Lab 2

BÁO CÁO BÀI THỰC HÀNH SỐ 2

VLANs, Trunking và Định tuyến động

Môn học: Quản Trị Mạng Và Hệ Thống

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Thời gian thực hiện	07/10/2024 – 12/10/2024		

Yêu cầu 1. Sử dụng lớp mạng 172.x.0.0/22, với x là số nhóm, để chia các mạng con và gắn IP cho các thiết bị theo yêu cầu bên dưới.

Số host	Network	Subnet mask	Dải IP	Broadcast
200	172.6.0.0/24	255.255.255.0	172.6.0.1 - 172.6.0.254	172.6.0.255
32	172.6.1.0/26	255.255.255.192	172.6.1.1 - 172.6.1.62	172.6.1.63
30	172.6.1.64/27	255.255.255.224	172.6.1.65 - 172.6.1.94	172.6.1.95
10	172.6.1.96/28	255.255.255.240	172.6.1.97 - 172.6.1.110	172.6.1.111
7	172.6.1.128/28	255.255.255.240	172.6.1.129 - 172.6.1.142	172.6.1.143
2	172.6.1.144/30	255.255.255.252	172.6.1.145 - 172.6.1.146	172.6.1.147
2	172.6.1.148/30	255.255.255.252	172.6.1.149 - 172.6.1.150	172.6.1.151
2	172.6.1.152/30	255.255.255.252	172.6.1.153 - 172.6.1.154	172.6.1.155

Thiết bị	Interface	IPv4	Subnet mask	Default Gateway
HCM-R1	G0/0	**172.6.1.153**	255.255.255.252	N/A
	G0/1	**172.6.1.146**	255.255.255.252	N/A
	G0/2	**172.6.1.149**	255.255.255.252	N/A
HCM-R2	G0/0	**172.6.1.154**	255.255.255.252	N/A
	G0/1.10	**172.6.1.97**	255.255.255.240	N/A
	G0/1.11	**172.6.0.1**	255.255.255.0	N/A
HN-R1	G0/0.20	**172.6.1.1**	255.255.255.192	N/A
	G0/0.21	**172.6.1.129**	255.255.255.240	N/A
	G0/1	**172.6.1.145**	255.255.255.252	N/A
CT-R1	G0/0	**172.6.1.65**	255.255.255.224	N/A
	G0/2	**172.6.1.150**	255.255.255.252	N/A
HCM-S1	VLAN10	**172.6.1.98**	255.255.255.240	N/A
HCM-S2	VLAN11	**172.6.0.2**	255.255.255.0	N/A
CT-S1	VLAN30	**172.6.1.66**	255.255.255.224	N/A
HN-S1	VLAN20	**172.6.1.2**	255.255.255.192	N/A
	VLAN21	**172.6.1.130**	255.255.255.240	N/A
HN-PC-A	NIC	**172.6.1.62**	255.255.255.192	**172.6.1.1**
HN-PC-B	NIC	**172.6.1.142**	255.255.255.240	**172.6.1.129**
CT-PC-A	NIC	**172.6.1.94**	255.255.255.224	**172.6.1.65**
HCM-Server-A	NIC	**172.6.1.110**	255.255.255.240	**172.6.1.97**
HCM-PC-A	NIC	**172.6.0.254**	255.255.255.0	**172.6.0.1**

Yêu cầu 2. Thực hiện cấu hình VLAN và Trunking cho các thiết bị theo yêu cầu bên dưới:

- Cấu hình VLAN trên các switch và gán các interface vào VLAN theo mô hình đã cho.

+ HN-S1

```
Switch>
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname HN-S1
HN-S1(config)#vlan 20
HN-S1(config-vlan)#name vlan20
HN-S1(config-vlan)#exit
HN-S1(config)#int f0/6
HN-S1(config-if)#switchport mode access
HN-S1(config-if)#switchport access vlan 20
HN-S1(config-if)#exit
HN-S1(config)#vlan 21
HN-S1(config-vlan)#name vlan21
HN-S1(config-vlan)#int f0/11
HN-S1(config-if)#switchport mode access
HN-S1(config-if)#switchport access vlan 21
HN-S1(config-if)#
```

+ HCM-S1

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname HCM-S1
HCM-S1(config)#vlan 10
HCM-S1(config-vlan)#name vlan10
HCM-S1(config-vlan)#exit
HCM-S1(config)#vlan 11
HCM-S1(config-vlan)#name vlan11
HCM-S1(config-vlan)#exit
HCM-S1(config)#int f0/6
HCM-S1(config-if)#switchport mode access
HCM-S1(config-if)#switchport access vlan 10
HCM-S1(config-if)#int g0/2
HCM-S1(config-if)#switchport mode access
HCM-S1(config-if)#switchport access vlan 11
HCM-S1(config-if)#
```

+ HCM-S2

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname HCM-S2
HCM-S2(config)#vlan 11
HCM-S2(config-vlan)#name vlan11
HCM-S2(config-vlan)#vlan 10
HCM-S2(config-vlan)#name vlan10
HCM-S2(config-vlan)#exit
HCM-S2(config)#int f0/6
HCM-S2(config-if)#switchport
%CDP-4-NATIVE_VLAN_MISMATCH: Native VLAN mismatch discovered on GigabitEthernet0/2 (1), with
HCM-S1 GigabitEthernet0/2 (11).
mode access
HCM-S2(config-if)#switchport access vlan 11
HCM-S2(config-if)#int g0/2
HCM-S2(config-if)#switchport mode access
HCM-S2(config-if)#switchport access vlan 10
HCM-S2(config-if)#
```

+ CT-S1

```
Switch>
Switch>en
Switch#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Switch(config)#hostname CT-S1
CT-S1(config)#vlan 30
CT-S1(config-vlan)#name vlan30
CT-S1(config-vlan)#int f0/6
CT-S1(config-if)#switchport mode access
CT-S1(config-if)#switchport access vlan 30
CT-S1(config-if)#
```

- Cấu hình các đường trunk trên các switch cho phù hợp.

+ HN-S1

```
HN-S1(config-if)#int g0/1
HN-S1(config-if)#switchport mode trunk
HN-S1(config-if)#
```

+ HCM-S1

```
HCM-S1(config-if)#int g0/1
HCM-S1(config-if)#switchport mode trunk
HCM-S1(config-if)#int g0/2
HCM-S1(config-if)#switchport mode trunk

HCM-S1(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up
```

+ HCM-S2

```
HCM-S2(config-if)#int g0/2
HCM-S2(config-if)#switchport mode trunk

HCM-S2(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to down

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up
```

+ CT-S1

```
CT-S1(config-if)#int g0/1
CT-S1(config-if)#switchport mode trunk
CT-S1(config-if)#
```

- Kiểm tra cấu hình VLAN và đường trunk trên các switch

+ HN-S1

```
HN-S1#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, 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, Gig0/2
20   vlan20                           active    Fa0/6
21   vlan21                           active    Fa0/11
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
HN-S1#
```

+ HCM-S1

```
HCM-S1#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                Fa0/5, 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
10   vlan10                           active    Fa0/6
11   vlan11                           active
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
HCM-S1#
```

+ HCM-S2

```
HCM-S2#show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                 Fa0/5, 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, Gig0/1
10   vlan10                            active
11   vlan11                            active    Fa0/6
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
HCM-S2#
```

+ CT-S1

```
CT-S1#show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/1, Fa0/2, Fa0/3, Fa0/4
                                                 Fa0/5, 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, Gig0/2
30   vlan30                            active    Fa0/6
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
CT-S1#
```

Yêu cầu 3. Sử dụng bảng địa chỉ IP của các thiết bị ở Yêu cầu 1, sinh viên thực hiện cấu hình địa chỉ IP cho các thiết bị.

- Thực hiện cấu hình địa chỉ IP cho các thiết bị: router, interface VLAN và PC.

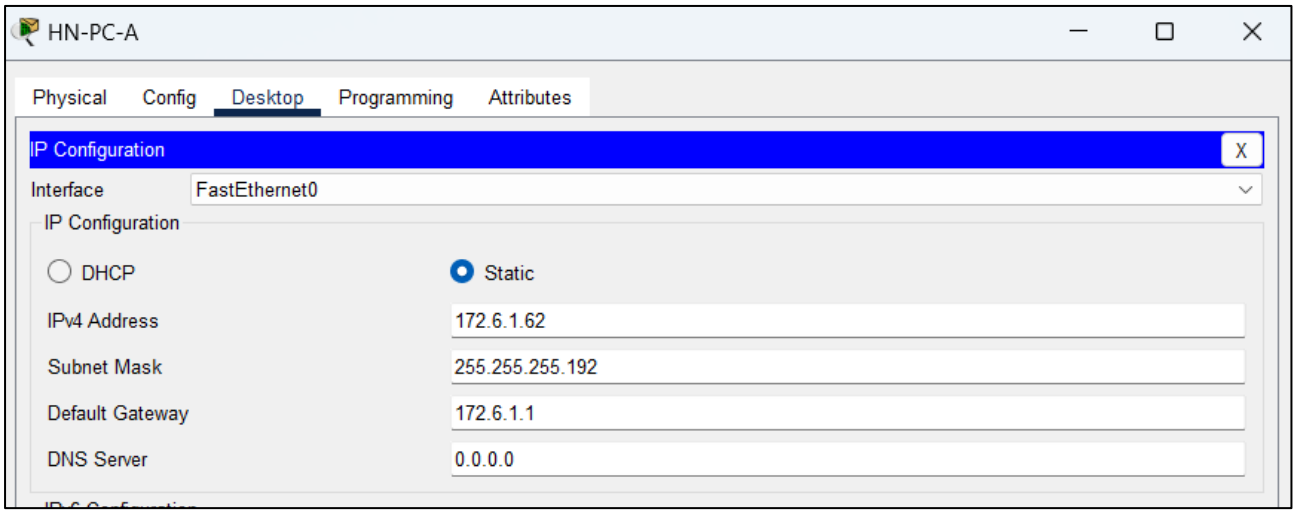
+ HN-R1

```
Router#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#hostname HN-R1
HN-R1(config)#int g0/0
HN-R1(config-if)#no shutdown

HN-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up

HN-R1(config-if)#int g0/0.20
HN-R1(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.20, changed state to up

HN-R1(config-subif)#no shutdown
HN-R1(config-subif)#ecapsulation dot1Q 20
                   ^
% Invalid input detected at '^' marker.

HN-R1(config-subif)#encapsulation dot1Q 20
HN-R1(config-subif)#ip add 172.6.1.1 255.255.255.192
HN-R1(config-subif)#int g0/0.21
HN-R1(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.21, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.21, changed state to up

HN-R1(config-subif)#no shutdown
HN-R1(config-subif)#encapsulation dot1Q 21
HN-R1(config-subif)#ip add 172.6.1.129 255.255.255.240
HN-R1(config-subif)#int g0/1
HN-R1(config-if)#no shutdown

HN-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

HN-R1(config-if)#ip add 172.6.1.145 255.255.255.252
```

