COMPUTER NETWORKS

EXP 15

PPP CONFIGURATION

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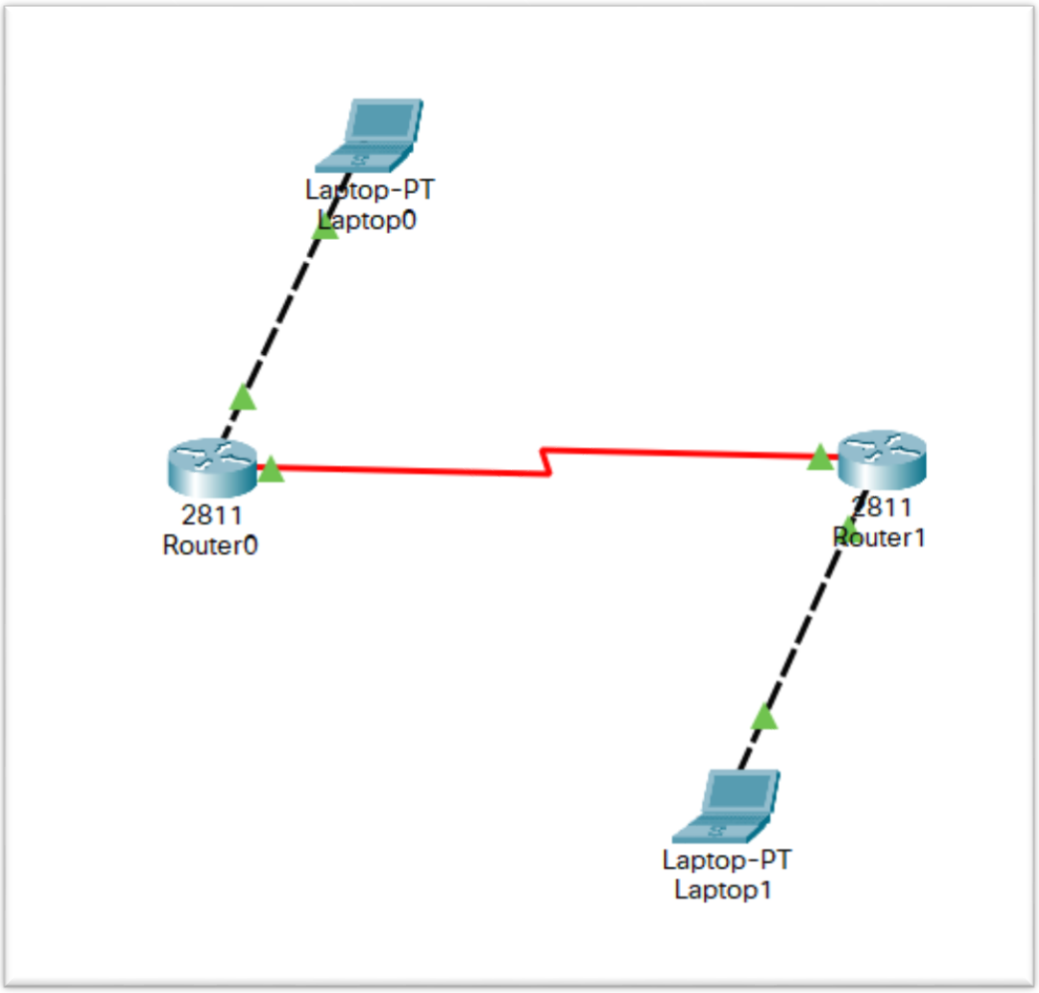
Aim:

To implement PPP Configuration using Cisco Packet Tracer.

Diagram:



Procedure:

Create the setup as shown in the following figure and configure everything according to it.

Go to the physical tab of each router, turn it off and place WIC-1T in its place and then switch the router on.

