>enable
Router#_
```

- 2) 输入“config terminal”，则进入全局配置模式 Router config)#，比如给路由器改名字这样的对路由器整体起作用的配置必须要在全局模式下进行。如果对路由器的各端口(如 Ethernet 端口)进行配置,则要在全局配置模式下输入相应命令(如 Ethernet0)进入接口配置模式 Router(config-if)#。

```
Enter configuration commands, one per line. End with END.
Router(config)#_
```

命令缓存表：

命令	说明
Ctrl-P 或向上箭头键	调出命令记忆缓存内当前命令的上一条命令
Ctrl-N 或向下箭头键	调出命令记忆缓存内当前命令的下一条命令
Router>show history	显示命令记忆缓存中的所有命令
Router>terminal history size lines	设置命令记忆缓存可能容纳内条命令

```
Router#show running-config
Building configuration...

Current configuration:
!
version 12.0
service timestamps debug uptime
service timestamps log uptime
no service password-encryption
!
hostname Router
!
enable password
!
ip subnet-zero
```

3) 查看命令 show：

- 1 show running-config 显示当前运行状态的配置,如果不对 running-config 进行保存的话，那么随着路由器掉电，当前配置也会流失，所以要注意保存，保存命令为 copy running-config

startup-config。

② show startup-config 显示保存在路由器 NVRAM 里的配置，如图 5.19 所示，路由器开机后会自动从 NVRAM 中将路由器的配置文件 startup-config 调出来。

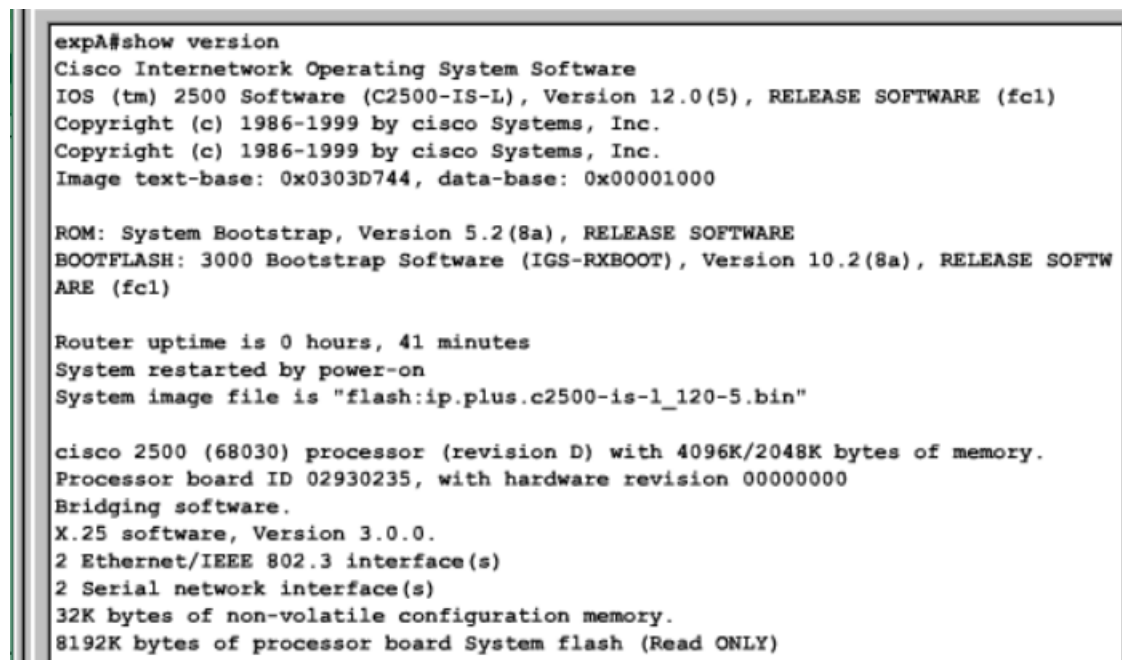
```
Router#show startup-config
%% Non-volatile configuration memory is not present
```

当前没有设置

3 show interfaces 命令显示了各接口的配置参数和工作数据。该命令对于差错检验和确定故障所在都很有帮助。也可以指定显示某个特定接口的参数，如 show int0。

```
Router#show interfaces
Ethernet0 is administratively down, line protocol is down
  Hardware is Lance, address is 0010.7b81.4e2c(bia 0010.7b81.4e2c)
  MTU 1500 bytes, BW 10000 Kbit, DLY 1000 usec,
    reliability 252/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, loopback not set
  Keepalive set (10 sec)
  ARP type: ARPA, ARP Timeout 04:00:00
  Last input never, output 00:00:20, output hang never
  Last clearing of "show interface" counters never
  Queueing strategy: fifo
  Output queue 0/40, 0 drops; input queue 0/75, 0 drops
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
    0 packets input, 0 bytes, 0 no buffer
      Received 0 broadcasts, 0 runts, 0 giants, 0 throttles
    0 input errors, 0 CRC, 0 frame, 0 overrun, 0 ignored
    0 input packets with dribble condition detected
  6 packets output, 360 bytes, 0 underruns
  6 output errors, 0 collisions, 3 interface resets
  0 babbles, 0 late collision, 0 deferred
  6 lost carrier, 0 no carrier
```

4 show version 显示当前运行在路由器上的 CiscoIOS 的版本号、路由器的型号。



```
expA#show version
Cisco Internetwork Operating System Software
IOS (tm) 2500 Software (C2500-IS-L), Version 12.0(5), RELEASE SOFTWARE (fcl)
Copyright (c) 1986-1999 by cisco Systems, Inc.
Copyright (c) 1986-1999 by cisco Systems, Inc.
Image text-base: 0x0303D744, data-base: 0x00001000

