INSTITUTO TÉCNOLOGICO DE SALINA CRUZ

REDES DE COMPUTADORA

SEMESTRE FEBRERO-AGOSTO 2015

REPORTE DE PRÁCTICAS

PRACTICA N°: 2

UNIDAD: 5

FECHA: 01 DE JUNIO DE 2015

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Objetivos:

- Conectar una red de acuerdo con el Diagrama de topología.
- Realizar tareas de configuración básicas en un router.
- Configurar y activar interfaces.
- Configurar el enrutamiento EIGRP en todos los routers.
- Desactive la sumarización automática.

Instrucciones:

1.- Conecte una red que sea similar a la del Diagrama de topología.

2.- Realizar de las configuraciones básicas del router.

3.- Configuración y activación de las direcciones serial y Ethernet.

4.- Configurar EIGRP en los 3 routers.

5.- Configurar las métricas EIGRP.

6.- Examinar sucesores y distancias factibles.

7.- Examinar la tabla de topología EIGRP.

8.- Configurar el resumen manual.

Materiales:

1.- PC.

2.- Cisco packet tracer

3.- sila.

4.- mesa.

5.- Libro de cisco.

Topología.

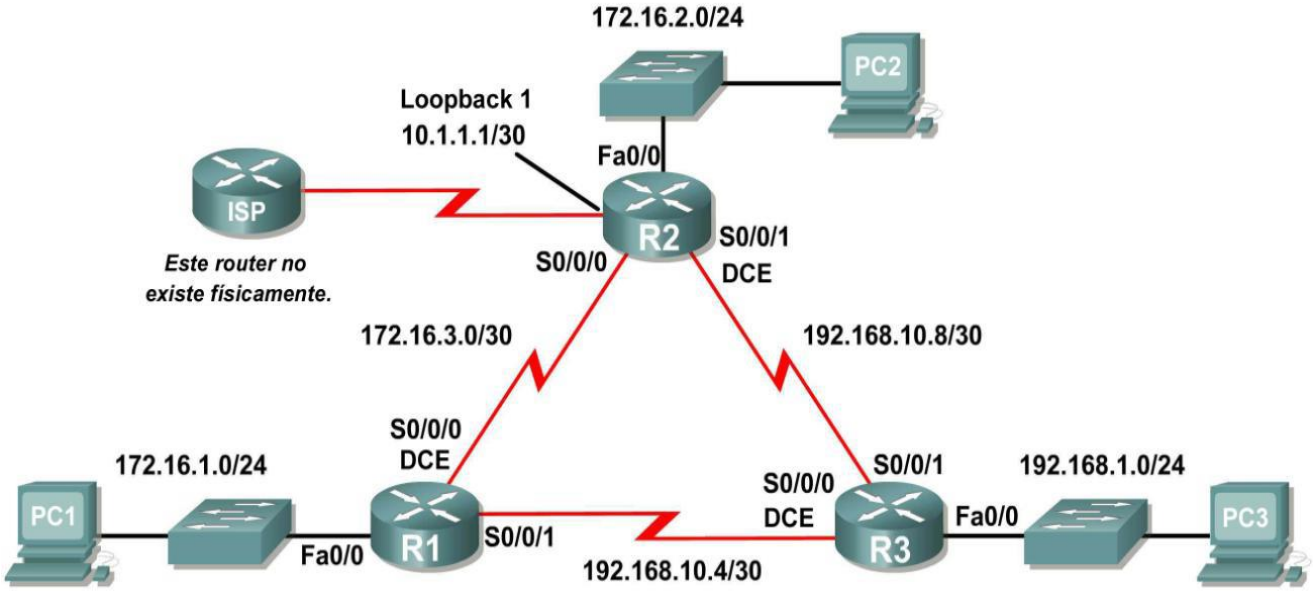


