

Priyabrat Routray
RA1911027010078
CSE – BD (N2)

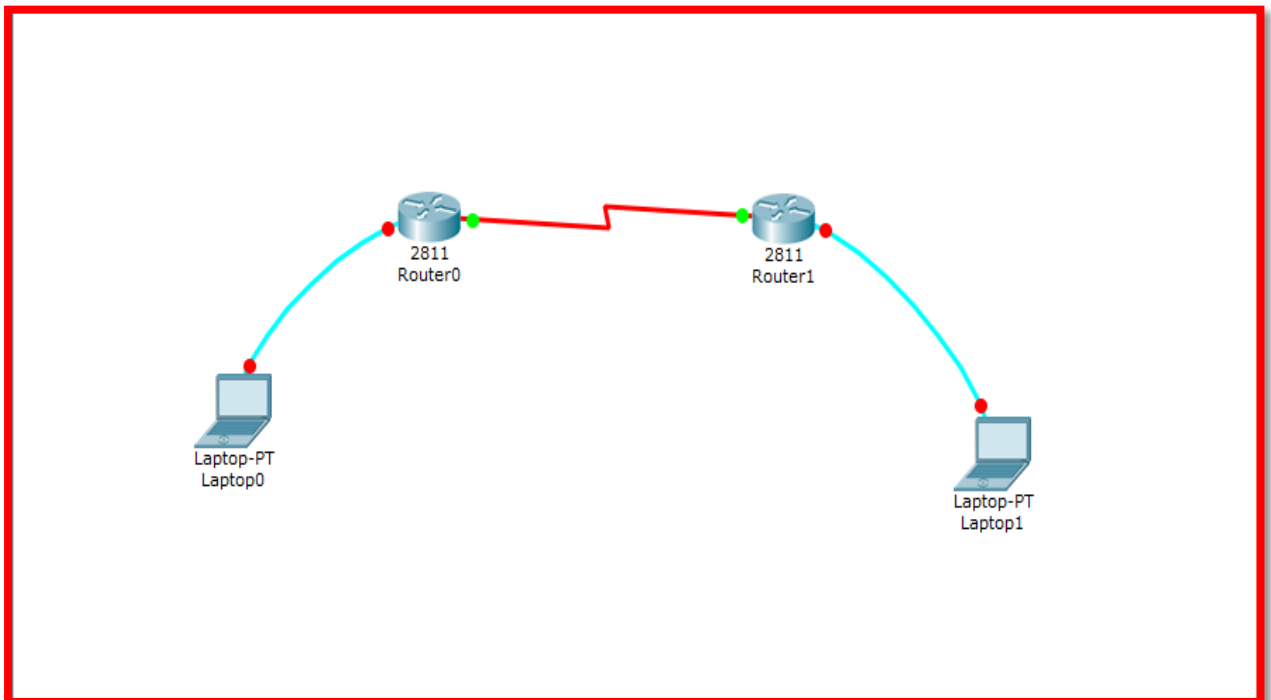
Computer Networks (Experiment – 14)

AIM: To implement HDLC Configuration using routers.

SOFTWARE USED: Cisco Packet Tracer.

REQUIREMENTS: 2 routers and 2 Laptops.

Network Design:



OUTPUTS:

IOS Command Line Interface:

Router 1:

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R1
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

R1#show controllers Serial0/3/0
Interface Serial0/3/0
Hardware is PowerQUICC MPC860
DCE V.35, clock rate 2000000
idb at 0x81081AC4, driver data structure at 0x81084AC0
SCC Registers:
General [GSMR]=0x2:0x00000000, Protocol-specific [PSMR]=0x8
Events [SCCE]=0x0000, Mask [SCCM]=0x0000, Status [SCCS]=0x00
Transmit on Demand [TODR]=0x0, Data Sync [DSR]=0x7E7E
Interrupt Registers:
Config [CICR]=0x00367F80, Pending [CIPR]=0x0000C000
Mask [CIMR]=0x00200000, In-srv [CISR]=0x00000000
Command register [CR]=0x580
Port A [PADIR]=0x1030, [PAPAR]=0xFFFF
[PAODR]=0x0010, [PADAT]=0xCBFF
Port B [PBDIR]=0x09C0F, [PBPAR]=0x0800E
[PBODR]=0x00000, [PBDAT]=0x3FFFD
Port C [PCDIR]=0x00C, [PCPAR]=0x200
[PCSO]=0xC20, [PCDAT]=0xDF2, [PCINT]=0x00F
Receive Ring
rmd(68012830): status 9000 length 60C address 3B6DAC4
rmd(68012838): status B000 length 60C address 3B6D444
Transmit Ring
tmd(680128B0): status 0 length 0 address 0
tmd(680128B8): status 0 length 0 address 0
tmd(680128C0): status 0 length 0 address 0
tmd(680128C8): status 0 length 0 address 0
tmd(680128D0): status 0 length 0 address 0
tmd(680128D8): status 0 length 0 address 0
tmd(680128E0): status 0 length 0 address 0
tmd(680128E8): status 0 length 0 address 0
tmd(680128F0): status 0 length 0 address 0
tmd(680128F8): status 0 length 0 address 0
```

```
buffer size 1524

PowerQUICC SCC specific errors:
0 input aborts on receiving flag sequence
0 throttles, 0 enables
0 overruns
0 transmitter underruns
0 transmitter CTS losts
0 aborted short frames

R1#config t
Enter configuration commands, one per line. End with CNTL/Z.
R1(config)#interface Serial0/3/0
R1(config-if)#encapsulation hdlc
R1(config-if)#ip address 192.168.10.6 255.255.255.252
R1(config-if)#no shutdown

%LINK-5-CHANGED: Interface Serial0/3/0, changed state to down
R1(config-if)#exit
R1(config)#exit
R1#
%SYS-5-CONFIG_I: Configured from console by console

%LINK-5-CHANGED: Interface Serial0/3/0, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed state to up

R1#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 = 1/11/55 ms
```

Router 2:

```
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname R2
R2(config)#interface Serial0/3/0
R2(config-if)#clock rate 250000
This command applies only to DCE interfaces
R2(config-if)#encapsulation hdlc
R2(config-if)#ip address 192.168.10.5 255.255.255.252
R2(config-if)#no shutdown

R2(config-if)#
%LINK-5-CHANGED: Interface Serial0/3/0, changed state to up

R2(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed state to up

R2(config-if)#exit
R2(config)#exit
R2#
%SYS-5-CONFIG_I: Configured from console by console

R2#show interfaces Serial0/3/0
Serial0/3/0 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 HDLC, loopback not set, keepalive set (10 sec)
  Last input never, output never, output hang never
  Last clearing of "show interface" counters never
  Input queue: 0/75/0 (size/max/drops); Total output drops: 0
  Queueing strategy: weighted fair
  Output queue: 0/1000/64/0 (size/max total/threshold/drops)
    Conversations  0/0/256 (active/max active/max total)
    Reserved Conversations 0/0 (allocated/max allocated)
    Available Bandwidth 1158 kilobits/sec
  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 runs, 0 giants, 0 throttles
```