ROM: System Bootstrap, Version 5.2(8a), RELEASE SOFTWARE
BOOTFLASH: 3000 Bootstrap Software (IGS-RXBOOT), Version 10.2(8a), RELEASE SOFTWARE (fcl)

Router uptime is 0 hours, 41 minutes
System restarted by power-on
System image file is "flash:ip.plus.c2500-is-l_120-5.bin"

cisco 2500 (68030) processor (revision D) with 4096K/2048K bytes of memory.
Processor board ID 02930235, with hardware revision 00000000
Bridging software.
X.25 software, Version 3.0.0.
2 Ethernet/IEEE 802.3 interface(s)
2 Serial network interface(s)
32K bytes of non-volatile configuration memory.
8192K bytes of processor board System flash (Read ONLY)
```

4) 路由器一些常规的配置

路由器出厂的名字都默认为 Router 为了区分网络中的各个路由器，要给路由器取名字，通常会将路由器的摆放地点表现到名字中。在全局配置模式下用 hostname 改变路由器的名字

```
Router#config t
Enter configuration commands, one per line.  End with END.
Router(config)#hostname lab_A
lab_A(config)#
```

用于设置当日消息标题的命令 banner motd, 是将#...#之间的文本在各终端试图访问路由器时，在登录口令提示之前显示出来。可以用它来通知系统关闭等信息

```
expA(config)#banner motd #
Enter TEXT message.  End with the character '#'.
sth try to enter #
```

可以在路由器内建立一个 IP 地址的映射表，静态指定机器名与 IP 地址的映射关系,这样可以通过机器名和 IP 地址两种方式指定计算机、交换机和路由器的接口。

```
Enter configuration commands, one per line.  End with END.
lab_A(config)#ip host lab_A 192.5.5.1 205.7.5.1 201.100.11.1
lab_A(config)#ip host lab_B 219.17.100.1 199.6.13.1 201.100.11.2
lab_A(config)#ip host lab_C 223.8.151.1 204.204.7.1 199.6.13.2
lab_A(config)#ip host lab_D 210.93.105.1 204.204.7.2
lab_A(config)#ip host lab_E 210.93.105.2
lab_A(config)#
```

在 show done 的界面上可以看到变化：

Lab_A	Not Completed
Hostname	Done
Enable Secret	Not Done
Line Console Login	Not Done
Line Console Password	Not Done
Line vty Login	Not Done
Line vty Password	Not Done
E0 IP	Done
E0 Shutdown	Not Done
E1 IP	Done
E1 Shutdown	Not Done
S0 IP	Done
S0 Clock Rate	Done
S0 Shutdown	Not Done
Routing Protocol	Not Done
Network 1	Not Done
Network 2	Not Done
Network 3	Not Done
IP Host Lab_A	Done
IP Host Lab_B	Done
IP Host Lab_C	Done
IP Host Lab_D	Done
IP Host Lab_E	Done
Time elapsed	141:06

如果要对路由器的各个接口进行配置，必须在全局配置模式

Router(config)#下，对于不带模块的路由器采用命令“interface type number”

进入接口配置模式 Router(config-if)，而对于带模块的路由器则使用口令

“interface type slot/port”。命令格式中的 type 可以是 serial、ethemet、fdi、

hssi、loopback、atm、bri 等，根据要配置的路由器的接口而定。

为路由器的一个接口配置 IP 地址，在该接口上启动中进程的方法，这

个 ip 地址也是该接口所连接的子网的网关。