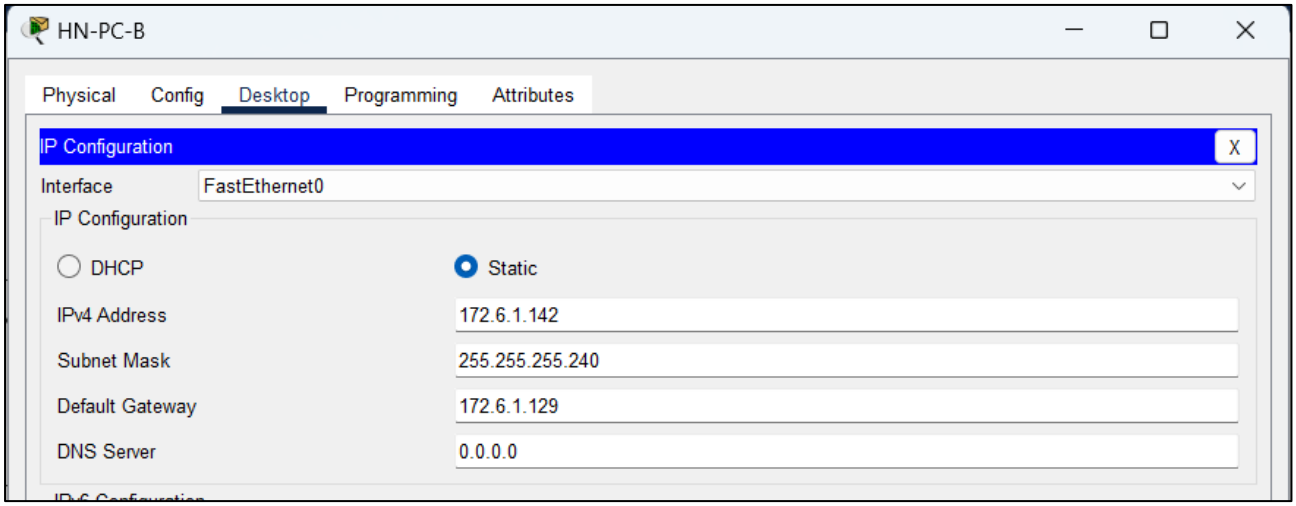
+ HN-S1

```
HN-S1>en
HN-S1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HN-S1(config)#
HN-S1(config)#int vlan 20
HN-S1(config-if)#
%LINK-5-CHANGED: Interface Vlan20, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan20, changed state to up
ip add 172.6.1.2 255.255.255.192
HN-S1(config-if)#int vlan 21
HN-S1(config-if)#
%LINK-5-CHANGED: Interface Vlan21, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan21, changed state to up
ip add 172.6.1.130 255.255.255.240
HN-S1(config-if)#
```

+ HN-PC-A


HN-PC-A
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
172.6.1.62
Subnet Mask
255.255.255.192
Default Gateway
172.6.1.1
DNS Server
0.0.0.0

+ HN-PC-B


HN-PC-B
Physical
Config
Desktop
Programming
Attributes
IP Configuration
X
Interface
FastEthernet0
IP Configuration
DHCP
Static
IPv4 Address
172.6.1.142
Subnet Mask
255.255.255.240
Default Gateway
172.6.1.129
DNS Server
0.0.0.0

+ HCM-R1

```
HCM-R1>en
HCM-R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-R1(config)#int g0/0
HCM-R1(config-if)#no shutdown

HCM-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

HCM-R1(config-if)#ip add 172.6.1.153 255.255.255.252
HCM-R1(config-if)#int g0/1
HCM-R1(config-if)#ip add 172.6.1.146 255.255.255.252
HCM-R1(config-if)#no shutdown

HCM-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

HCM-R1(config-if)#int g0/2
HCM-R1(config-if)#no shutdown

HCM-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up
ip add 172.6.1.149 255.255.255.252
HCM-R1(config-if)#
```

+ HCM-S1

```
HCM-S1>en
HCM-S1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-S1(config)#int vlan 10
HCM-S1(config-if)#
%LINK-5-CHANGED: Interface Vlan10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan10, changed state to up
ip add 172.6.1.98 255.255.255.240
HCM-S1(config-if)#
```

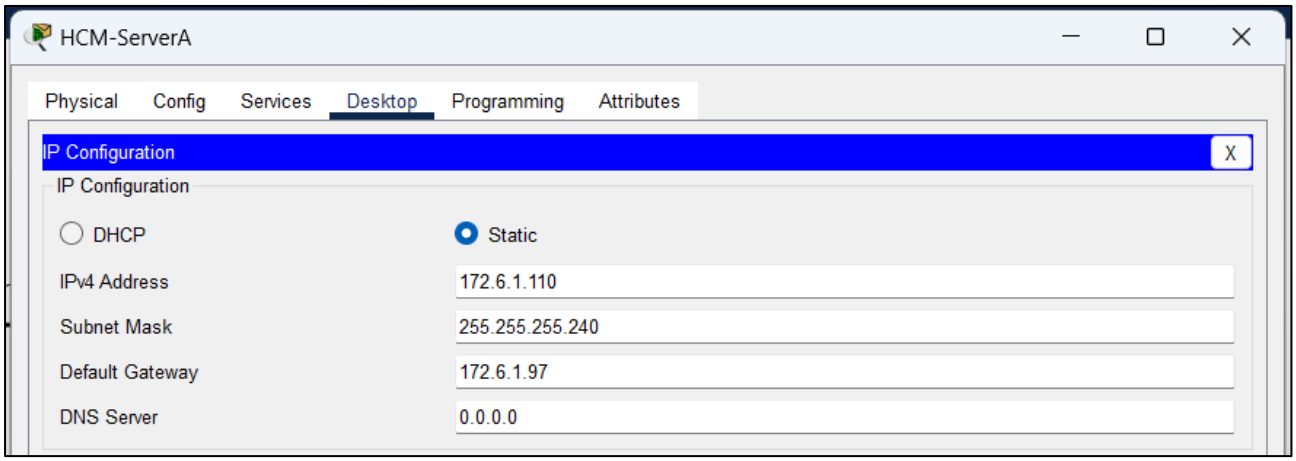
+ HCM–R2

```
HCM-R2>
HCM-R2>
HCM-R2>en
HCM-R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-R2(config)#int g0/0
HCM-R2(config-if)#no shutdown

HCM-R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
ip add 172.6.1.154 255.255.255.252
HCM-R2(config-if)#int g0/1
HCM-R2(config-if)#no shutdown

HCM-R2(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed state to up

HCM-R2(config-if)#int g0/1.10
HCM-R2(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1.10, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1.10, changed state to up

HCM-R2(config-subif)#no shutdown
HCM-R2(config-subif)#encapsulation dot1Q 10
HCM-R2(config-subif)#ip add 172.6.1.97 255.255.255.240
HCM-R2(config-subif)#int g0/1.11
HCM-R2(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/1.11, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1.11, changed state to up

HCM-R2(config-subif)#no shutdown
HCM-R2(config-subif)#encapsulation dot1Q 11
HCM-R2(config-subif)#ip add 172.6.0.1 255.255.255.0
HCM-R2(config-subif)#
```

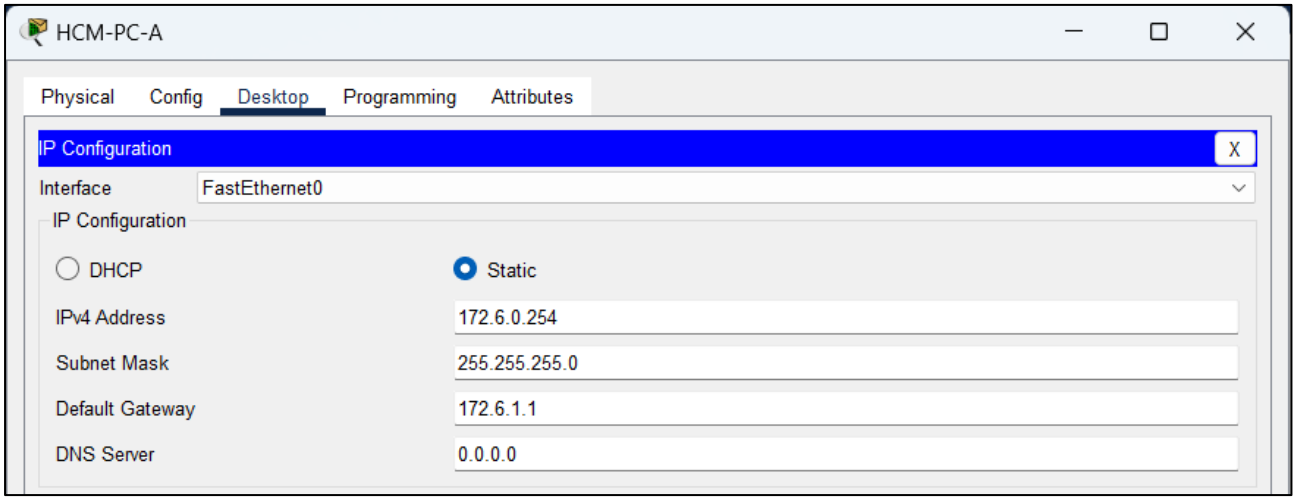
+ HCM-S2

```
HCM-S2>
HCM-S2>en
HCM-S2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-S2(config)#int vlan 11
HCM-S2(config-if)#
%LINK-5-CHANGED: Interface Vlan11, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan11, changed state to up
ip add 172.6.0.2 255.255.255.0
HCM-S2(config-if)#
```

+ HCM-ServerA



+ HCM-PC-A



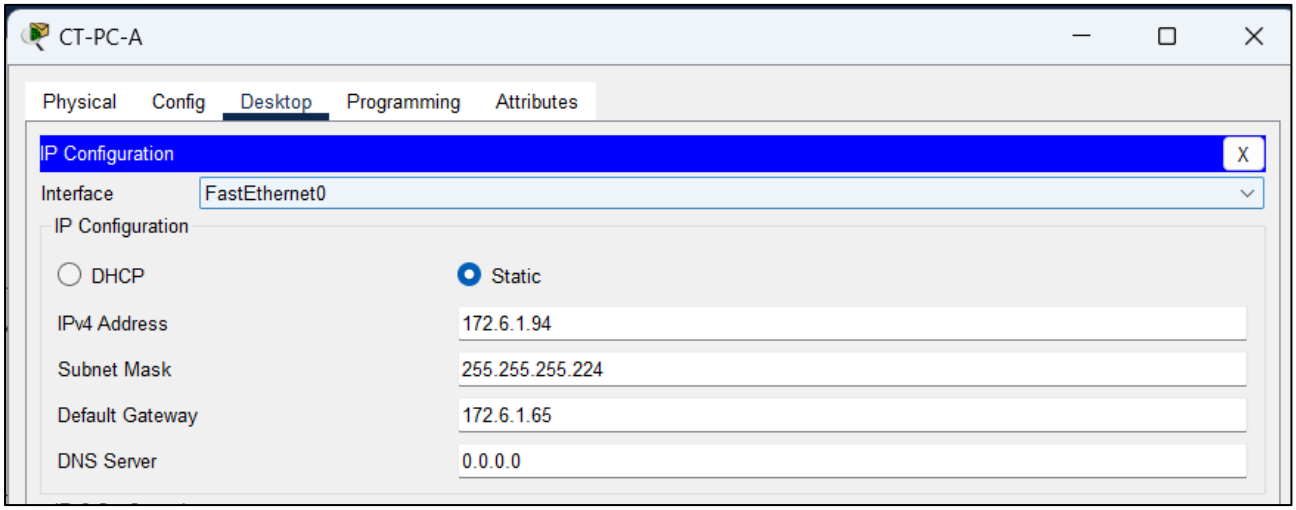
+ CT-R1

```
CT-R1>en
CT-R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
CT-R1(config)#int g0/0
CT-R1(config-if)#no shutdown

CT-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0, changed state to up
int g0/0.30
CT-R1(config-subif)#
%LINK-5-CHANGED: Interface GigabitEthernet0/0.30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/0.30, changed state to up
no shutdown
CT-R1(config-subif)#encapsulation dot1Q 30
CT-R1(config-subif)#ip add 172.6.1.65 255.255.255.224
CT-R1(config-subif)#int g0/2
CT-R1(config-if)#no shutdown

CT-R1(config-if)#
%LINK-5-CHANGED: Interface GigabitEthernet0/2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed state to up

CT-R1(config-if)#ip add 172.6.1.150 255.255.255.252
CT-R1(config-if)#
```

+ CT-S1

```
CT-S1>en
CT-S1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
CT-S1(config)#int vlan 30
CT-S1(config-if)#
%LINK-5-CHANGED: Interface Vlan30, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Vlan30, changed state to up
ip add 172.6.1.66 255.255.255.224
CT-S1(config-if)#
```

+ CT-PC-A



- Kiểm tra bằng lệnh show ip interface brief

+ HN-R1 và HN-S1

```
HN-R1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     unassigned      YES unset  up                    up
GigabitEthernet0/0.20  172.6.1.1       YES manual up                    up
GigabitEthernet0/0.21  172.6.1.129     YES manual up                    up
GigabitEthernet0/1     172.6.1.145     YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
HN-R1#
```

```
HN-S1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual down                  down
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      YES manual down                  down
FastEthernet0/4        unassigned      YES manual down                  down
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual up                    up
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual up                    up
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual up                    up
GigabitEthernet0/2     unassigned      YES manual down                  down
Vlan1                  unassigned      YES manual administratively down down
Vlan20                 172.6.1.2       YES manual up                    up
Vlan21                 172.6.1.130     YES manual up                    up
HN-S1#
```

