

Exercise – 12 PPP-Configuration

Aim

To Configure single Point to Point Protocol

Prerequisite:

Point to Point Protocol

Procedure:

Procedure:

1. From the Network Devices category, select routers, and from the devices drag 2 routers into the workspace.
2. Connect connect routers using serial DTE cables.
3. To configure Cisco PPP, firstly we will enable PPP under the interface and after that, we will configure interface ip addresses. To enable PPP, we will use “encapsulation PPP” command under the interface. Here, we will do this under serial 0/0/0 interface.



4. Use the following commands to configure the router R1 using CLI

```
Router(config)#int se 2/0
```

```
Router(config-if)# ip address 192.168.1.1 255.255.255.0
```

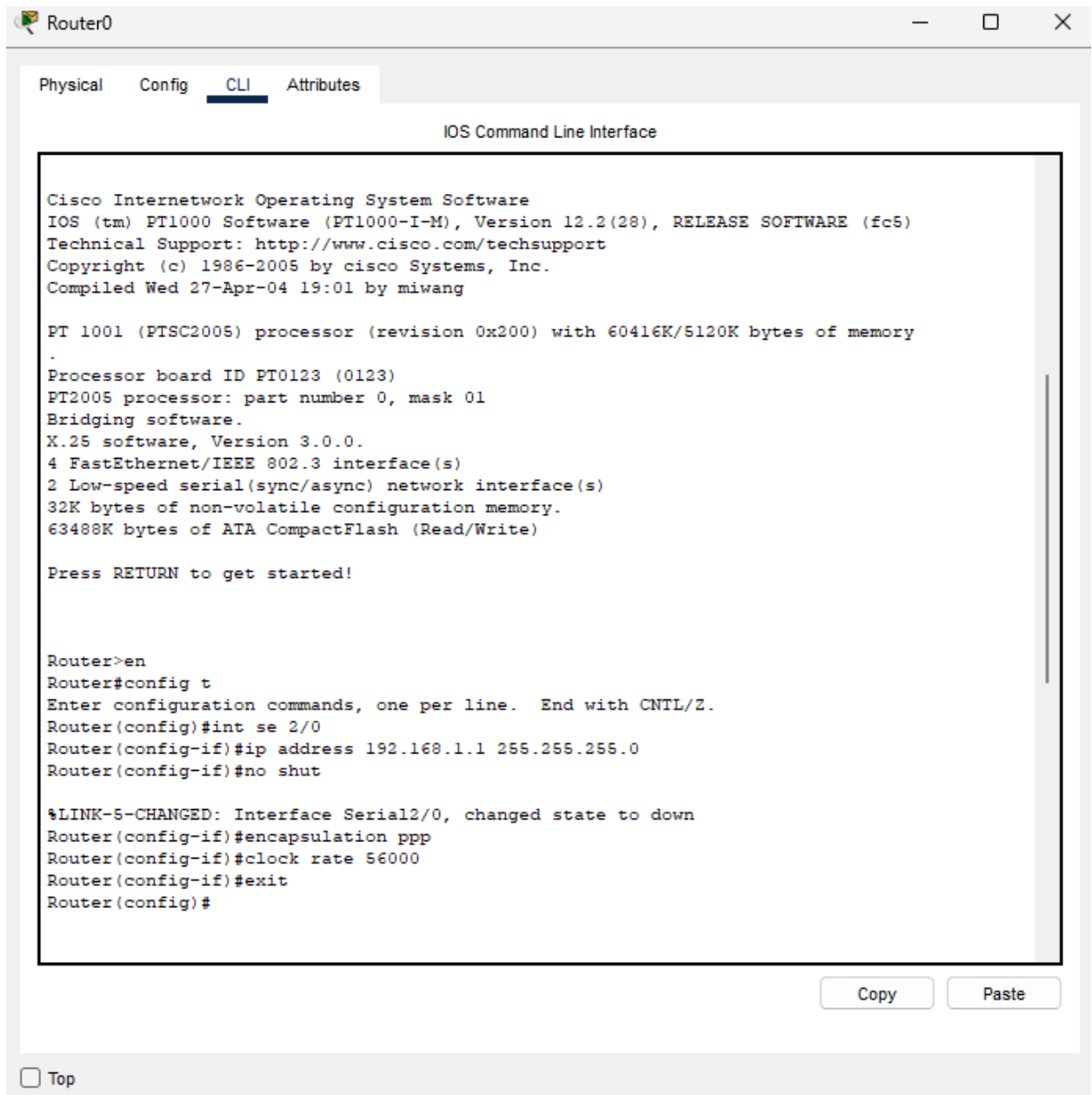
```
Router(config-if)# no shut
```

Router(config)#in se 2/0

Router(config-if)#encapsulation ppp

Router(config)#in se 2/0

Router(config-if)# clock rate 56000



Router0

Physical Config **CLI** Attributes

IOS Command Line Interface

```
Cisco Internetwork Operating System Software
IOS (tm) PT1000 Software (PT1000-I-M), Version 12.2(28), RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 27-Apr-04 19:01 by miwang

PT 1001 (PTSC2005) processor (revision 0x200) with 60416K/5120K bytes of memory
.
Processor board ID PT0123 (0123)
PT2005 processor: part number 0, mask 01
Bridging software.
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!

Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se 2/0
Router(config-if)#ip address 192.168.1.1 255.255.255.0
Router(config-if)#no shut

%LINK-5-CHANGED: Interface Serial2/0, changed state to down
Router(config-if)#encapsulation ppp
Router(config-if)#clock rate 56000
Router(config-if)#exit
Router(config)#
```