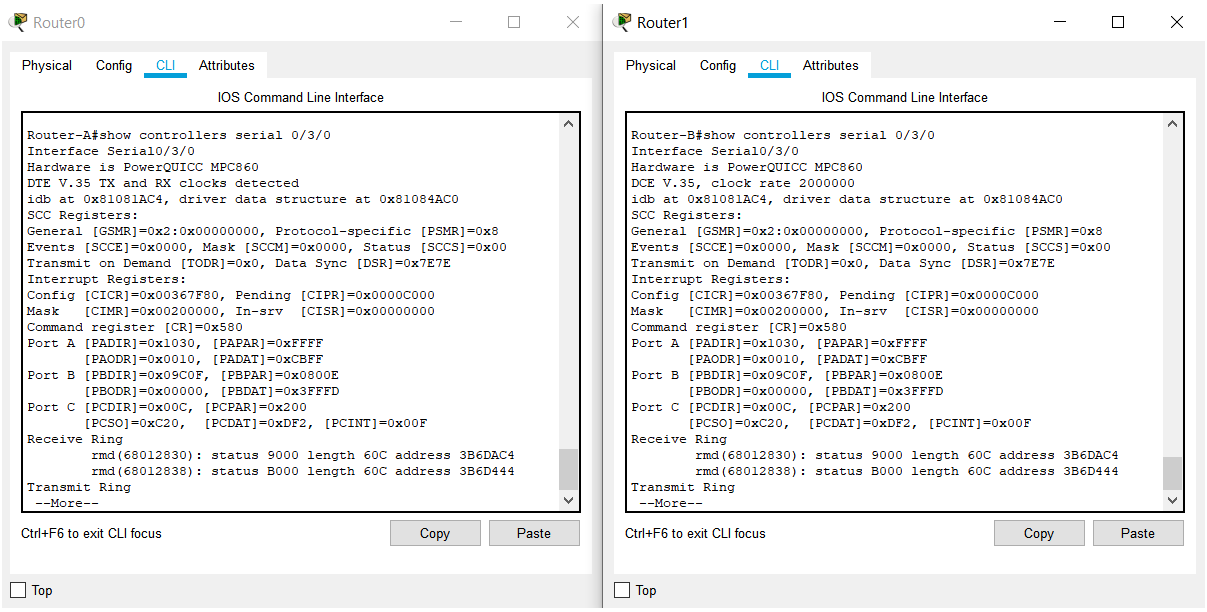
1. Use the connected laptops to find the DCE and DTE routers

The **show controllers <serial interface>** command is used to determine which side of the cable is the DCE side.

In this example, Router-A is the DTE side, and Router-B is the DCE side (DCE V.35, clock rate set).

```
Router-A#show controllers serial 0/3/0
Interface Serial0/3/0
Hardware is PowerQUICC MPC860
DTE V.35 TX and RX clocks detected
```

```
Router-B#show controllers serial 0/3/0
Interface Serial0/3/0
Hardware is PowerQUICC MPC860
DCE V.35, clock rate 2000000
```



2. Configure the routers with the following parameters

Router-B being the DCE, clock rate has to be configured on Router-B serial 0/3/0 interface

```
Router-B(config)#interface serial 0/3/0
Router-B(config-if)#clock rate 250000
```

Then, configure PPP encapsulation and IP address on Router-B serial 0/3/0 interface.

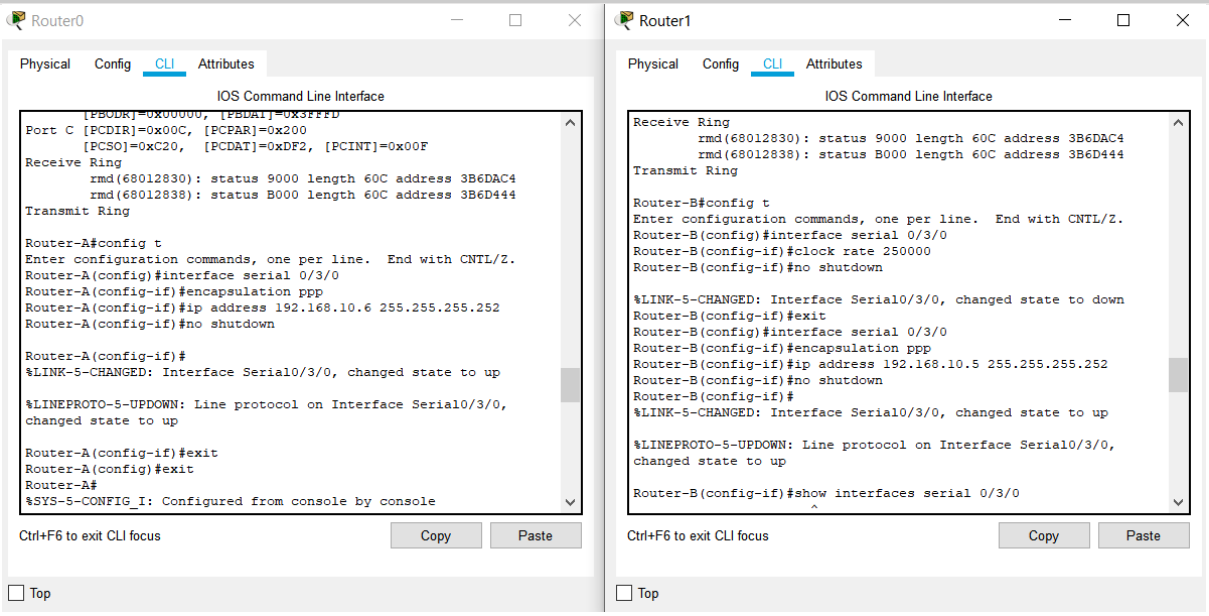
The **encapsulation PPP** configures PPP protocol on the serial interface.