```

lab_A(config)#int eth 0
lab_A(config-if)#ip address 192.5.5.1 255.255.255.0
lab_A(config-if)#int eth 1
lab_A(config-if)#ip address 205.7.5.1 255.255.255.0
lab_A(config-if)#int serial 0
lab_A(config-if)#ip address 201.100.11.1 255.255.255.0
lab_A(config-if)#_

```



在串行端口连接中，作为 DCE 的一端必须为连接的另一端 DTE 提供时钟信号。默认情况下，Cisco 的路由器串行端口充当 DTE 设备，如果要配置成 DCE 端，必须用 clock rate 指定时钟频率，也只有 DCE 端口，才需要配置 clock rate

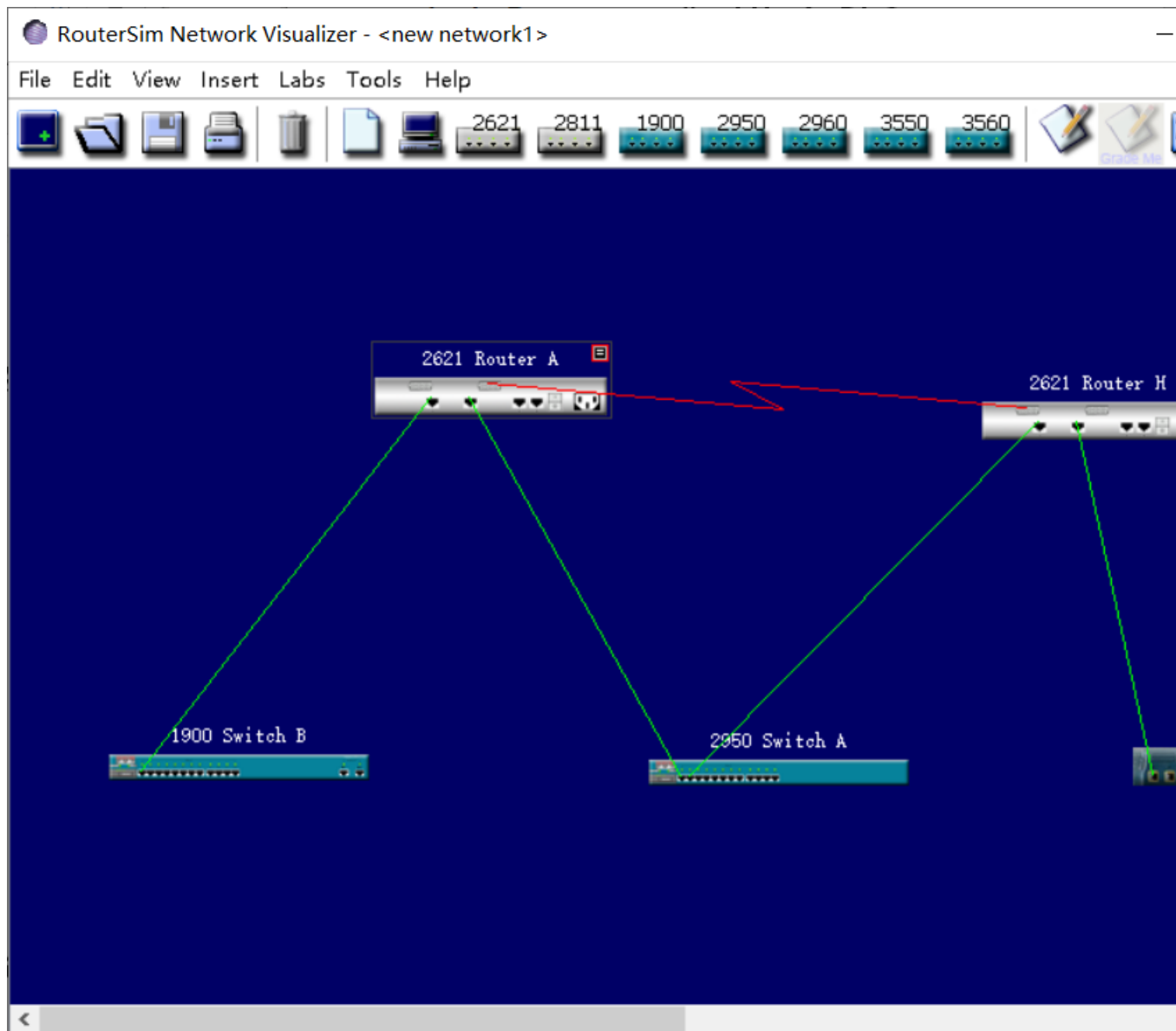
```
lab_A(config)#interface serial 0
lab_A(config-if)#clock rate 56000
lab_A(config-if)#_
```

配置，充当串行端口

Lab_A	Not Completed
Hostname	Done
Enable Secret	Not Done
Line Console Login	Not Done
Line Console Password	Not Done
Line vty Login	Not Done
Line vty Password	Not Done
E0 IP	Done
E0 Shutdown	Not Done
E1 IP	Done
E1 Shutdown	Not Done
S0 IP	Done
S0 Clock Rate	Not Done
S0 Shutdown	Not Done
Routing Protocol	Not Done
Network 1	Not Done
Network 2	Not Done
Network 3	Not Done
IP Host Lab_A	Done
IP Host Lab_B	Done
IP Host Lab_C	Done
IP Host Lab_D	Done
IP Host Lab_E	Done

二、 静态路由设置(使用软件：CCNA Network Visualizer 6.0)



从设计界面工具栏上可以看到模拟器模拟的 Cisco 设备，包括一台 Cisco2600 路由器和若干台 Cisco 的交换机。将拓扑图上的交换设备放在相应的位置上，如果双击该设备图标则启动路由器的配置界面。



在配置静态路由之前，要配置路由器各个端口的 IP 地址，还要用命令 `no shutdown` 激活端口。串口如果充当 DCE 端，还需要配置时钟频率，在准备工作做完之后，如果查看路由表(`show ip route`)，会看到路由器直连网络的情况。

Console for 2621 Router A

File Edit View Tools Help



```
Router Con0 is now available

Press RETURN to get started!

Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z
Router(config)#int f0/0
Router(config-if)#ip address 192.5.5.1 255.255.255.0
Router(config-if)#no shutdown
15:52:15 %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
15:52:15 %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up