+ HCM-R1 và HCM-S1

```
HCM-R1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     172.6.1.153     YES manual up                    up
GigabitEthernet0/1     172.6.1.146     YES manual up                    up
GigabitEthernet0/2     172.6.1.149     YES manual up                    up
Loopback0              8.8.8.8         YES manual up                    up
Vlan1                  unassigned      YES unset  administratively down down
HCM-R1#
```

```
HCM-S1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual down                  down
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      YES manual down                  down
FastEthernet0/4        unassigned      YES manual down                  down
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual up                    up
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual down                  down
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual up                    up
GigabitEthernet0/2     unassigned      YES manual up                    up
Vlan1                  unassigned      YES manual administratively down down
Vlan10                 172.6.1.98      YES manual up                    up
HCM-S1#
```

+ HCM-R2 và HCM-S2

```
HCM-R2#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     172.6.1.154     YES manual up                    up
GigabitEthernet0/1     unassigned      YES unset  up                    up
GigabitEthernet0/1.10  172.6.1.97      YES manual up                    up
GigabitEthernet0/1.11  172.6.0.1       YES manual up                    up
GigabitEthernet0/2     unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
HCM-R2#
```

```
HCM-S2#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual down                  down
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      YES manual down                  down
FastEthernet0/4        unassigned      YES manual down                  down
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual up                    up
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual down                  down
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual down                  down
GigabitEthernet0/2     unassigned      YES manual up                    up
Vlan1                  unassigned      YES manual administratively down down
Vlan11                 172.6.0.2       YES manual up                    up
HCM-S2#
```

+ CT-R1 và CT-S1

```
CT-R1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0     unassigned      YES unset  up                    up
GigabitEthernet0/0.30  172.6.1.65      YES manual up                    up
GigabitEthernet0/1     unassigned      YES unset  administratively down down
GigabitEthernet0/2     172.6.1.150     YES manual up                    up
Vlan1                  unassigned      YES unset  administratively down down
CT-R1#
```

```
CT-S1#show ip int brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual down                  down
FastEthernet0/2        unassigned      YES manual down                  down
FastEthernet0/3        unassigned      YES manual down                  down
FastEthernet0/4        unassigned      YES manual down                  down
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual up                    up
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual down                  down
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual up                    up
GigabitEthernet0/2     unassigned      YES manual down                  down
Vlan1                  unassigned      YES manual administratively down down
Vlan30                 172.6.1.66      YES manual up                    up
CT-S1#
```

Yêu cầu 4. Sinh viên cấu hình định tuyến OSPF trên các router để thoả các yêu cầu bên dưới.

- Cấu hình định tuyến OSPF Trên các router để đảm bảo các PC và Server thấy nhau.

+ HN-R1

```
HN-R1(config-if)#
HN-R1(config-if)#exit
HN-R1(config)#router ospf 10
HN-R1(config-router)#network 172.6.1.1 0.0.0.0 area 0
HN-R1(config-router)#network 172.6.1.129 0.0.0.0 area 0
HN-R1(config-router)#network 172.6.1.145 0.0.0.0 area 0
HN-R1(config-router)#
00:30:39: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.153 on GigabitEthernet0/1 from LOADING to
FULL, Loading Done
```

+ HCM-R1

```
HCM-R1>en
HCM-R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-R1(config)#router ospf 10
HCM-R1(config-router)#network 172.6.1.153 0.0.0.0 area 0
HCM-R1(config-router)#network 172.6.1.146 0.0.0.0 area 0
HCM-R1(config-router)#network 172.6.1.149 0.0.0.0 area 0
HCM-R1(config-router)#
00:30:39: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.145 on GigabitEthernet0/1 from LOADING to
FULL, Loading Done

00:31:14: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.154 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done

00:32:14: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.150 on GigabitEthernet0/2 from LOADING to
FULL, Loading Done
```

+ HCM-R2

```
HCM-R2>
HCM-R2>en
HCM-R2#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-R2(config)#router ospf 10
HCM-R2(config-router)#network 172.6.1.154 0.0.0.0 area 0
HCM-R2(config-router)#network 172.6.1.97 0.0.0.0 area 0
HCM-R2(config-router)#
00:31:14: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.153 on GigabitEthernet0/0 from LOADING to
FULL, Loading Done
network 172.6.0.1 0.0.0.0 area 0
HCM-R2(config-router)#
```

+ CT-R1

```
CT-R1(config)#router ospf 10
CT-R1(config-router)#network 172.6.1.65 0.0.0.0 area 0
CT-R1(config-router)#network 172.6.1.150 0.0.0.0 area 0
CT-R1(config-router)#
00:32:14: %OSPF-5-ADJCHG: Process 10, Nbr 172.6.1.153 on GigabitEthernet0/2 from LOADING to
FULL, Loading Done
```

- Kiểm tra cấu hình định tuyến và bảng định tuyến:

+ HN-R1

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/1, changed
state to up

15:00:40: %OSPF-5-ADJCHG: Process 10, Nbr 8.8.8.8 on GigabitEthernet0/1 from
LOADING to FULL, Loading Done


HN-R1>
HN-R1>en
HN-R1#show ip pro
HN-R1#show ip protocols

Routing Protocol is "ospf 10"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 172.6.1.145
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.6.1.1 0.0.0.0 area 0
    172.6.1.129 0.0.0.0 area 0
    172.6.1.145 0.0.0.0 area 0
  Routing Information Sources:
    Gateway         Distance      Last Update
    8.8.8.8              110      00:00:37
    172.6.1.145          110      00:00:42
    172.6.1.150          110      00:00:37
    172.6.1.154          110      00:00:37
  Distance: (default is 110)

HN-R1#
```

```
HN-R1#show ip route
Codes: L - local, 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, E - EGP
       i - IS-IS, 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 172.6.1.146 to network 0.0.0.0

     172.6.0.0/16 is variably subnetted, 11 subnets, 6 masks
O       172.6.0.0/24 [110/3] via 172.6.1.146, 00:00:59, GigabitEthernet0/1
C       172.6.1.0/26 is directly connected, GigabitEthernet0/0.20
L       172.6.1.1/32 is directly connected, GigabitEthernet0/0.20
O       172.6.1.64/27 [110/3] via 172.6.1.146, 00:00:59, GigabitEthernet0/1
O       172.6.1.96/28 [110/3] via 172.6.1.146, 00:00:59, GigabitEthernet0/1
C       172.6.1.128/28 is directly connected, GigabitEthernet0/0.21
L       172.6.1.129/32 is directly connected, GigabitEthernet0/0.21
C       172.6.1.144/30 is directly connected, GigabitEthernet0/1
L       172.6.1.145/32 is directly connected, GigabitEthernet0/1
O       172.6.1.148/30 [110/2] via 172.6.1.146, 00:00:59, GigabitEthernet0/1
O       172.6.1.152/30 [110/2] via 172.6.1.146, 00:01:09, GigabitEthernet0/1
O*E2 0.0.0.0/0 [110/1] via 172.6.1.146, 00:01:09, GigabitEthernet0/1
```

+ HCM-R1

```
HCM-R1>
HCM-R1>en
HCM-R1#show ip pro
HCM-R1#show ip protocols

Routing Protocol is "ospf 10"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 8.8.8.8
  It is an autonomous system boundary router
  Redistributing External Routes from,
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.6.1.153 0.0.0.0 area 0
    172.6.1.146 0.0.0.0 area 0
    172.6.1.149 0.0.0.0 area 0
  Routing Information Sources:
    Gateway         Distance      Last Update
    8.8.8.8              110      00:02:01
    172.6.1.145          110      00:02:06
    172.6.1.150          110      00:02:01
    172.6.1.154          110      00:02:01
  Distance: (default is 110)

HCM-R1#
```

```
HCM-R1#show ip route
Codes: L - local, 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, E - EGP
       i - IS-IS, 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 0.0.0.0 to network 0.0.0.0

     8.0.0.0/32 is subnetted, 1 subnets
C       8.8.8.8/32 is directly connected, Loopback0
     172.6.0.0/16 is variably subnetted, 11 subnets, 6 masks
O       172.6.0.0/24 [110/2] via 172.6.1.154, 00:02:10, GigabitEthernet0/0
O       172.6.1.0/26 [110/2] via 172.6.1.145, 00:02:10, GigabitEthernet0/1
O       172.6.1.64/27 [110/2] via 172.6.1.150, 00:02:10, GigabitEthernet0/2
O       172.6.1.96/28 [110/2] via 172.6.1.154, 00:02:10, GigabitEthernet0/0
O       172.6.1.128/28 [110/2] via 172.6.1.145, 00:02:10, GigabitEthernet0/1
C       172.6.1.144/30 is directly connected, GigabitEthernet0/1
L       172.6.1.146/32 is directly connected, GigabitEthernet0/1
C       172.6.1.148/30 is directly connected, GigabitEthernet0/2
L       172.6.1.149/32 is directly connected, GigabitEthernet0/2
C       172.6.1.152/30 is directly connected, GigabitEthernet0/0
L       172.6.1.153/32 is directly connected, GigabitEthernet0/0
S*   0.0.0.0/0 is directly connected, Loopback0

HCM-R1#
HCM-R1#
HCM-R1#
```

+ HCM-R2

```
LOADING to FULL, Loading Done


HCM-R2>
HCM-R2>
HCM-R2>en
HCM-R2#show ip pro
HCM-R2#show ip protocols

Routing Protocol is "ospf 10"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 172.6.1.154
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.6.1.154 0.0.0.0 area 0
    172.6.1.97 0.0.0.0 area 0
    172.6.0.1 0.0.0.0 area 0
  Routing Information Sources:
    Gateway         Distance      Last Update
    8.8.8.8              110      00:02:51
    172.6.1.145          110      00:02:56
    172.6.1.150          110      00:02:51
    172.6.1.154          110      00:02:51
  Distance: (default is 110)

HCM-R2#
```

```
HCM-R2#show ip route
Codes: L - local, 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, E - EGP
       i - IS-IS, 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 172.6.1.153 to network 0.0.0.0

     172.6.0.0/16 is variably subnetted, 11 subnets, 6 masks
C       172.6.0.0/24 is directly connected, GigabitEthernet0/1.11
L       172.6.0.1/32 is directly connected, GigabitEthernet0/1.11
O       172.6.1.0/26 [110/3] via 172.6.1.153, 00:02:59, GigabitEthernet0/0
O       172.6.1.64/27 [110/3] via 172.6.1.153, 00:02:59, GigabitEthernet0/0
C       172.6.1.96/28 is directly connected, GigabitEthernet0/1.10
L       172.6.1.97/32 is directly connected, GigabitEthernet0/1.10
O       172.6.1.128/28 [110/3] via 172.6.1.153, 00:02:59, GigabitEthernet0/0
O       172.6.1.144/30 [110/2] via 172.6.1.153, 00:02:59, GigabitEthernet0/0
O       172.6.1.148/30 [110/2] via 172.6.1.153, 00:02:59, GigabitEthernet0/0
C       172.6.1.152/30 is directly connected, GigabitEthernet0/0
L       172.6.1.154/32 is directly connected, GigabitEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 172.6.1.153, 00:02:59, GigabitEthernet0/0