Tabla de enrutamiento

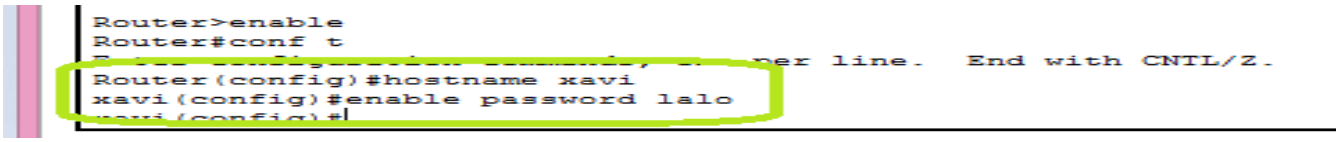
S0/0/0	172.16.3.1	255.255.255.252	N
S0/0/1	192.168.10.5	255.255.255.252	N
Fa0/0	172.16.2.1	255.255.255.0	N
S0/0/0	172.16.3.2	255.255.255.252	N
S0/0/1	192.168.10.9	255.255.255.252	N
Lo1	10.1.1.1	255.255.255.252	N
Fa0/0	192.168.1.1	255.255.255.0	N
S0/0/0	192.168.10.6	255.255.255.252	N
S0/0/1	192.168.10.10	255.255.255.252	N
NIC	172.16.1.10	255.255.255.0	
NIC	172.16.2.10	255.255.255.0	

Tarea 1: Preparación de la red.

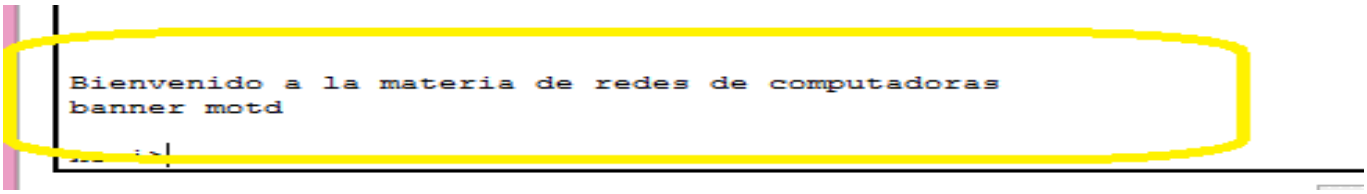
Paso 1: Conecte una red que sea similar a la del Diagrama de topología.

Tarea 2: Realizar de las configuraciones básicas del router. Realice las configuraciones básicas de los routers R1, R2 y R3 de acuerdo con las siguientes pautas generales:

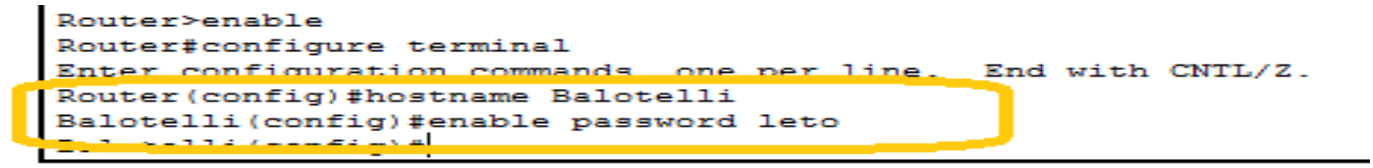
Configuración de un nombre y password del router 1.



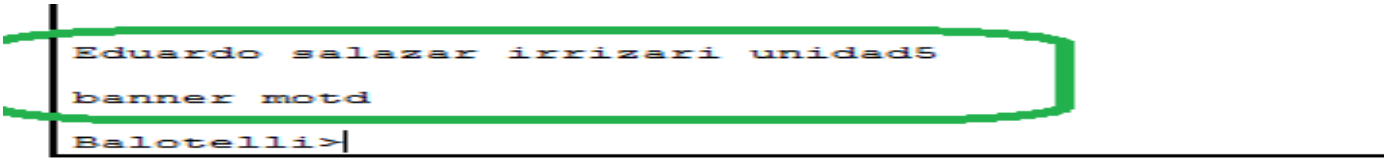
Asignación de un banner.



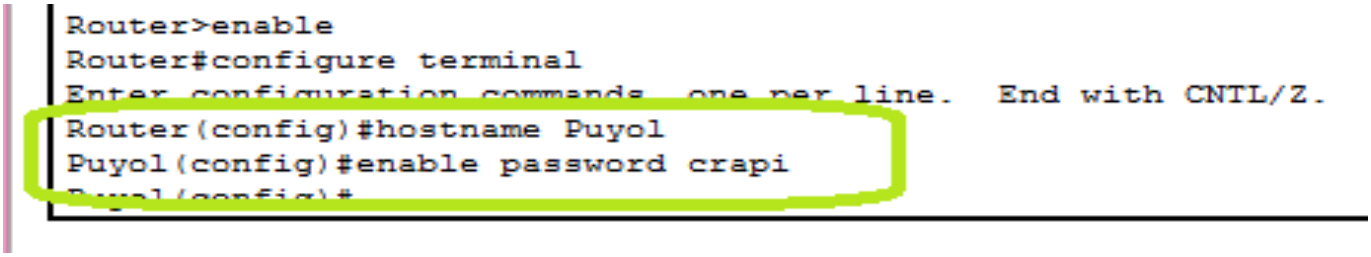
Configuración de un nombre y password del router 2.