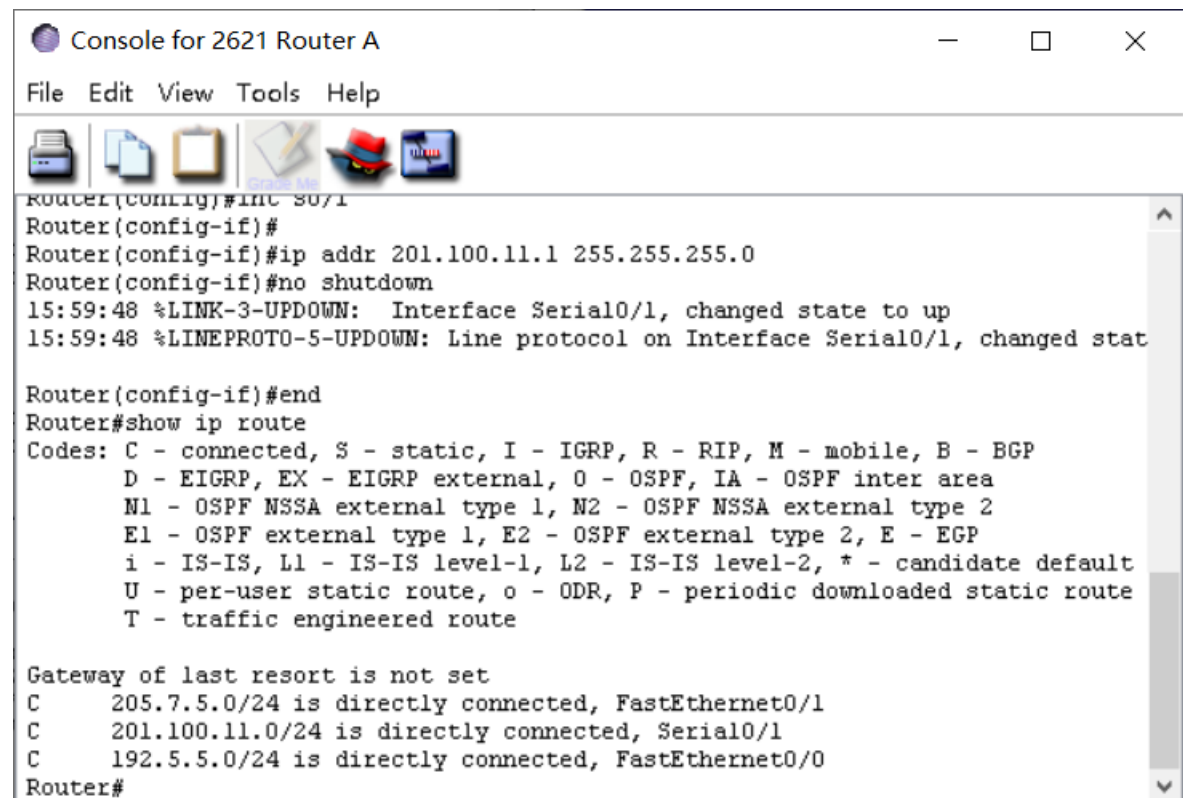
Router(config-if)#int f0/1
Router(config-if)#ip addr 205.7.5.1 255.255.255.0
Router(config-if)#no shutdown
15:53:26 %LINK-3-UPDOWN: Interface FastEthernet0/1, changed state to up
15:53:26 %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up

Router(config-if)#
```

```
Router(config-if)#int s0/1
Router(config-if)#ip addr 201.100.11.1 255.255.255.0
Router(config-if)#no shutdown
15:03:29 %LINK-3-UPDOWN: Interface Serial0/1, changed state to up
15:03:29 %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, chang

Router(config-if)#exit
Router(config)#exit
Router#show ip route
```

查看路由表：



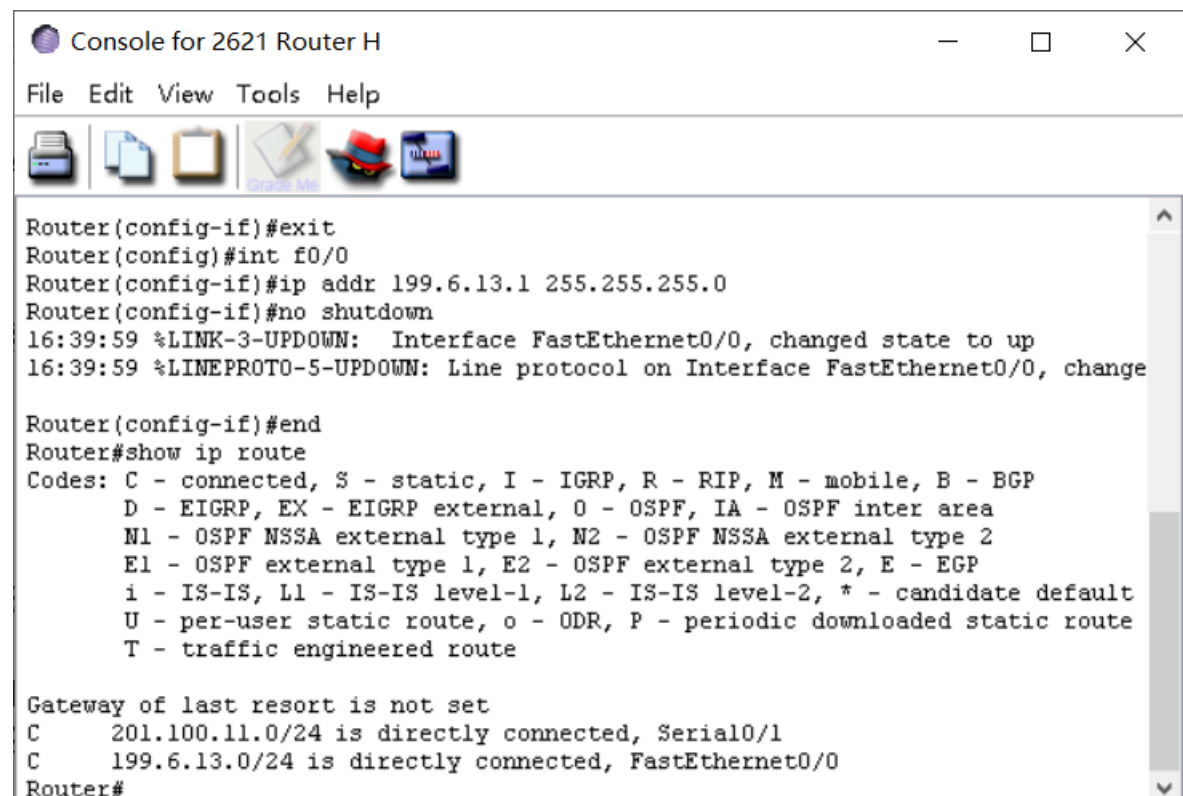
```
Console for 2621 Router A
File Edit View Tools Help