☐ Top

5. Use the following commands to configure the router R2 using CLI

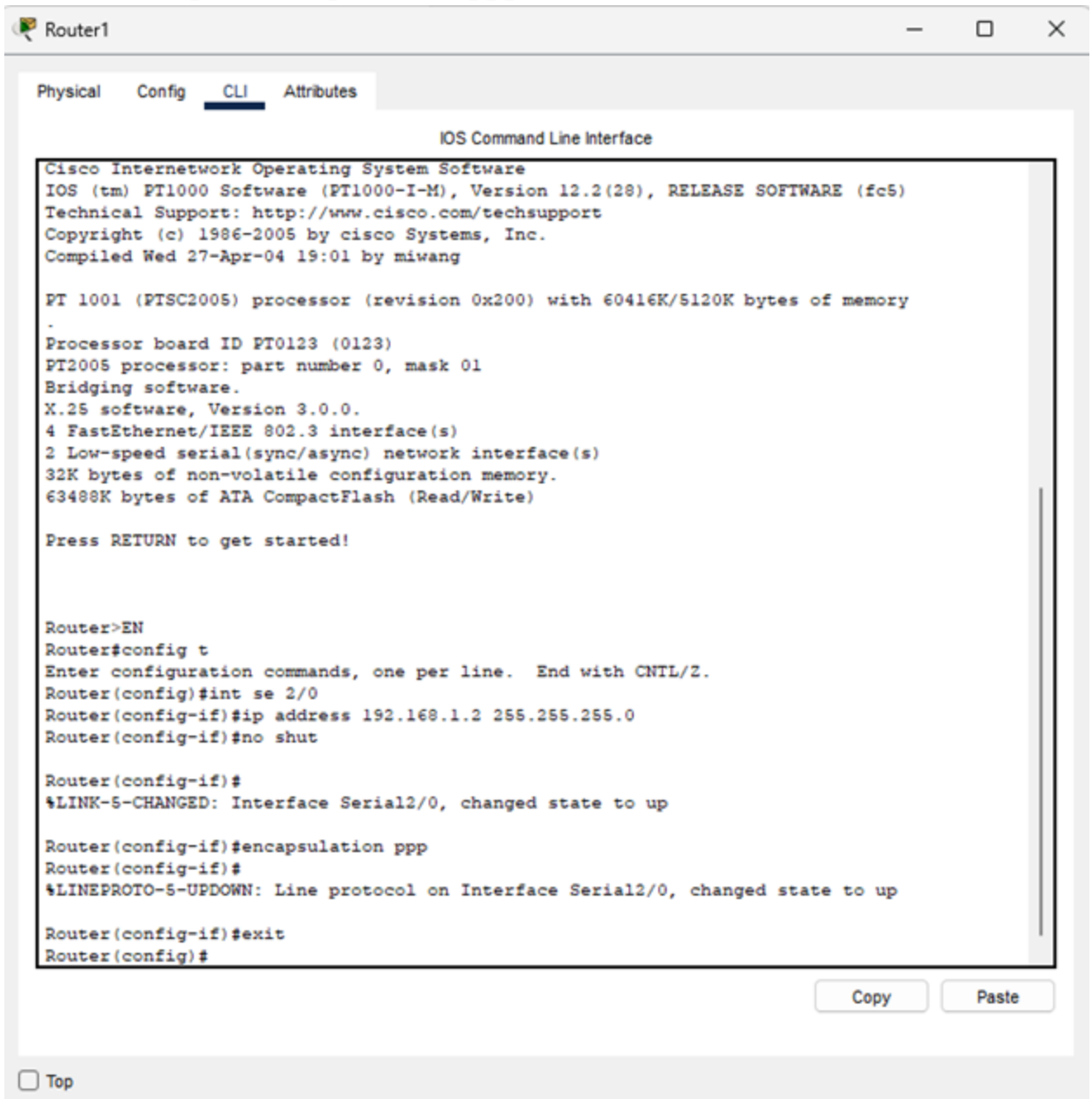
```
Router(config)# int se 2/0
```

```
Router(config-if)# ip address 192.168.1.2 255.255.255.0
```

```
Router(config-if)# no shut
```

```
Router(config)#in se 2/0
```

```
Router(config-if)#encapsulation ppp
```



```
Cisco Internetwork Operating System Software
IOS (tm) PT1000 Software (PT1000-I-M), Version 12.2(28), RELEASE SOFTWARE (fc5)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2005 by cisco Systems, Inc.
Compiled Wed 27-Apr-04 19:01 by miwang

PT 1001 (PTSC2005) processor (revision 0x200) with 60416K/5120K bytes of memory
.
Processor board ID PT0123 (0123)
PT2005 processor: part number 0, mask 01
Bridging software.
X.25 software, Version 3.0.0.
4 FastEthernet/IEEE 802.3 interface(s)