HCM-R2#
HCM-R2#
```

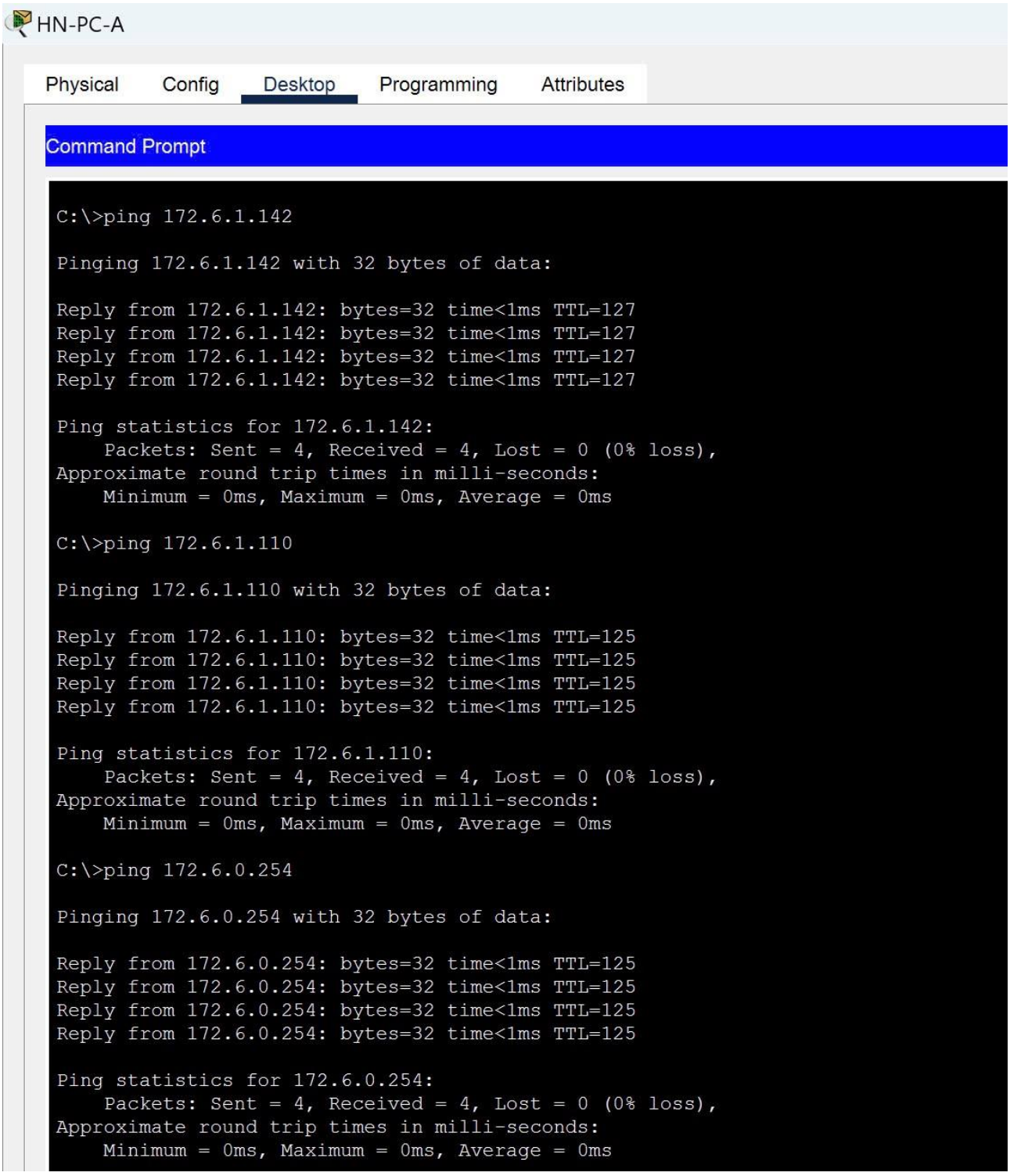
+ CT-R1

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface GigabitEthernet0/2, changed
state to up

15:00:45: %OSPF-5-ADJCHG: Process 10, Nbr 8.8.8.8 on GigabitEthernet0/2 from
LOADING to FULL, Loading Done


CT-R1>
CT-R1>
CT-R1>en
CT-R1#show ip pro
CT-R1#show ip protocols

Routing Protocol is "ospf 10"
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Router ID 172.6.1.150
  Number of areas in this router is 1. 1 normal 0 stub 0 nssa
  Maximum path: 4
  Routing for Networks:
    172.6.1.65 0.0.0.0 area 0
    172.6.1.150 0.0.0.0 area 0
  Routing Information Sources:
    Gateway         Distance      Last Update
    8.8.8.8              110      00:03:36
    172.6.1.145          110      00:03:41
    172.6.1.150          110      00:03:36
    172.6.1.154          110      00:03:36
  Distance: (default is 110)

CT-R1#
```

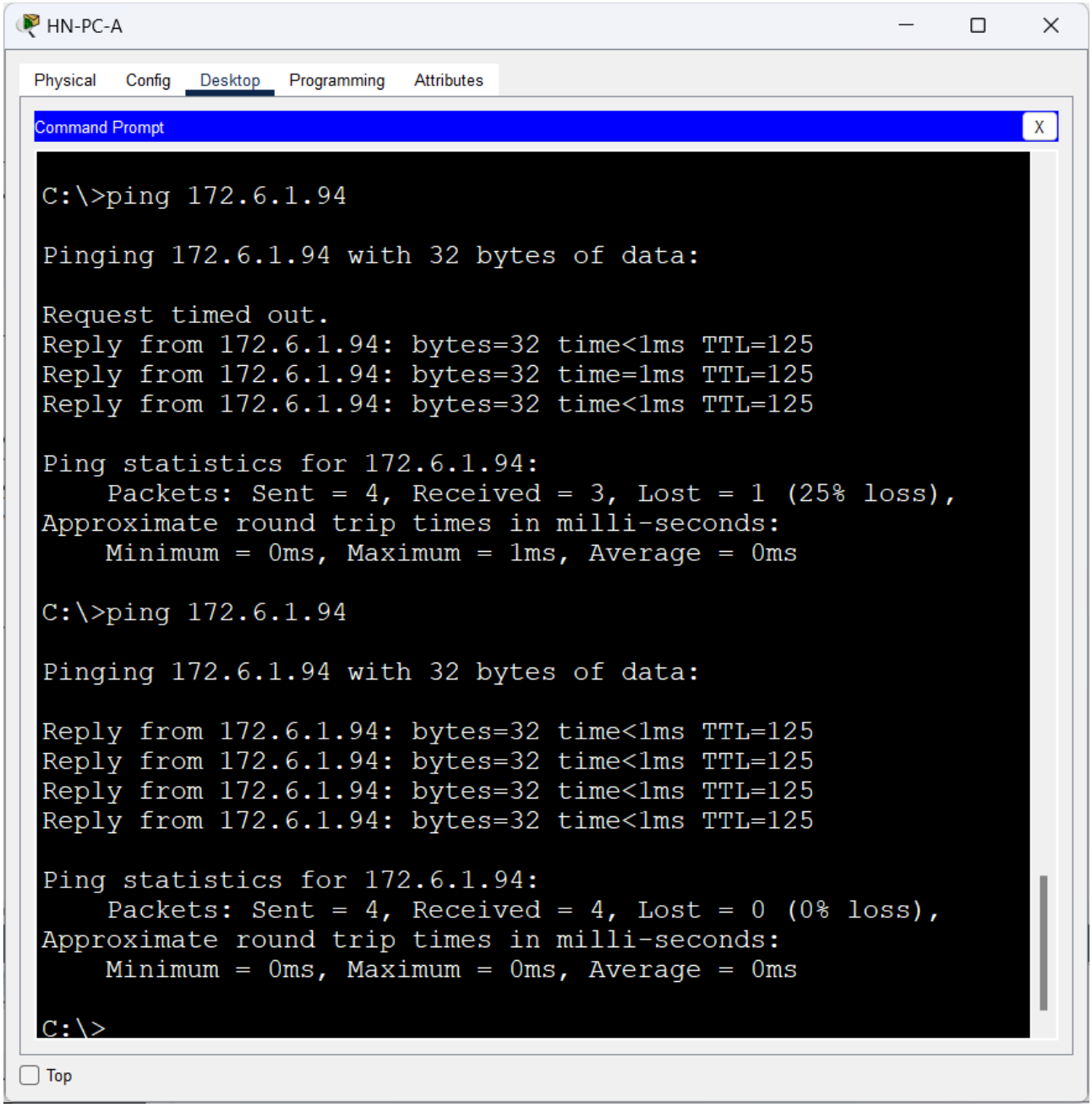
```
CT-R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
       D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
       i - IS-IS, 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 172.6.1.149 to network 0.0.0.0

     172.6.0.0/16 is variably subnetted, 10 subnets, 6 masks
O       172.6.0.0/24 [110/3] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
O       172.6.1.0/26 [110/3] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
C       172.6.1.64/27 is directly connected, GigabitEthernet0/0.30
L       172.6.1.65/32 is directly connected, GigabitEthernet0/0.30
O       172.6.1.96/28 [110/3] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
O       172.6.1.128/28 [110/3] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
O       172.6.1.144/30 [110/2] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
C       172.6.1.148/30 is directly connected, GigabitEthernet0/2
L       172.6.1.150/32 is directly connected, GigabitEthernet0/2
O       172.6.1.152/30 [110/2] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
O*E2 0.0.0.0/0 [110/1] via 172.6.1.149, 00:03:54, GigabitEthernet0/2
```

- Ping kiểm tra kết nối giữa các PC và server:

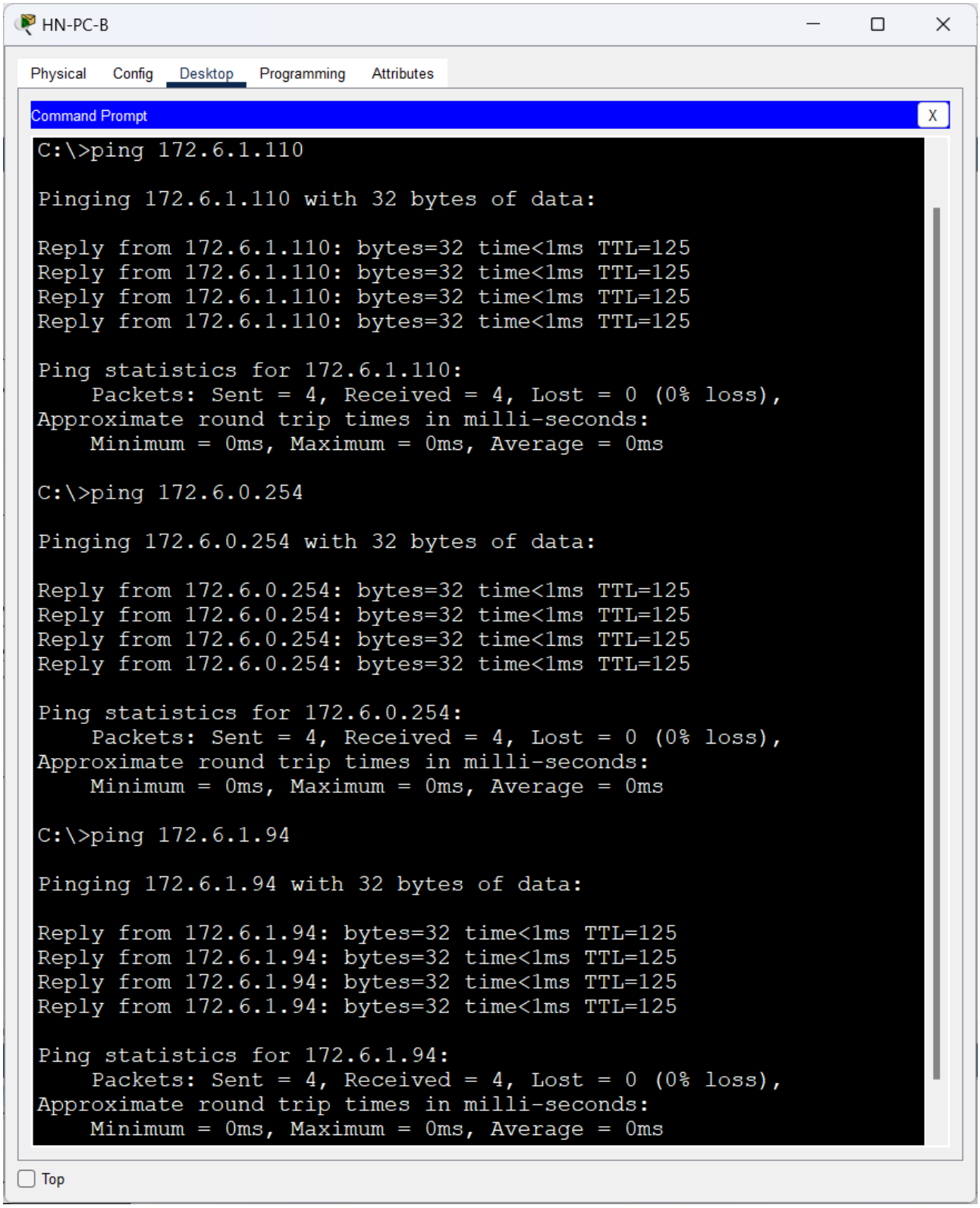
+ HN-PC-A ping đến HN-PC-B, HCM-ServerA, HCM-PC-A