Router(config-if)#int s0/1
Router(config-if)#
Router(config-if)#ip addr 201.100.11.1 255.255.255.0
Router(config-if)#no shutdown
15:59:48 %LINK-3-UPDOWN: Interface Serial0/1, changed state to up
15:59:48 %LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1, changed stat

Router(config-if)#end
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
       U - per-user static route, o - ODR, P - periodic downloaded static route
       T - traffic engineered route

Gateway of last resort is not set
C    205.7.5.0/24 is directly connected, FastEthernet0/1
C    201.100.11.0/24 is directly connected, Serial0/1
C    192.5.5.0/24 is directly connected, FastEthernet0/0
Router#
```

同样的方法，配置路由器 B 的相关参数



```
Console for 2621 Router H
File Edit View Tools Help

Router(config-if)#exit
Router(config)#int f0/0
Router(config-if)#ip addr 199.6.13.1 255.255.255.0
Router(config-if)#no shutdown
16:39:59 %LINK-3-UPDOWN: Interface FastEthernet0/0, changed state to up
16:39:59 %LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, change

Router(config-if)#end
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
       U - per-user static route, o - ODR, P - periodic downloaded static route
       T - traffic engineered route

Gateway of last resort is not set
C    201.100.11.0/24 is directly connected, Serial0/1
C    199.6.13.0/24 is directly connected, FastEthernet0/0
Router#
```

配置静态路由，标准格式：

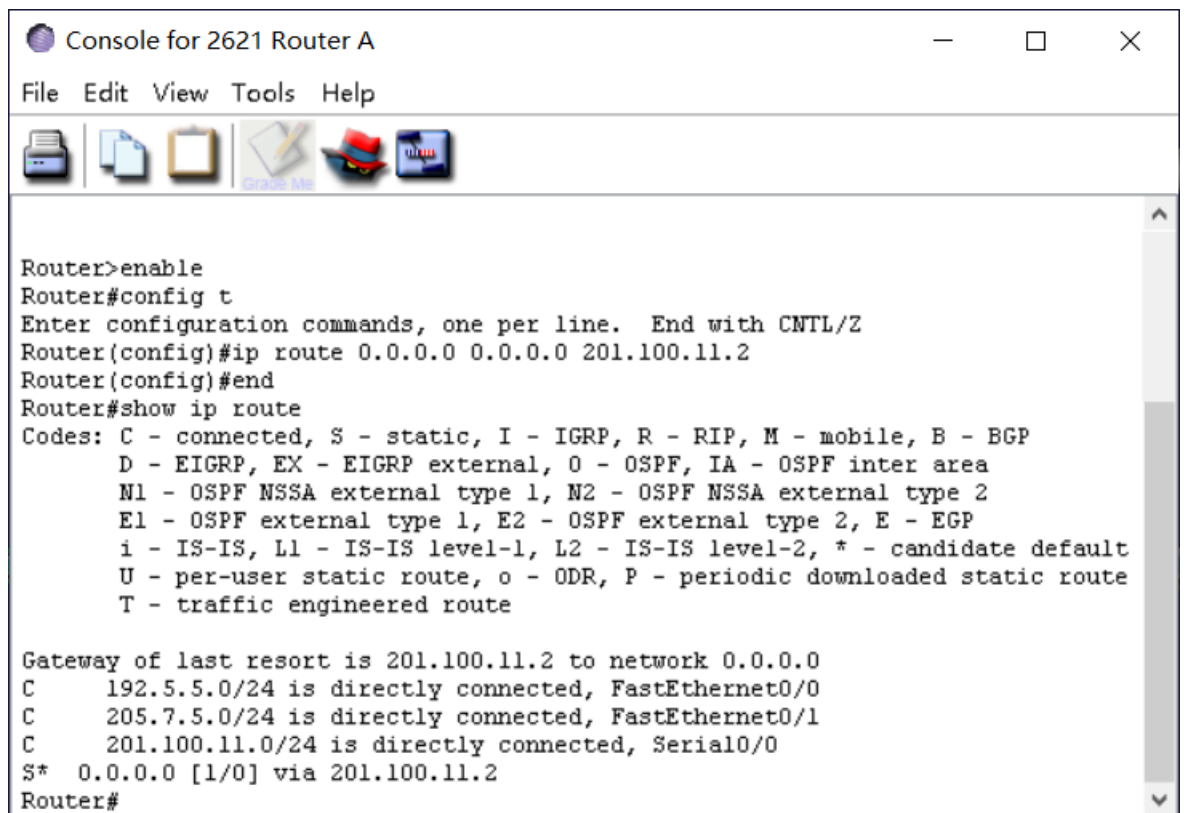
```
Router (config) #ip route [destination_network] [mask] [next_hop_address or exitinterface]
[administrative_distance] [permanent]
```

具体操作：