2 Low-speed serial(sync/async) network interface(s)
32K bytes of non-volatile configuration memory.
63488K bytes of ATA CompactFlash (Read/Write)

Press RETURN to get started!

Router>EN
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int se 2/0
Router(config-if)#ip address 192.168.1.2 255.255.255.0
Router(config-if)#no shut

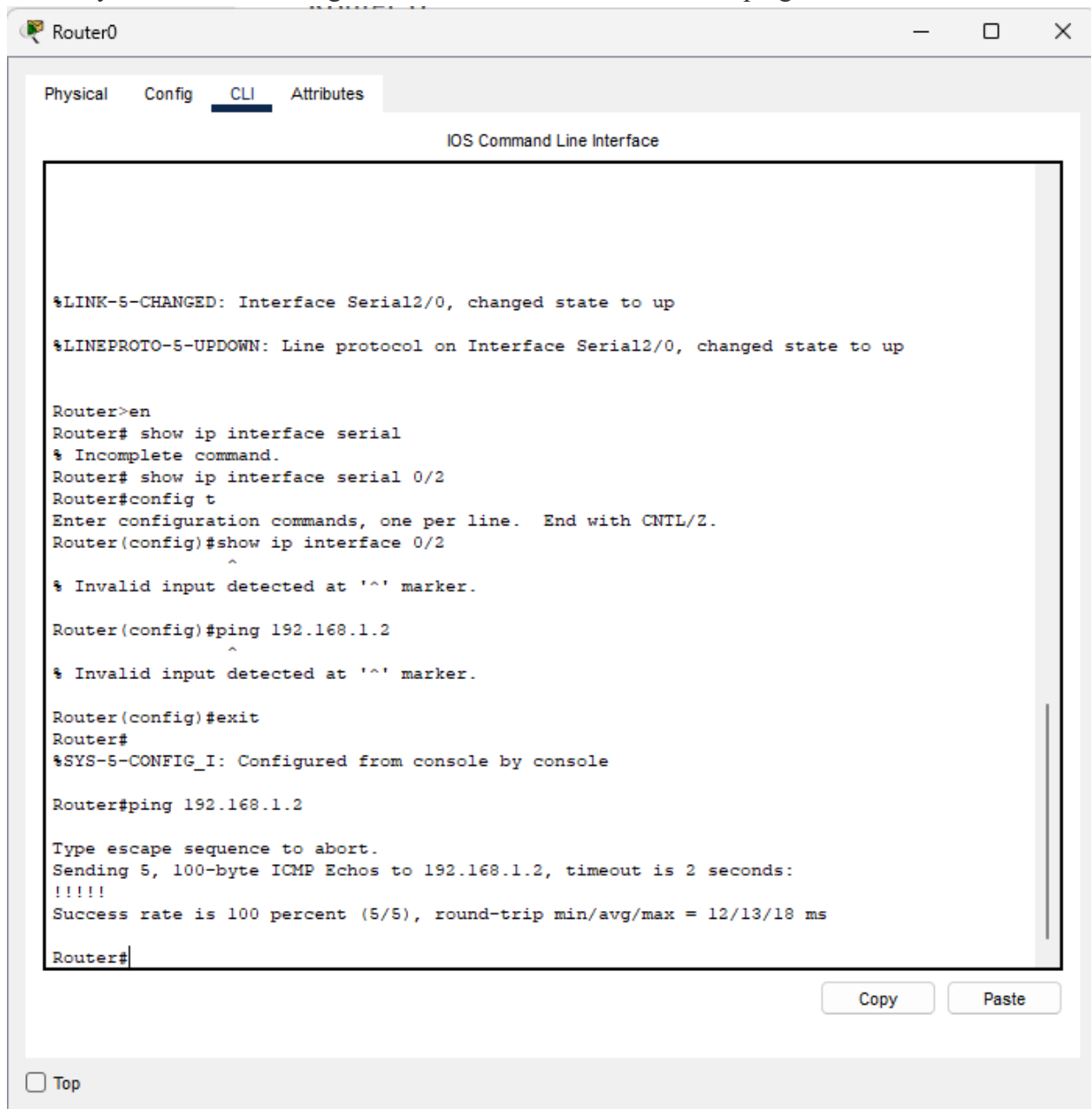
Router(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

Router(config-if)#encapsulation ppp
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router(config-if)#exit
Router(config)#
```

☐ Top

6. To verify Cisco HDLC configuration, on both routers we will use ping command.



The screenshot shows the Cisco Packet Tracer interface for Router0. The 'CLI' tab is selected, displaying the IOS Command Line Interface. The terminal output shows the following sequence of commands and responses:

```
%LINK-5-CHANGED: Interface Serial2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up

Router>en
Router# show ip interface serial
% Incomplete command.
Router# show ip interface serial 0/2
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#show ip interface 0/2
^
% Invalid input detected at '^' marker.

Router(config)#ping 192.168.1.2
^
% Invalid input detected at '^' marker.

Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#ping 192.168.1.2

Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.1.2, timeout is 2 seconds:
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 12/13/18 ms

Router#
```

At the bottom of the window, there is a 'Top' button and 'Copy' and 'Paste' buttons.

CONCLUSION

We have successfully configured PPP configuration on two router using cisco packet tracer.