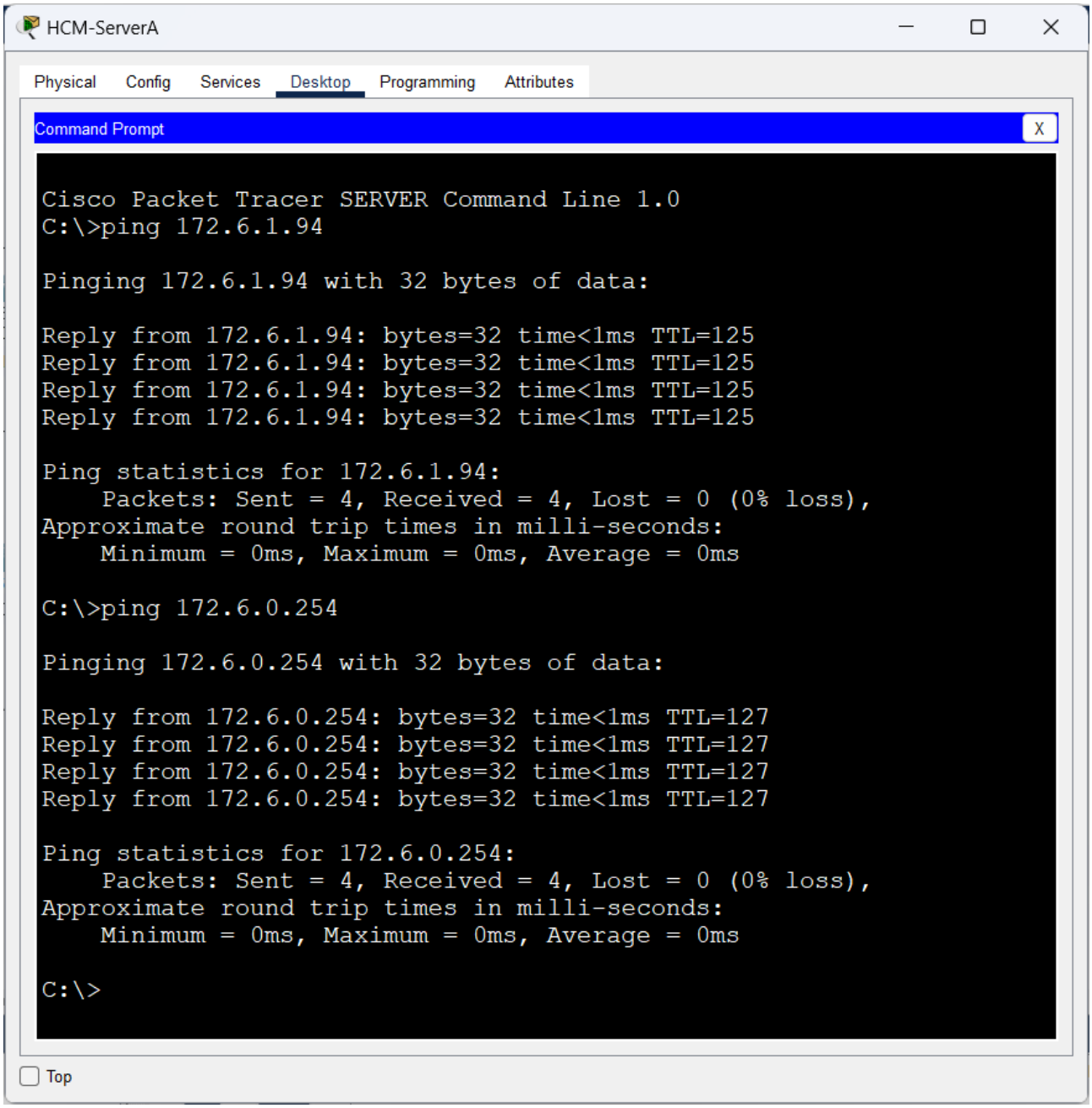
+ HN-PC-A ping đến CT-PC-A



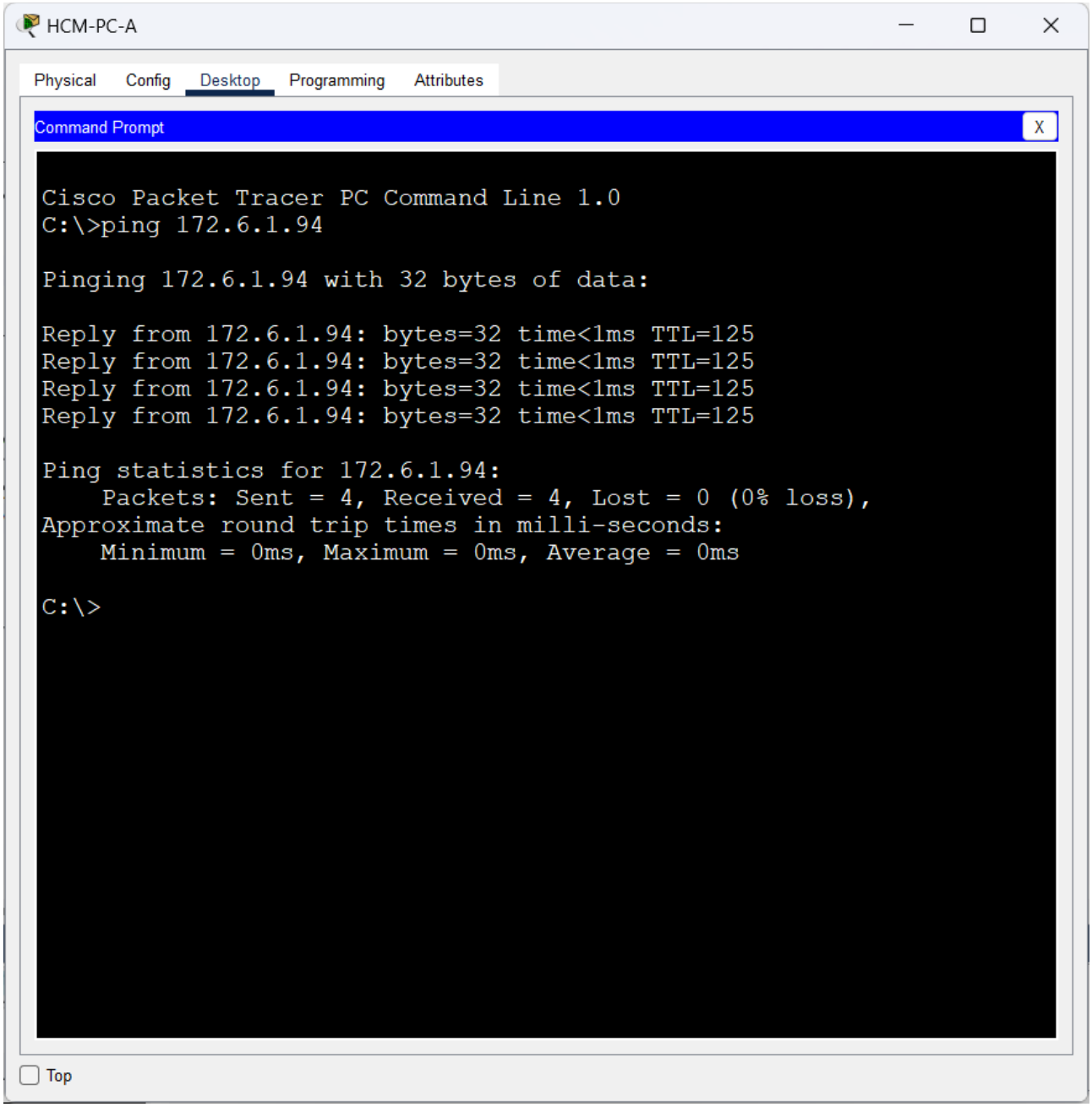
+ HN-PC-B ping đến HCM-ServerA, HCM-PC-A, CT-PC-A



+ HCM-ServerA ping đến CT-PC-A, HCM-PC-A



+ HCM-PC-A ping đến CT-PC-A



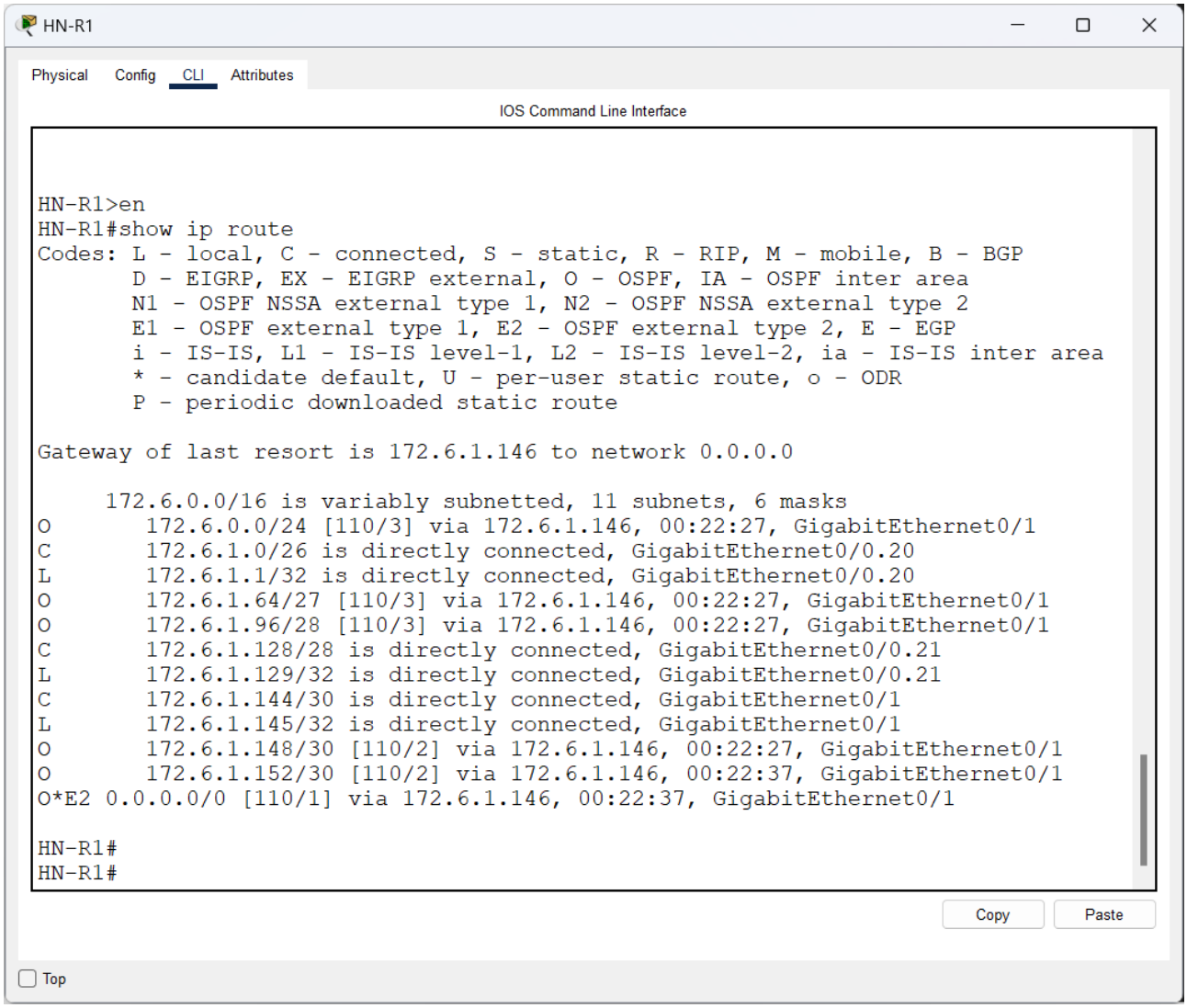
- Tạo một cổng loopback 0 trên router HCM-R1 với địa chỉ 8.8.8.8/32 (ta giả sử cổng loopback này là cổng để đi Internet). Tạo một default static route đi ra cổng này. Quảng bá default static route này cho các route khác bằng OSPF (gợi ý: sử dụng lệnh default-information).