```
Router(config)#ip route 199.6.13.0 255.255.255.0 201.100.11.2
Router(config)#exit
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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
```

在路由条目的前面有"Gateway of last resort is not set"，就是说如果目的子网没有在路由条目中出现，数据包就会被路由器丢掉。

为了避免这种情况，配置默认路由。即：0.0.0.0 0.0.0.0 destination 的模式实现传输任意网络。

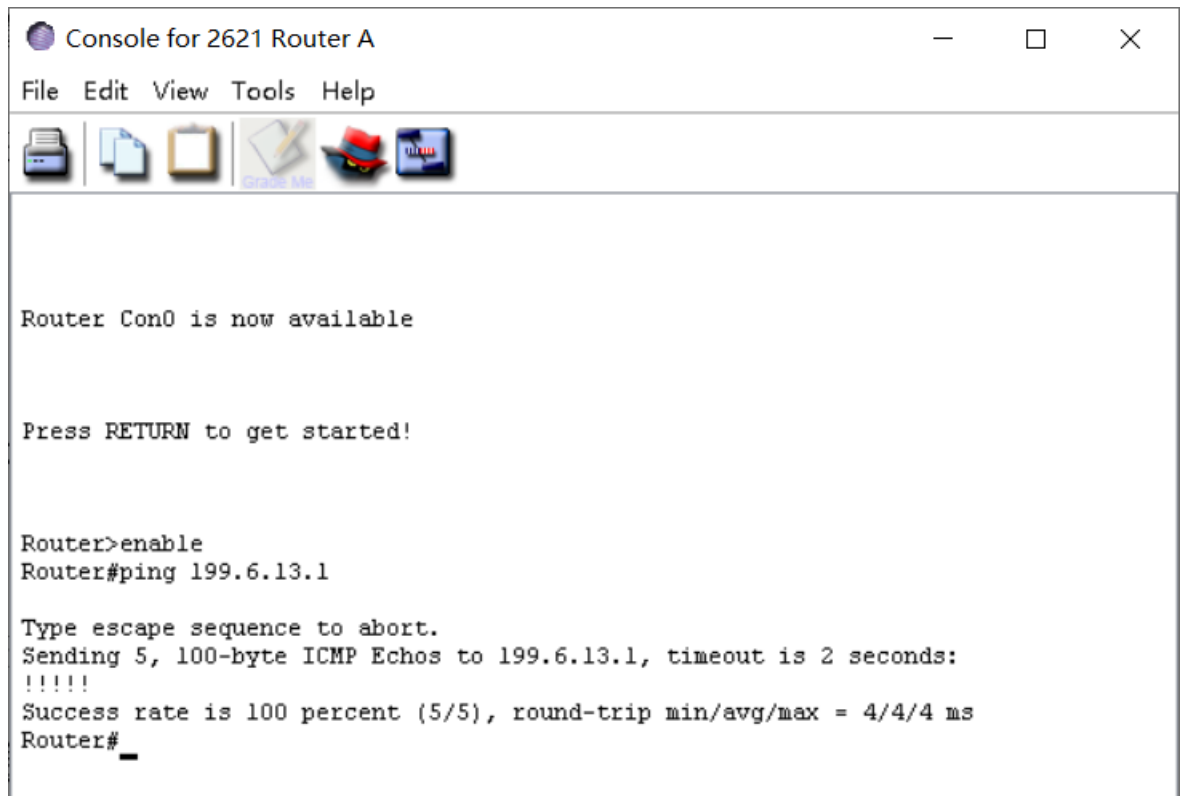


```
Console for 2621 Router A
File Edit View Tools Help

Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z
Router(config)#ip route 0.0.0.0 0.0.0.0 201.100.11.2
Router(config)#end
Router#show ip route
Codes: C - connected, S - static, I - IGRP, 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, E - EGP
       i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, * - candidate default
       U - per-user static route, o - ODR, P - periodic downloaded static route
       T - traffic engineered route

Gateway of last resort is 201.100.11.2 to network 0.0.0.0
C    192.5.5.0/24 is directly connected, FastEthernet0/0
C    205.7.5.0/24 is directly connected, FastEthernet0/1
C    201.100.11.0/24 is directly connected, Serial0/0
S*   0.0.0.0 [1/0] via 201.100.11.2
Router#
```

在 RouterA 上,通过 ping 命令测试到路由器 RouterB 的直连网络地址 199.6.13.1 是否连通。



```
Console for 2621 Router A
File Edit View Tools Help

Router Con0 is now available

Press RETURN to get started!

Router>enable
Router#ping 199.6.13.1

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 199.6.13.1, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/4 ms
Router#
```

### 三、 动态路由协议 RIP 的配置

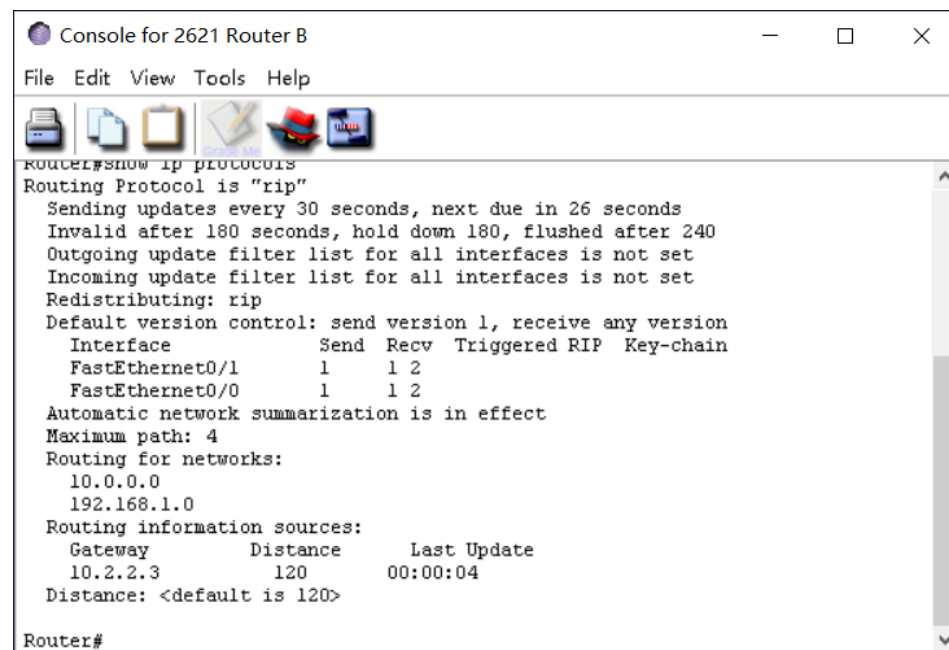
配置 RIP 的两条命令分别是:Router (config) #router rip;用于启动 RIP 协议。

Router (config-router) #network network-number: 选择 RIP 协议起作用的网络  
必须是路由器直连的可分类网络。