Asignación de un banner.



Configuración de un nombre y password del router 3.



Asignación de un banner.

```
redes de computadoras unidad5

banner motd

Puyol>
```

Tarea 3: Configuración y activación de las direcciones serial y Ethernet.

Paso1: Configure las interfaces de los routers R1, R2 y R3 con las direcciones IP de la tabla que se encuentra debajo del Diagrama de topología.

Xavi (R1).

Puerto fa0/0

```
xavi(config)#interface fa0/0
xavi(config-if)#ip addres 172.16.1.1 255.255.0.0
xavi(config-if)#no shut
```

Serial 2/0

```
xavi(config)#interface s2/0
xavi(config-if)#ip address 172.16.3.1 255.255.0.0
% 172.16.0.0 overlaps with FastEthernet0/0
xavi(config-if)#ip address 172.16.3.1 255.255.255.0
% 172.16.3.0 overlaps with FastEthernet0/0
xavi(config-if)#ip address 172.168.3.1 255.255.0.0
xavi(config-if)#no shut
```

Serial 3/0.

```
Xavi(config)#interface s3/0
Xavi(config-if)#ip addre
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial2/0, changed state to up
Xavi(config-if)#interface s3/0
Xavi(config-if)#ip address 192.16.10.5 255.255.255.0
Xavi(config-if)#no shut
```

Balotelli (R2).

Puerto fa0/0

```
Balotelli(config)#interface fa0/0
Balotelli(config-if)#ip address 172.16.2.1 255.255.0.0
Balotelli(config-if)#no shut
```

Serial 2/0

```
Balotelli(config)#interface s2/0
Balotelli(config-if)#ip address 172.168.3.2 255.255.0.0
Balotelli(config-if)#no shut
```

Serial 3/0

```
Balotelli(config)#interface s3/0
Balotelli(config-if)#ip address 192.168.10.9 255.255.255.0
Balotelli(config-if)#no shut
```

Puyol (R3).

Puerto fa0/0

```
Puyol(config)#interface fa0/0
Puyol(config-if)#ip address 192.168.1.1 255.255.255.0
Puyol(config-if)#no shut
```

Serial 2/0

```
Puyol(config)#interface s2/0
Puyol(config-if)#ip address 192.168.10.6 255.255.255.0
Puyol(config-if)#no shut
```

Serial 3/0.

```
Puyol(config)#interface s3/0
Puyol(config-if)#ip address 192.168.10.10 255.255.255.0
% 192.168.10.0 overlaps with Serial2/0
Puyol(config-if)#ip address 192.168.10.10 255.255.255.0
% 192.168.10.0 overlaps with Serial2/0
Puyol(config-if)#ip address 192.16.10.10 255.255.255.0
Puyol(config-if)#no shut
```

Paso 2: Verificar el direccionamiento IP y las interfaces.

R1.

```
Xavi#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol

FastEthernet0/0            172.16.1.1      YES manual up                    up

FastEthernet1/0            unassigned      YES unset  administratively down down

Serial2/0                  172.168.3.1     YES manual up                    up

Serial3/0                  192.16.10.5     YES manual up                    up

FastEthernet4/0            unassigned      YES unset  administratively down down

FastEthernet5/0            unassigned      YES unset  administratively down down
Xavi#
```

R2.