+ Tạo cổng loopback 0 với địa chỉ 8.8.8.8/32; Tạo default static route đi ra cổng này; Quảng bá default static route này cho các route khác bằng OSPF

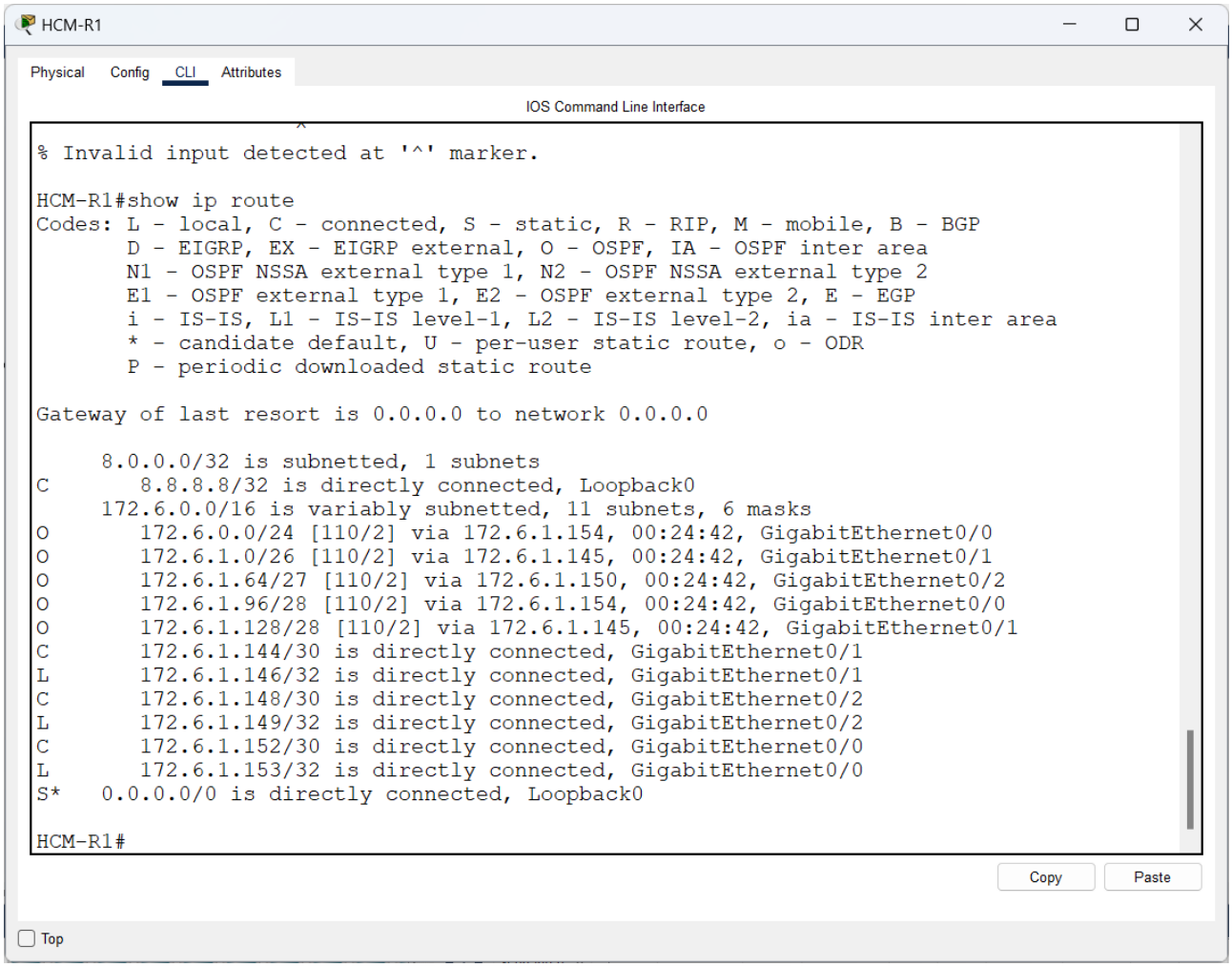
```
HCM-R1(config-if)#
%LINK-5-CHANGED: Interface Loopback0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback0, changed state to up

HCM-R1(config-if)#ip add 8.8.8.8 255.255.255.255
HCM-R1(config-if)#exit
HCM-R1(config)#router ospf 10
HCM-R1(config-router)#default-information originate
HCM-R1(config-router)#end
HCM-R1#
%SYS-5-CONFIG_I: Configured from console by console

HCM-R1#ip route 0.0.0.0 0.0.0.0 Loopback 0
          ^
% Invalid input detected at '^' marker.

HCM-R1#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
HCM-R1(config)#ip route 0.0.0.0 0.0.0.0 Loopback 0
%Default route without gateway, if not a point-to-point interface, may impact performance
HCM-R1(config)#
```