```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z
Router(config)#router rip
Router(config-router)#network 192.168.1.0
Router(config-router)#network 10.0.0.0
Router(config-router)#
```

用“show ip protocols”可以显示路由协议 RIP 的工作情况

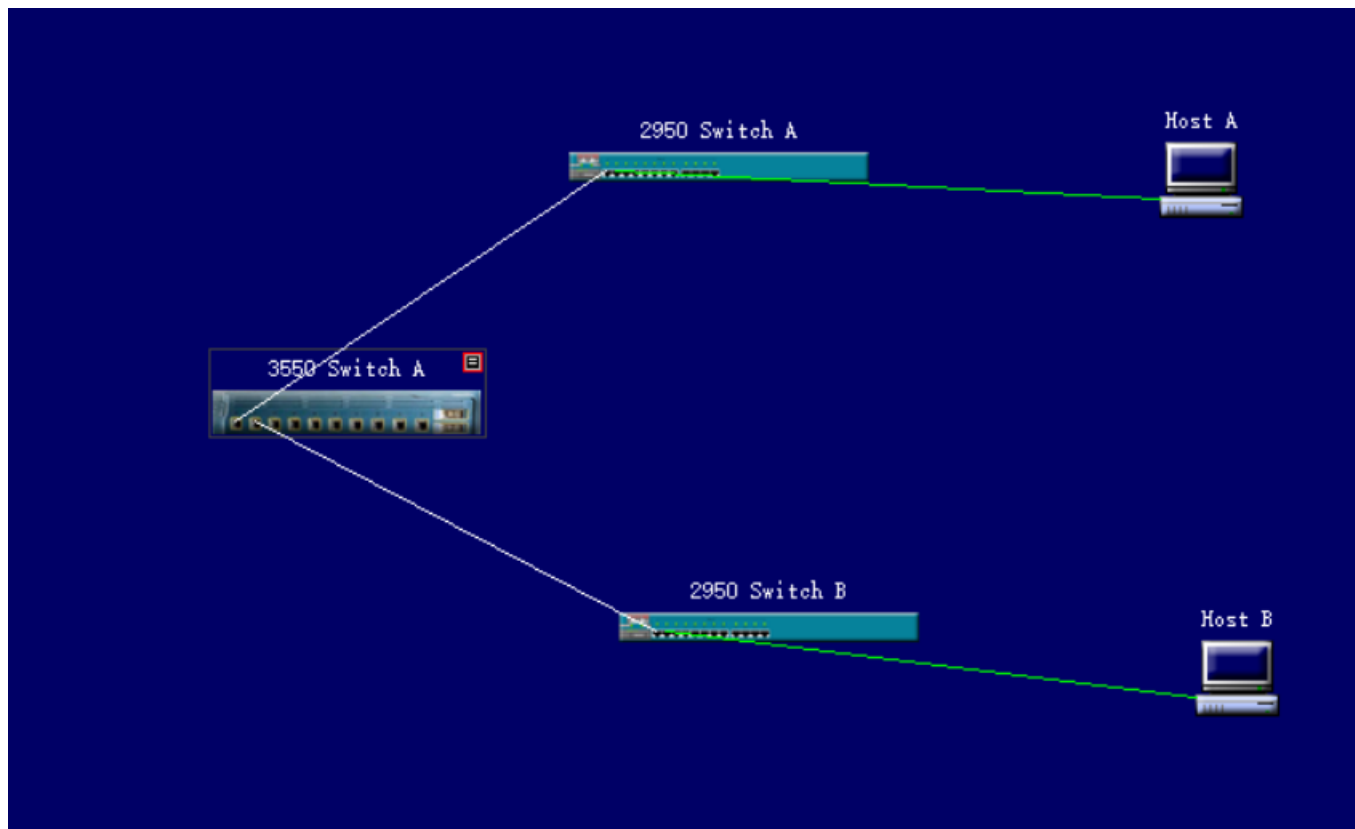


```
Router#show ip protocols
Routing Protocol is "rip"
  Sending updates every 30 seconds, next due in 26 seconds
  Invalid after 180 seconds, hold down 180, flushed after 240
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Redistributing: rip
  Default version control: send version 1, receive any version
    Interface          Send Recv Triggered RIP Key-chain
  FastEthernet0/1      1     1 2
  FastEthernet0/0      1     1 2
  Automatic network summarization is in effect
  Maximum path: 4
  Routing for networks:
    10.0.0.0
    192.168.1.0
  Routing information sources:
    Gateway      Distance      Last Update
    10.2.2.3      120          00:00:04
  Distance: <default is 120>

Router#
```

此为左侧路由器

#### 四、 基于交换机端口的 VLAN 配置



设置 VTP 域。在 A 交换机上将 VTP 管理域名称设置为“Cisco”并使用命令“show vtp status”检查 VTP 配置