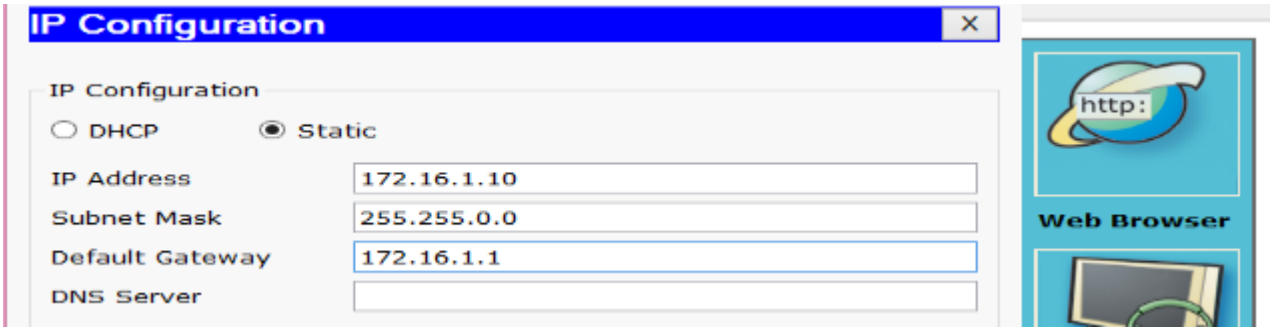
```
Balotelli#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol

FastEthernet0/0            172.16.2.1      YES manual up                    up

FastEthernet1/0            unassigned      YES unset  administratively down down

Serial2/0                  172.168.3.2     YES manual up                    up

Serial3/0                  192.168.10.9    YES manual up                    up

FastEthernet4/0            unassigned      YES unset  administratively down down

FastEthernet5/0            unassigned      YES unset  administratively down down
Balotelli#
```

R3.

```
Puyol#show ip interface brief
Interface                  IP-Address      OK? Method Status                Protocol

FastEthernet0/0            192.168.1.1     YES manual up                    up

FastEthernet1/0            unassigned      YES unset  administratively down down

Serial2/0                  192.168.10.6    YES manual up                    up

Serial3/0                  192.16.10.10    YES manual up                    up

FastEthernet4/0            unassigned      YES unset  administratively down down

FastEthernet5/0            unassigned      YES unset  administratively down down
Puyol#
```

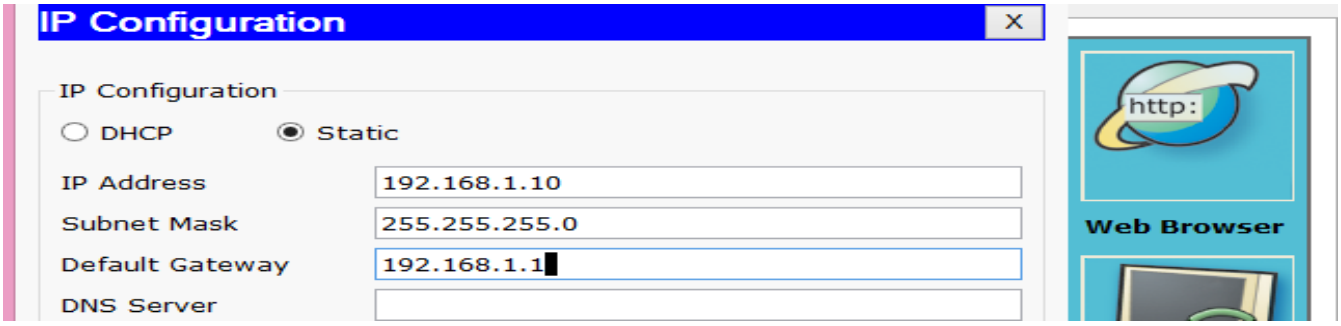
Paso 3: Configurar las interfaces Ethernet de las PC1, PC2 y PC3.

PC1.



PC2.

PC3.



Tarea 4: Configurar EIGRP en el router R1.

```
Bienvenido a la materia de redes de computadora

banner motd

Xavi>enable
Password:
Xavi#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Xavi(config)#router eigrp 1
Xavi(config-router)#autonomus system
                           ^
% Invalid input detected at '^' marker.

Xavi(config-router)# network 172.16.0.0
Xavi(config-router)# network 172.168.0.0
Xavi(config-router)# network 192.168.10.4 0.0.0.255
Xavi(config-router)#end
Xavi#
%SYS-5-CONFIG_I: Configured from console by console

Xavi#
```

¿Cuál es la dirección IP del router EIGRP vecino?

172.16.3.1

¿Qué interfaz del router R2 es el vecino adyacente?