+ Kiểm tra các router khác đã có default static route chưa

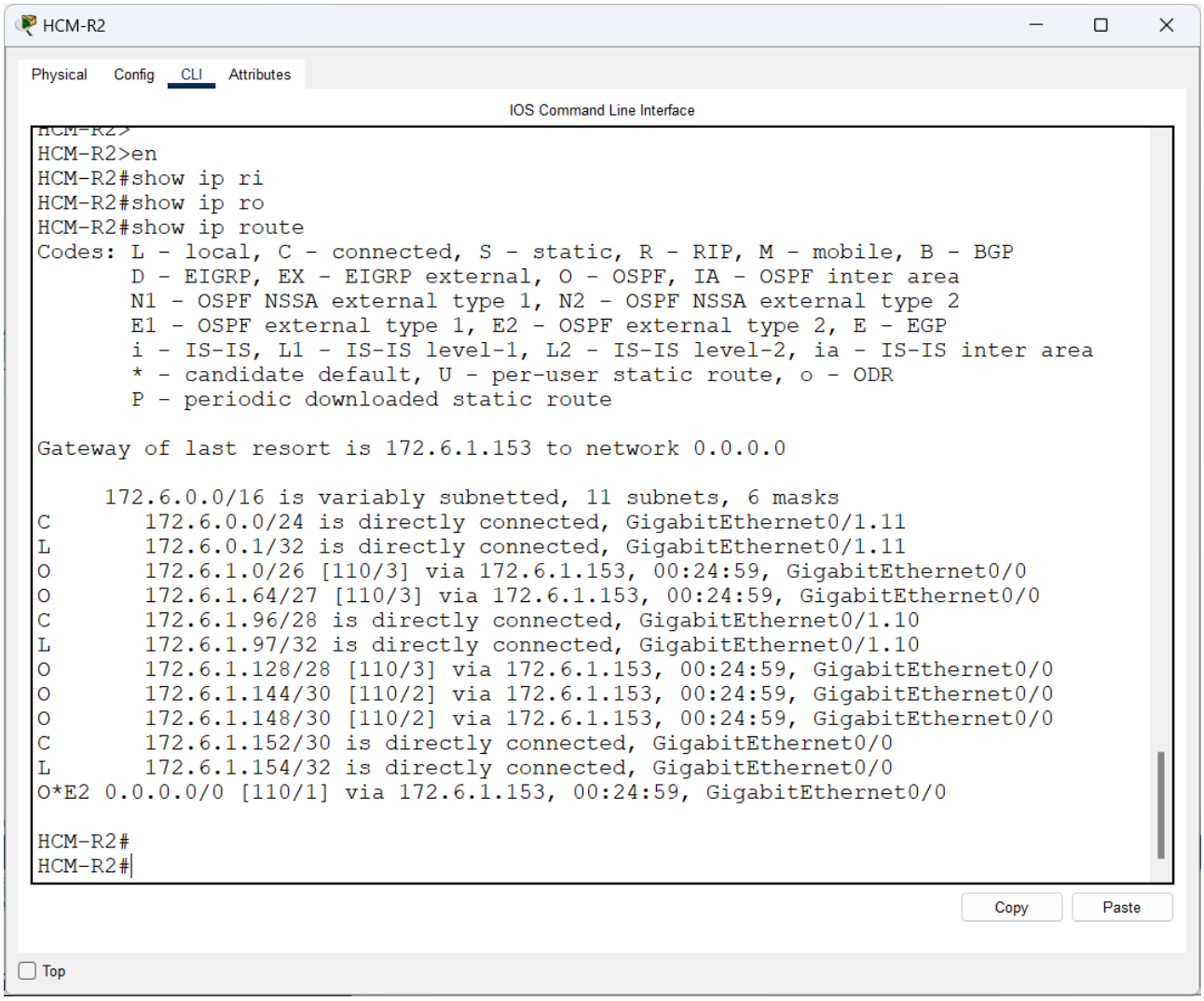
- HN-R1



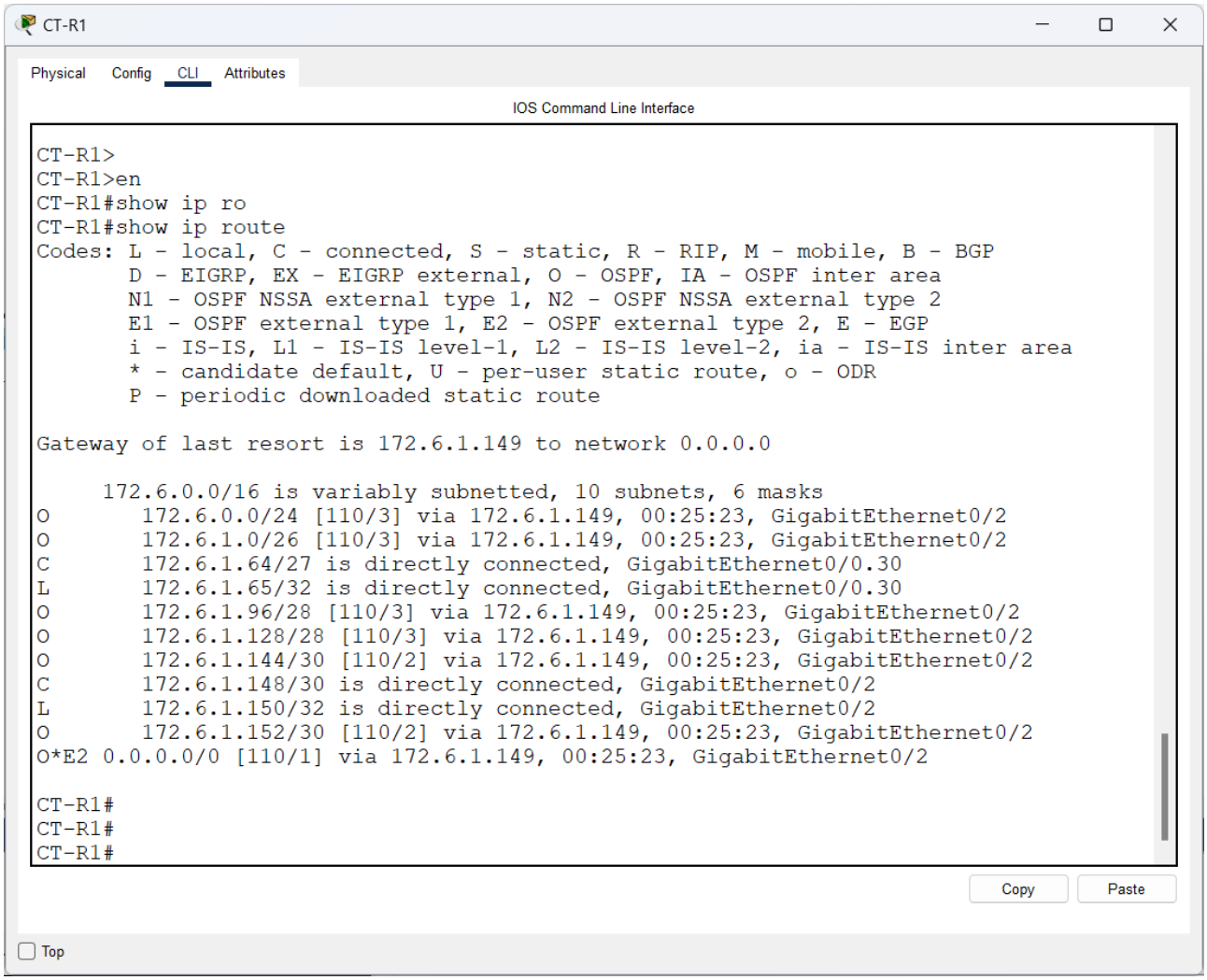
- HCM-R1


HCM-R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
% Invalid input detected at '^' marker.
HCM-R1#show ip route
Codes: L - local, 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, E - EGP
i - IS-IS, 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 0.0.0.0 to network 0.0.0.0
8.0.0.0/32 is subnetted, 1 subnets
C 8.8.8.8/32 is directly connected, Loopback0
172.6.0.0/16 is variably subnetted, 11 subnets, 6 masks
O 172.6.0.0/24 [110/2] via 172.6.1.154, 00:24:42, GigabitEthernet0/0
O 172.6.1.0/26 [110/2] via 172.6.1.145, 00:24:42, GigabitEthernet0/1
O 172.6.1.64/27 [110/2] via 172.6.1.150, 00:24:42, GigabitEthernet0/2
O 172.6.1.96/28 [110/2] via 172.6.1.154, 00:24:42, GigabitEthernet0/0
O 172.6.1.128/28 [110/2] via 172.6.1.145, 00:24:42, GigabitEthernet0/1
C 172.6.1.144/30 is directly connected, GigabitEthernet0/1
L 172.6.1.146/32 is directly connected, GigabitEthernet0/1
C 172.6.1.148/30 is directly connected, GigabitEthernet0/2
L 172.6.1.149/32 is directly connected, GigabitEthernet0/2
C 172.6.1.152/30 is directly connected, GigabitEthernet0/0
L 172.6.1.153/32 is directly connected, GigabitEthernet0/0
S* 0.0.0.0/0 is directly connected, Loopback0
HCM-R1#
Copy
Paste
Top

- HCM-R2

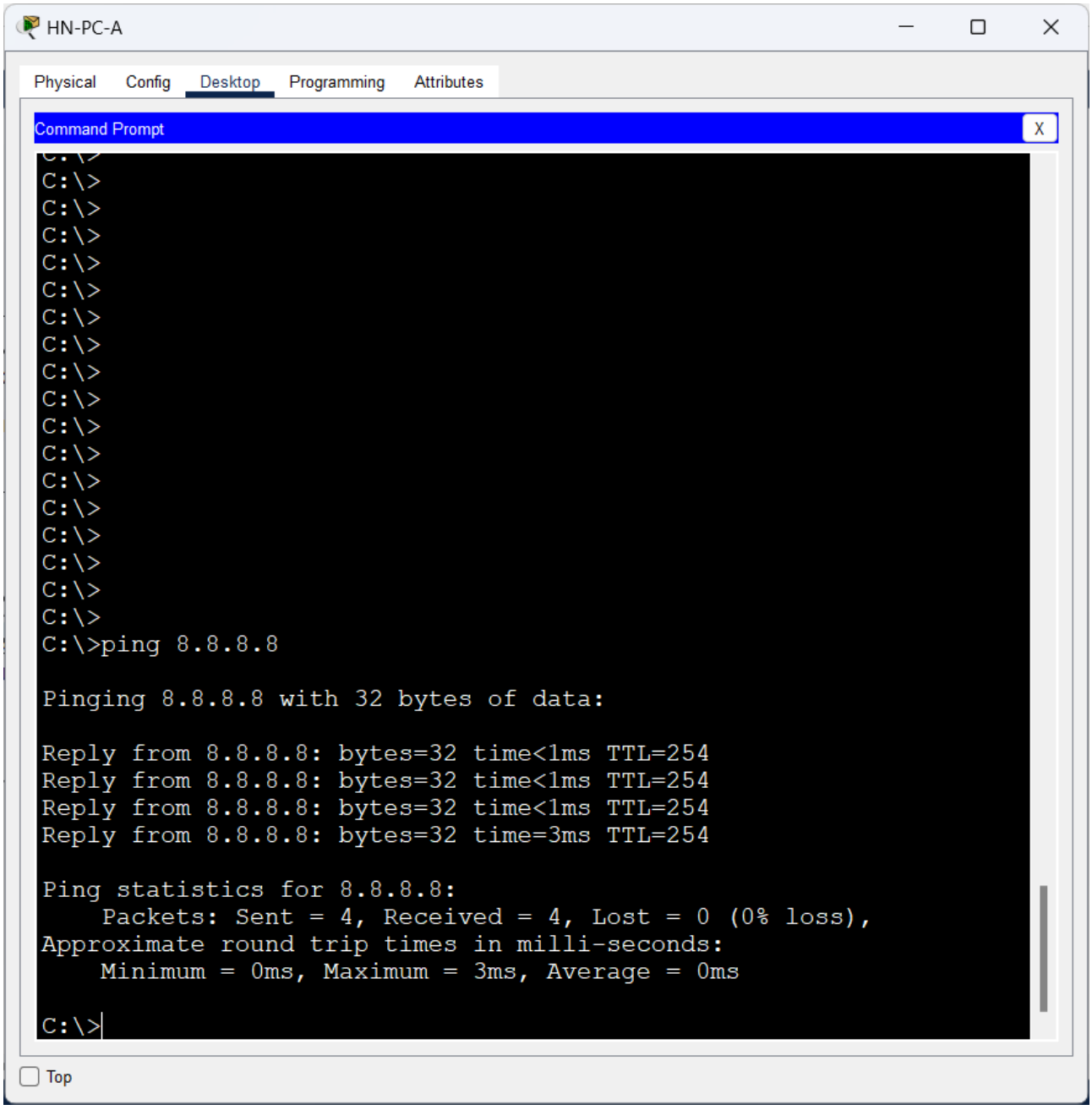

HCM-R2
Physical
Config
CLI
Attributes
IOS Command Line Interface
HCM-R2>
HCM-R2>en
HCM-R2#show ip ri
HCM-R2#show ip ro
HCM-R2#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, 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 172.6.1.153 to network 0.0.0.0
172.6.0.0/16 is variably subnetted, 11 subnets, 6 masks
C 172.6.0.0/24 is directly connected, GigabitEthernet0/1.11
L 172.6.0.1/32 is directly connected, GigabitEthernet0/1.11
O 172.6.1.0/26 [110/3] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
O 172.6.1.64/27 [110/3] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
C 172.6.1.96/28 is directly connected, GigabitEthernet0/1.10
L 172.6.1.97/32 is directly connected, GigabitEthernet0/1.10
O 172.6.1.128/28 [110/3] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
O 172.6.1.144/30 [110/2] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
O 172.6.1.148/30 [110/2] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
C 172.6.1.152/30 is directly connected, GigabitEthernet0/0
L 172.6.1.154/32 is directly connected, GigabitEthernet0/0
O*E2 0.0.0.0/0 [110/1] via 172.6.1.153, 00:24:59, GigabitEthernet0/0
HCM-R2#
HCM-R2#
Copy
Paste
Top

- CT-R1

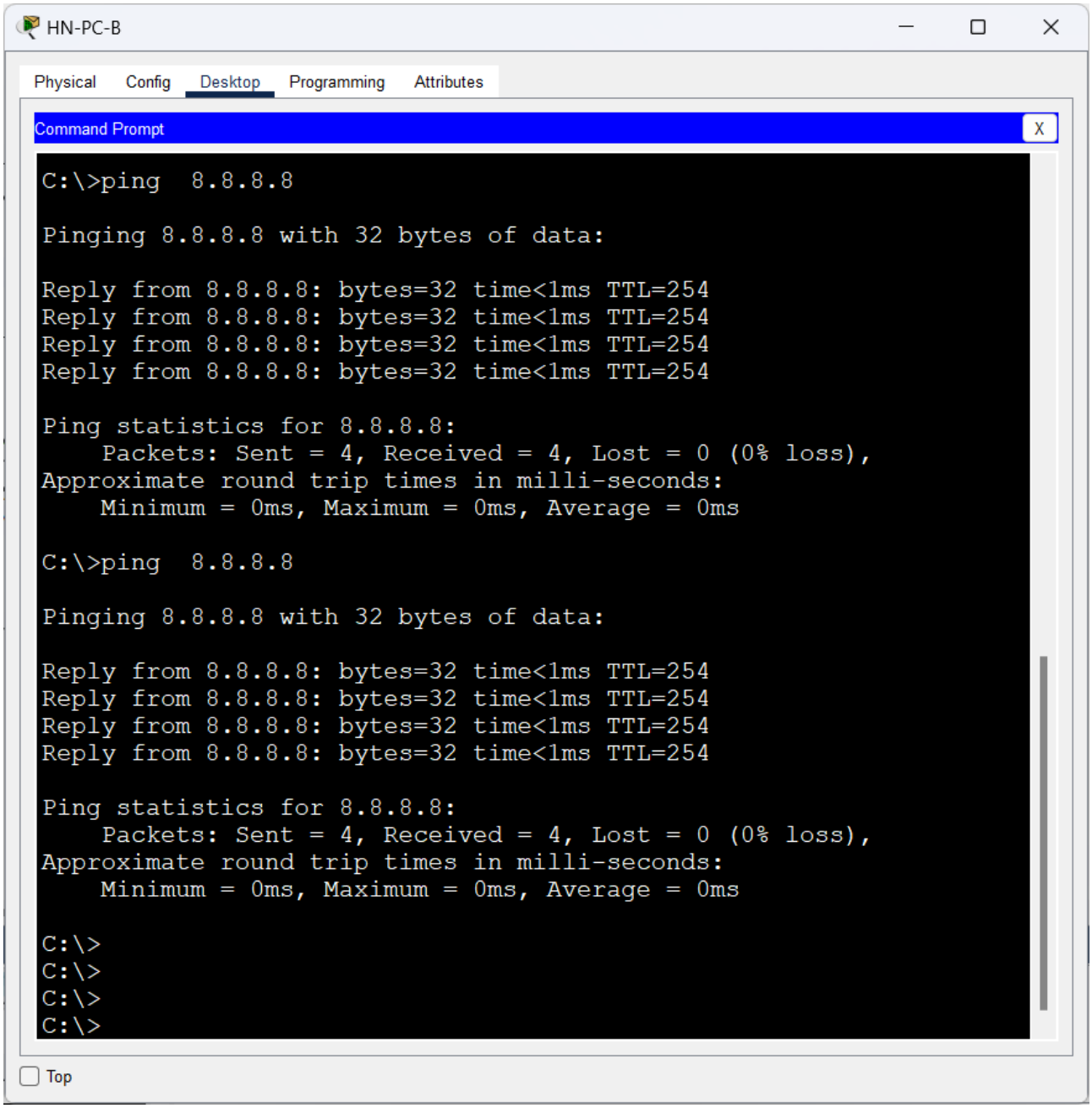

CT-R1
Physical
Config
CLI
Attributes
IOS Command Line Interface
CT-R1>
CT-R1>en
CT-R1#show ip ro
CT-R1#show ip route
Codes: L - local, C - connected, S - static, R - RIP, M - mobile, B - BGP
D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area
N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP
i - IS-IS, 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 172.6.1.149 to network 0.0.0.0
172.6.0.0/16 is variably subnetted, 10 subnets, 6 masks
O 172.6.0.0/24 [110/3] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
O 172.6.1.0/26 [110/3] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
C 172.6.1.64/27 is directly connected, GigabitEthernet0/0.30
L 172.6.1.65/32 is directly connected, GigabitEthernet0/0.30
O 172.6.1.96/28 [110/3] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
O 172.6.1.128/28 [110/3] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
O 172.6.1.144/30 [110/2] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
C 172.6.1.148/30 is directly connected, GigabitEthernet0/2
L 172.6.1.150/32 is directly connected, GigabitEthernet0/2
O 172.6.1.152/30 [110/2] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
O*E2 0.0.0.0/0 [110/1] via 172.6.1.149, 00:25:23, GigabitEthernet0/2
CT-R1#
CT-R1#
CT-R1#
Copy
Paste
Top