Router-B being the DCE side of the serial link, the 192.168.10.5/30 IP address is configured on the Router-B serial 0/3/0 interface. Don't forget to enable the interface with a **no shutdown** command.

```
Router-B(config)#interface serial 0/3/0
Router-B(config-if)#encapsulation ppp
Router-B(config-if)#ip address 192.168.10.5 255.255.255.252
Router-B(config-if)#no shutdown
```

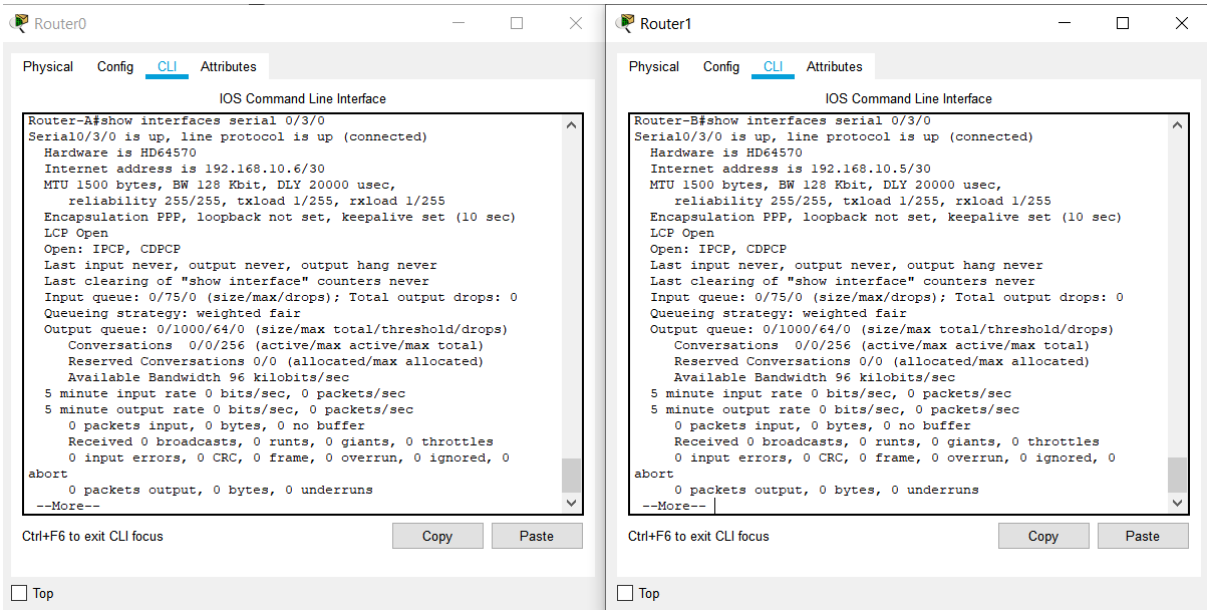
Finally, configure PPP encapsulation and IP address on Router-A serial 0/3/0 interface. The link becomes up as both routers are correctly configured.

```
Router-A(config)#interface serial 0/3/0
Router-A(config-if)#encapsulation ppp
Router-A(config-if)#ip address 192.168.10.6 255.255.255.252
Router-A(config-if)#no shutdown
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
```



The show interfaces serial 0/3/0 confirms that PPP encapsulation is enabled on the interface: *Encapsulation PPP, loopback not set, keepalive set (10 sec)*

```
Router-B#show interfaces serial 0/3/0
Serial0/0/0 is up, line protocol is up (connected)
Hardware is HD64570
Internet address is 192.168.10.5/30
MTU 1500 bytes, BW 1544 Kbit, DLY 20000 usec,
reliability 255/255, txload 1/255, rxload 1/255
Encapsulation PPP, loopback not set, keepalive set (10 sec)
Last input never, output never, output hang never
[...]
```



3. Check IP connectivity between the two routers using the ping command.

Issue a ping from Router-A to Router-B to test network connectivity between the two routers.

```
Router-A#ping 192.168.10.5
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.5, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 3/3/4 ms
```

```
Router-B#ping 192.168.10.6
Type escape sequence to abort.
Sending 5, 100-byte ICMP Echos to 192.168.10.6, timeout is 2 seconds:
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/8/22 ms
```

RESULT:

PPP Configuration is successfully implemented and demonstrated.