Serial2/0

Habilite el enrutamiento EIGRP en el router R2 con el comando router eigrp.

```
Balotelli(config)#router eigrp 1
Balotelli(config-router)#network 172.16.0.0
Balotelli(config-router)#network 192.168.10.8 0.0.0.255
Balotelli(config-router)#end
Balotelli#
%SYS-5-CONFIG_I: Configured from console by console

Balotelli#
```

Habilite el enrutamiento EIGRP en el router R3 con el comando router eigrp.

```
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banner motd

Puyol>enable
Password:
Puyol#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Puyol(config)#router eigrp 1
Puyol(config-router)#network 192.168.1.0
Puyol(config-router)#network 192.168.10.4 0.0.0.255
Puyol(config-router)#network 192.168.10.8 0.0.0.255
Puyol(config-router)#end
Puyol#
%SYS-5-CONFIG_I: Configured from console by console

Puyol#
```

Verificar las operaciones de EIGRP.

En el router R1 utilice el comando show ip eigrp neighbors para ver la tabla de vecinos y verificar que EIGRP haya establecido una adyacencia con los routers R2 y R3.

```
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Xavi>enable
Password:
Xavi#show ip eigrp neighbors
IP-EIGRP neighbors for process 1

Xavi#
Xavi#show ip protocols

Routing Protocol is "eigrp  1 "
  Outgoing update filter list for all interfaces is not set
  Incoming update filter list for all interfaces is not set
  Default networks flagged in outgoing updates
  Default networks accepted from incoming updates
  EIGRP metric weight K1=1, K2=0, K3=1, K4=0, K5=0
  EIGRP maximum hopcount 100
  EIGRP maximum metric variance 1
Redistributing: eigrp 1
  Automatic network summarization is in effect
  Automatic address summarization:
  Maximum path: 4
  Routing for Networks:
     172.16.0.0
     172.168.0.0
     192.168.10.0
  Routing Information Sources:
    Gateway         Distance      Last Update
  Distance: internal 90 external 170

Xavi#
```

Visualice la tabla de enrutamiento en el router R1.

```
Xavi#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, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    172.16.0.0/16 is directly connected, FastEthernet0/0
C    172.168.0.0/16 is directly connected, Serial2/0
C    192.16.10.0/24 is directly connected, Serial3/0
Xavi#
```

Visualice la tabla de enrutamiento en el router R3.

```
redes de computadoras unidad5

banner motd

Puyol>enable
Password:
Puyol#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, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is not set

C    192.16.10.0/24 is directly connected, Serial3/0
C    192.168.1.0/24 is directly connected, FastEthernet0/0
C    192.168.10.0/24 is directly connected, Serial2/0
Puyol#
```

Visualice la información métrica de EIGRP.

```
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Xavi>enable
Password:
Xavi#show interface serial2/0
Serial2/0 is up, line protocol is up (connected)
  Hardware is HD64570
  Internet address is 172.168.3.1/16
  MTU 1500 bytes, BW 128 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 96 kilobits/sec
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 104 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 abort
     343 packets output, 20580 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
     DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
Xavi#
```

Modifique el ancho de banda de las interfaces seriales.

R1.

```
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banner motd

Xavi>enable
Password:
Xavi#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Xavi(config)#interface serial2/0
Xavi(config-if)#bandwidth
% Incomplete command.
Xavi(config-if)#bandwidth 64
Xavi(config-if)#
```

R2.

```
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banner motd

Balotelli>enable
Password:
Balotelli#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Balotelli(config)#interface s2/0
Balotelli(config-if)#bandwidth 64
Balotelli(config-if)#exit
Balotelli(config)#interface s3/0
Balotelli(config-if)#bandwidth 1024
Balotelli(config-if)#
```

R3.

```
redes de computadoras unidad5

banner motd

Puyol>enable
Password:
Puyol#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Puyol(config)#interface s2/0
Puyol(config-if)#exit
Puyol(config)#interface s3/0
Puyol(config-if)#bandwidth 1024
Puyol(config-if)#
```