- Kiểm tra kết quả

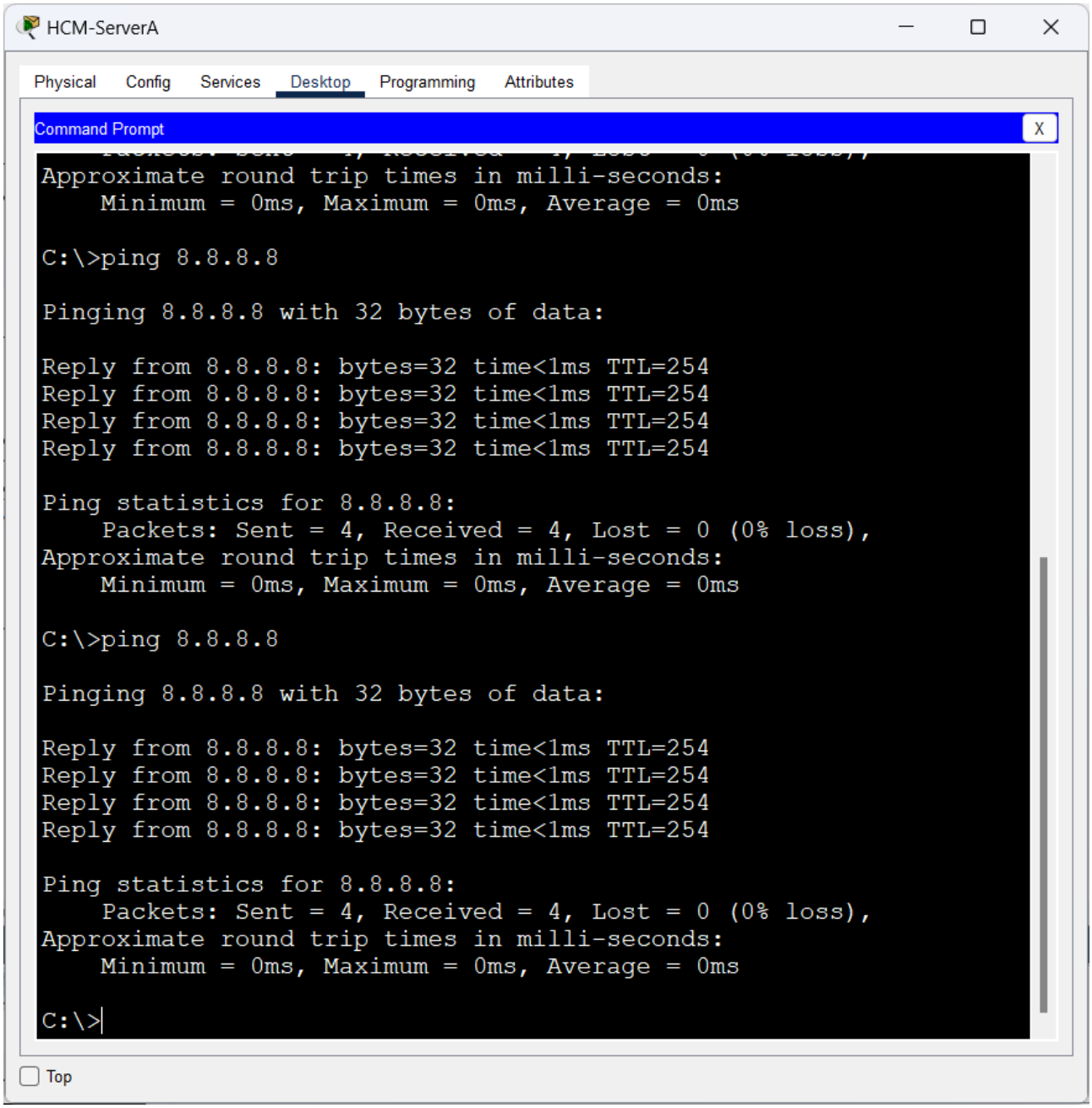
+ HN-PC-A



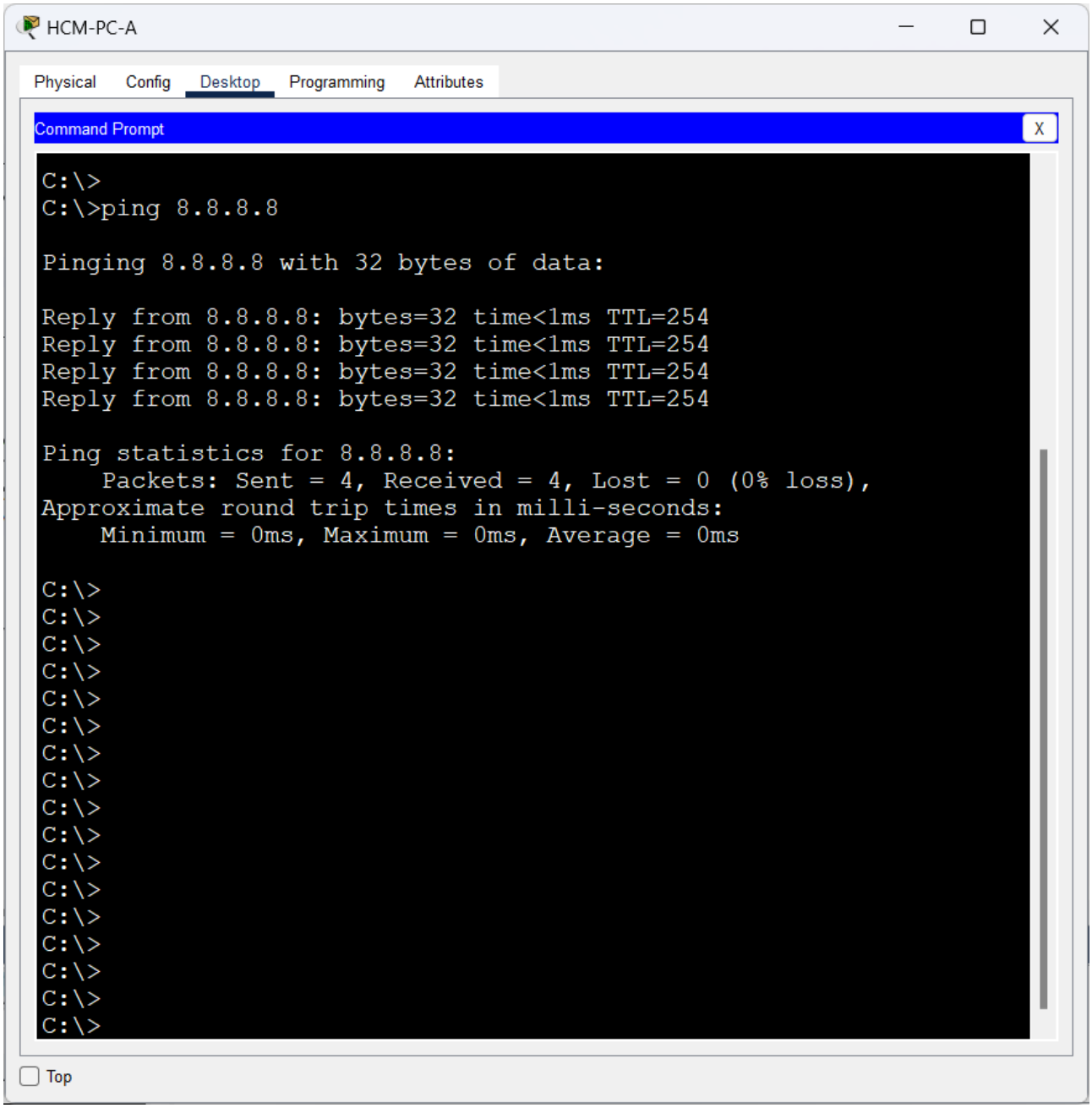
+ HN-PC-B


HN-PC-B
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
C:\>
C:\>
C:\>
Top

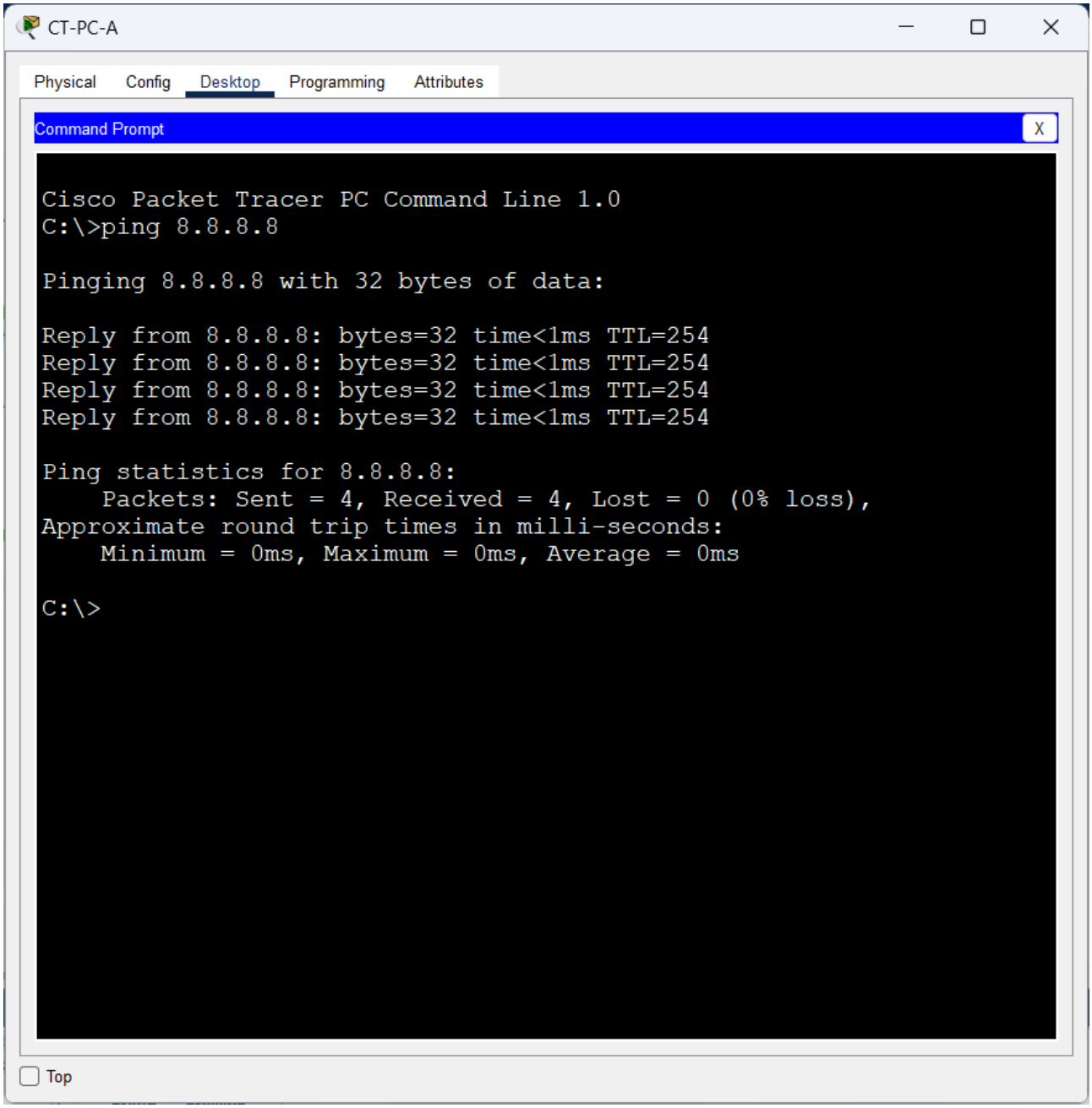
+ HCM-ServerA


HCM-ServerA
Physical
Config
Services
Desktop
Programming
Attributes
Command Prompt
X
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top

+ HCM-PC-A


HCM-PC-A
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
C:\>
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
Top

+ CT-PC-A


CT-PC-A
Physical
Config
Desktop
Programming
Attributes
Command Prompt
X
Cisco Packet Tracer PC Command Line 1.0
C:\>ping 8.8.8.8
Pinging 8.8.8.8 with 32 bytes of data:
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Reply from 8.8.8.8: bytes=32 time<1ms TTL=254
Ping statistics for 8.8.8.8:
Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
Minimum = 0ms, Maximum = 0ms, Average = 0ms
C:\>
Top

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