```
Console for 3550 Switch A
File Edit View Tools Help
[Icons]
switch#
switch#conf t
Enter configuration commands, one per line. End with CNTL/Z
switch(config)#hostname 3550A
3550A(config)#vtp domain Cisco\
Changing VTP domain name from NULL to Cisco\
3550A(config)#exit
3550A#sh vtp status
VTP Version                : 2
Configuration Revision      : 1
Maximum VLANs supported locally : 64
Number of existing VLANs    : 5
VTP Operating Mode          : Server
VTP Domain Name             : Cisco\
VTP Pruning Mode            : Disabled
VTP V2 Mode                 : Disabled
VTP Traps Generation        : Disabled
MD5 digest                  : 0x70 0x01 0xF2 0x72 0x97 0xA1 0x35 0xEB
Configuration last modified by: 0.0.0.0 at 11-29-93 20:39:24
Local updater ID is 0.0.0.0 on interface V11 (lowest numbered VLAN interface found)
3550A#
```

在两个交换机 Cisco 2950 将 VTP 管理域名称设置为“Cisco”，并设置为客户模式

```
Console for 2950 Switch A
File Edit View Tools Help
[Icons]
Enter configuration commands, one per line. End with CNTL/Z
switch(config)#hostname 2950A
2950A(config)#vtp domain Cisco
Changing VTP domain name from NULL to Cisco
2950A(config)#vtp mode client
Setting device to VTP CLIENT mode.
2950A(config)#exit
2950A#show vtp status
VTP Version                : 2
Configuration Revision      : 0
Maximum VLANs supported locally : 64
Number of existing VLANs    : 4
VTP Operating Mode          : Client
VTP Domain Name             : Cisco
VTP Pruning Mode            : Disabled
VTP V2 Mode                 : Disabled
VTP Traps Generation        : Disabled
MD5 digest                  : 0x70 0x01 0xF2 0x72 0x97 0xA1 0x35 0xEB
Configuration last modified by: 0.0.0.0 at 11-29-93 20:39:24
Local updater ID is 0.0.0.0 on interface V11 (lowest numbered VLAN interface found)
2950A#
```

```

switch>en
switch#conf t
Enter configuration commands, one per line. End with CNTL/Z
switch(config)#hostname 2950B
2950B(config)#vtp domain Cisco
Changing VTP domain name from NULL to Cisco
2950B(config)#vtp mode client
Setting device to VTP CLIENT mode.
2950B(config)#exit
2950B#

```

配置 Trunk。将交换机端口 fa0/1 和端口 fa0/2 配置为 Trunk 端口。

VTP pruning statistics:

Trunk	Join Transmitted	Join Received	Summary advts received from non-pruning-capable device
Fa0/1	1554	1552	0
Fa0/2	1554	1552	0

3550A#

代码是 dot1q 不是 dotlq

```

2950A(config)#interface fa0/1
2950A(config-if)#switchport mode trunk

```

客户端 trunk 处理

```

Enter configuration commands, one per line. End with
2950B(config)#interface fa0/1
2950B(config-if)#switchport mode trunk
2950B(config-if)#

```

创建 VLAN

创建两个 VLAN:， VLAN 10 和 VLAN 20，并用 show vlan 命令验证

```

1    default          active    Fa0/3, Fa0/4, Fa0/5, Fa0/6
                                           Fa0/7, Fa0/8, Fa0/9, Fa0/10
10   VLAN0010         active
20   VLAN0020         active
1002 fddi-default     active
1003 token-ring-default active
1004 fddinet-default  active
1005 trnet-default    active

VLAN Type  SAID      MTU    Parent RingNo BridgeNo Stp  BrdgMode Trans1 Trans2
-----
1    enet   100001    1500   -       -       -       -   -       0       0
10   enet   100010    1500   -       -       -       -   -       0       0
20   enet   100020    1500   -       -       -       -   -       0       0
1002 fddi   101002    1500   -       -       -       -   -       0       0
1003 tr     101003    1500   -       -       -       -   -       0       0
1004 fdnet  101004    1500   -       -       -       ieee -       0       0
1005 trnet  101005    1500   -       -       -       ibm  -       0       0

--More--
>

```

客户端配置:

```

2950A(config)#interface fa0/2
2950A(config-if)#switchport access vlan 10
2950A(config-if)#end

```

```

2950B(config)#interface fa0/2
2950B(config-if)#switchport access vlan 20
2950B(config-if)#

```

配置第三层交换机：

```

3550A>en
3550A#conf t
Enter configuration commands, one per line. End with CNTL/Z
3550A(config)#int vlan 10
3550A(config-if)#ip addr 10.10.10.1 255.255.255.0
3550A(config-if)#int vlan 20
3550A(config-if)#ip addr 20.20.20.1 255.255.255.0
3550A(config-if)#no shut
3550A(config-if)#

```

---

```

3550A(config)#ip routing

```

启动路由

配置各交换机的管理地址

```

3550A(config)#int vlan 1
3550A(config-if)#ip address 192.168.10.1 255.255.255.0
3550A(config-if)#no shut

```

```

switch(config)#int vlan 1
switch(config-if)#ip address 192.168.10.3 255.255.255.0
switch(config-if)#no shutdown

```

客户端：

配置主机 Host A 和 HostB ， 并进行测试。

Configure Host B

Host Name:

☐ Obtain an IP address automatically

☒ Use the following IP address:

IP Address

Subnet

Default Gateway

3550 交换机 ping 主机 A (已设置 VLAN)

```
-----
3550A#ping 192.168.10.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 4/4/4 ms
3550A#
```

3550 交换机 ping 主机 B (未设置 VLAN)

```
3550A#ping 192.168.10.3

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.3, timeout is 2 seconds:
.....
Success rate is 0 percent (0/5), round-trip min/avg/max = 0/0/0 ms
3550A#
```

说明 VLAN 将交换机成功与 A 连接

## 4 实验总结

合理运用缩写可以减少重复输入命令时的繁琐。用 Ping 由远及近寻找问题所在处非常方便。通过实验复习了路由的协议等内容，受益匪浅。