Verifique las modificaciones del ancho de banda.

```
Bienvenido a la materia de redes de computadora

banner motd

Xavi>enable
Password:
Xavi#show interface serial2/0
Serial2/0 is up, line protocol is up (connected)
  Hardware is HD64570
  Internet address is 172.168.3.1/16
  MTU 1500 bytes, BW 64 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 48 kilobits/sec
  5 minute input rate 0 bits/sec, 0 packets/sec
  5 minute output rate 102 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 abort
     503 packets output, 30180 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
     DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
Xavi#

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banner motd

Balotelli>enable
Password:
Balotelli#show interface serial2/0
Serial2/0 is up, line protocol is up (connected)
  Hardware is HD64570
  Internet address is 172.168.3.2/16
  MTU 1500 bytes, BW 64 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 48 kilobits/sec
  5 minute input rate 104 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     527 packets input, 31620 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 abort
     0 packets output, 0 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
     DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
Balotelli#
```

```
redes de computadoras unidad5

banner motd

Puyol>enable
Password:
Puyol#show interface serial3/0
Serial3/0 is up, line protocol is up (connected)
  Hardware is HD64570
  Internet address is 192.16.10.10/24
  MTU 1500 bytes, BW 1024 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 768 kilobits/sec
  5 minute input rate 104 bits/sec, 0 packets/sec
  5 minute output rate 0 bits/sec, 0 packets/sec
     446 packets input, 26760 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 abort
     0 packets output, 0 bytes, 0 underruns
     0 output errors, 0 collisions, 1 interface resets
     0 output buffer failures, 0 output buffers swapped out
     0 carrier transitions
     DCD=up  DSR=up  DTR=up  RTS=up  CTS=up
Puyol#
```

Examine los sucesores y las distancias factibles en la tabla de enrutamiento de R2.

```
     10.0.0.0/30 is subnetted, 1 subnets
C       10.1.1.0 is directly connected, Loopback1
     172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
D       172.16.0.0/16 is a summary, 00:00:52, Null0
D       172.16.1.0/24 [90/40514560] via 172.16.3.1, 00:00:52, Serial0/0/0
C       172.16.2.0/24 is directly connected, FastEthernet0/0
C       172.16.3.0/30 is directly connected, Serial0/0/0
D    192.168.1.0/24 [90/3014400] via 192.168.10.10, 00:00:11, Serial0/0/1
     192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
D       192.168.10.0/24 is a summary, 00:00:11, Null0
D       192.168.10.4/30 [90/3523840] via 192.168.10.10, 00:00:11,
```

Pasó 2: Conteste las siguientes preguntas:

¿Cuál es la mejor ruta hacia PC1?

De R2 –R1-PC1 Dirección de siguiente salto 172.16.3.1

¿Cuál es la dirección IP y el nombre del router sucesor en esta ruta?

172.16.3.1 R1 (Xavi).

¿Cuál es la distancia factible hacia la red en la que se encuentra PC1?

40514560

Examine la tabla de enrutamiento en R1.

```
     172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
D       172.16.0.0/16 is a summary, 00:42:59, Null0
C       172.16.1.0/24 is directly connected, FastEthernet0/0
D       172.16.2.0/24 [90/40514560] via 172.16.3.2, 00:43:00, Serial0/0/0
C       172.16.3.0/30 is directly connected, Serial0/0/0
D    192.168.1.0/24 [90/2172416] via 192.168.10.6, 00:42:26, Serial0/0/1
     192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
D       192.168.10.0/24 is a summary, 00:42:20, Null0
C       192.168.10.4/30 is directly connected, Serial0/0/1
D       192.168.10.8/30 [90/3523840] via 192.168.10.6, 00:42:20,
Serial0/0/1
R1#
```

¿Cuál es la distancia notificada hacia la red 192.168.1.0?

2172416

Utilice el comando ip eigrp topology para visualizar la tabla de topología EIGRP en R2.

```
R2#show ip eigrp topology
IP-EIGRP Topology Table for AS 1

Codes: P - Passive, a - Active, U - Update, Q - Query, R - I
       r - Reply status

P 172.16.2.0/24, 1 successors, FD is 28160
         via Connected, FastEthernet0/0
P 172.16.3.0/30, 1 successors, FD is 40512000
         via Connected, Serial0/0/0
P 192.168.10.8/30, 1 successors, FD is 3011840
         via Connected, Serial0/0/1
P 172.16.0.0/16, 1 successors, FD is 28160
         via Summary (28160/0), Null0
P 192.168.10.0/24, 1 successors, FD is 3011840
         via Summary (3011840/0), Null0
P 172.16.1.0/24, 1 successors, FD is 40514560
         via 172.16.3.1 (40514560/28160), Serial0/0/0
P 192.168.1.0/24, 1 successors, FD is 3014400
         via 192.168.10.10 (3014400/28160), Serial0/0/1
         via 172.16.3.1 (41026560/2172416), Serial0/0/0
P 192.168.10.4/30, 1 successors, FD is 3523840
         via 192.168.10.10 (3523840/2169856), Serial0/0/1
R2#
```

Visualice la información detallada de la topología EIRGP.

```
R2#show ip eigrp topology 192.168.1.0
IP-EIGRP (AS 1): Topology entry for 192.168.1.0/24
  State is Passive, Query origin flag is 1, 1 Successor(s), FD is 3014400
  Routing Descriptor Blocks:
  192.168.10.10 (Serial0/0/1), from 192.168.10.10, Send flag is 0x0
      Composite metric is (3014400/28160), Route is Internal
      Vector metric:
        Minimum bandwidth is 1024 Kbit
        Total delay is 20100 microseconds
        Reliability is 255/255
        Load is 1/255
        Minimum MTU is 1500
        Hop count is 1
  172.16.3.1 (Serial0/0/0), from 172.16.3.1, Send flag is 0x0
      Composite metric is (41026560/2172416), Route is Internal
      Vector metric:
        Minimum bandwidth is 64 Kbit
        Total delay is 40100 microseconds
        Reliability is 255/255
        Load is 1/255
        Minimum MTU is 1500
        Hop count is 2
R2#
```

¿Cuál es la distancia factible hacia la red 192.168.1.0?

3014400

¿R2 consideraría a R1 como un sucesor factible hacia la red 192.168.1.0?

NO

¿Cuántos sucesores hay para esta red?

1

¿Cuál es la distancia factible hacia esta red?

3014400

¿Cuál es la dirección IP del sucesor factible?

192.168.10.10

¿Cuál es la distancia notificada para 192.168.1.0 desde el sucesor factible?

28160

¿Cuál sería la distancia factible hacia 192.168.1.0 si R1 fuera el sucesor?

41026560

Examine la tabla de topología EIGRP en R3.

```
R3#show ip eigrp topology
IP-EIGRP Topology Table for AS 1

Codes: P - Passive, a - Active, U - Update, Q - Query, R - Reply,
       r - Reply status

P 192.168.1.0/24, 1 successors, FD is 28160
         via Connected, FastEthernet0/0
P 192.168.10.4/30, 1 successors, FD is 2169856
         via Connected, Serial0/0/0
P 192.168.10.0/24, 1 successors, FD is 2169856
         via Summary (2169856/0), Null0
P 172.16.0.0/16, 1 successors, FD is 2172416
         via 192.168.10.5 (2172416/28160), Serial0/0/0
         via 192.168.10.9 (3014400/28160), Serial0/0/1
P 192.168.10.8/30, 1 successors, FD is 3011840
         via Connected, Serial0/0/1
```

¿Por qué el router R1 (192.168.10.5) es el único sucesor para la ruta hacia la red 172.16.0.0/16?

Por qué el enlace de R1 y R3 tiene un ancho de banda mayor y por lo tanto una métrica menor.

Desactive el resumen automático en los tres routers con el comando no auto - summary.

```
Bienvenido a la materia de redes de computadora

banner motd

Xavi>enable
Password:
Xavi#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Xavi(config)#router eigrp 1
Xavi(config-router)#no auto-summary
Xavi(config-router)#end
Xavi#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Eduardo salazar irrizari unidad5
banner motd

Balotelli>enable
Password:
Balotelli#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Balotelli(config)#router eigrp 1
Balotelli(config-router)#no auto-summary
Balotelli(config-router)#end
Balotelli#
%SYS-5-CONFIG_I: Configured from console by console
```

```
redes de computadoras unidad5

banner motd

Puyol>enable
Password:
Password:
Puyol#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Puyol(config)#router eigrp 1
Puyol(config-router)#no auto-summary
Puyol(config-router)#end
Puyol#
%SYS-5-CONFIG_I: Configured from console by console
```

Agregue dos direcciones loopback, 192.168.2.1/24 y 192.168.3.1/24, al router R3.

```
Puyol>enable
Password:
Puyol#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Puyol(config)#interface loopback1

Puyol(config-if)#
%LINK-5-CHANGED: Interface Loopback1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up

Puyol(config-if)#ip address 192.168.2.1 255.255.255.0
Puyol(config-if)#interface loopback2

Puyol(config-if)#
%LINK-5-CHANGED: Interface Loopback2, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback2, changed state to up

Puyol(config-if)#ip address 192.168.3.1 255.255.255.0
Puyol(config-if)#end
```

Agregue las redes 192.168.2.0 y 192.168.3.0 a la configuración EIGRP en R3.

```
Puyol#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Puyol(config)#router eigrp 1
Puyol(config-router)#network 192.168.2.0
Puyol(config-router)#network 192.168.3.0
Puyol(config-router)#end
Puyol#
%SYS-5-CONFIG_I: Configured from console by console

Puyol#
```

Verifique las rutas nuevas.

```
     172.16.0.0/16 is variably subnetted, 4 subnets, 3 masks
C       172.16.1.0/24 is directly connected, FastEthernet0/0
D       172.16.2.0/24 [90/3526400] via 192.168.10.6, 00:15:07, Serial0/0/1
C       172.16.3.0/30 is directly connected, Serial0/0/0
D    192.168.1.0/24 [90/2172416] via 192.168.10.6, 00:15:07, Serial0/0/1
D    192.168.2.0/24 [90/2297856] via 192.168.10.6, 00:01:07, Serial0/0/1
D    192.168.3.0/24 [90/2297856] via 192.168.10.6, 00:00:57, Serial0/0/1
     192.168.10.0/24 is variably subnetted, 3 subnets, 2 masks
C       192.168.10.4/30 is directly connected, Serial0/0/1
D       192.168.10.8/30 [90/3523840] via 192.168.10.6, 00:15:07, Serial0/0/1
R1#
```

Configure una ruta estática por defecto en el router R2.

```
Balotelli(config)#ip route 10.1.1.1 255.255.255.252 loopback
% Incomplete command.
Balotelli(config)#ip route 10.1.1.1 255.255.255.252 loopback1
%Invalid interface type and number
Balotelli(config)#router eigrp 1
Balotelli(config-router)#redistribute static
Balotelli(config-router)#interface loopback 1

Balotelli(config-if)#
%LINK-5-CHANGED: Interface Loopback1, changed state to up

%LINEPROTO-5-UPDOWN: Line protocol on Interface Loopback1, changed state to up

Balotelli(config-if)#ip address 10.1.1.1 255.255.255.252
Balotelli(config-if)#end
```

Verifique la ruta estática por defecto.

```
R1#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, ia - IS-IS inter area
       * - candidate default, U - per-user static route, o - ODR
       P - periodic downloaded static route

Gateway of last resort is 192.168.10.6 to network 0.0.0.0

     172.16.0.0/16 is variably subnetted, 3 subnets, 2 masks
C       172.16.1.0/24 is directly connected, FastEthernet0/0
D       172.16.2.0/24 [90/3526400] via 192.168.10.6, 00:05:54, Serial0/0/1
C       172.16.3.0/30 is directly connected, Serial0/0/0
D    192.168.1.0/24 [90/2172416] via 192.168.10.6, 00:05:54, Serial0/0/1
D    192.168.2.0/24 [90/2297856] via 192.168.10.6, 00:05:54, Serial0/0/1
D    192.168.3.0/24 [90/2297856] via 192.168.10.6, 00:05:54, Serial0/0/1
     192.168.10.0/30 is subnetted, 2 subnets
C       192.168.10.4 is directly connected, Serial0/0/1
D       192.168.10.8 [90/3523840] via 192.168.10.6, 00:05:54, Serial0/0/1
D*EX 0.0.0.0/0 [170/48038400] via 192.168.10.6, 00:02:32, Serial0/0/1
R1#
```

CONCLUSIÓN

Básicamente puedo decir que en esta unidad nos enfocamos al protocolo EIGRP, en este caso la práctica trata de centrarno en ese protocolo, es decir, esto se va a lograr mediante algunos comandos, por tanto es necesario entrar al modo del protocolo EIGRP, además de que puedo decir que este protocolo es un protocolo sin clase que se puede utilizar para proporcionar información de máscara de subred en las actualizaciones de enrutamiento. Esto permitirá que se propague la información de red a través de la red de subred VLSM