INSTITUTO TECNOLOGICO DE SALINA CRUZ

REDES DE COMPUTADORAS

PRACTICA No.2.

UNIDAD 4.

REALIZADA POR: SANCHEZ SANTIAGO NOE

LUGAR Y FECHA: SALINA CRUZ OAXACA A 12 DE MAYO DE 2015.

DOCENTE: ROMÁN NÁJERA SUSANA MÓNICA.

SEMESTRE Y GRUPO: 6E.

CARRERA: ING. EN TECNOLOGÍAS DE LA INFORMACIÓN Y DE LAS COMUNICACIONES

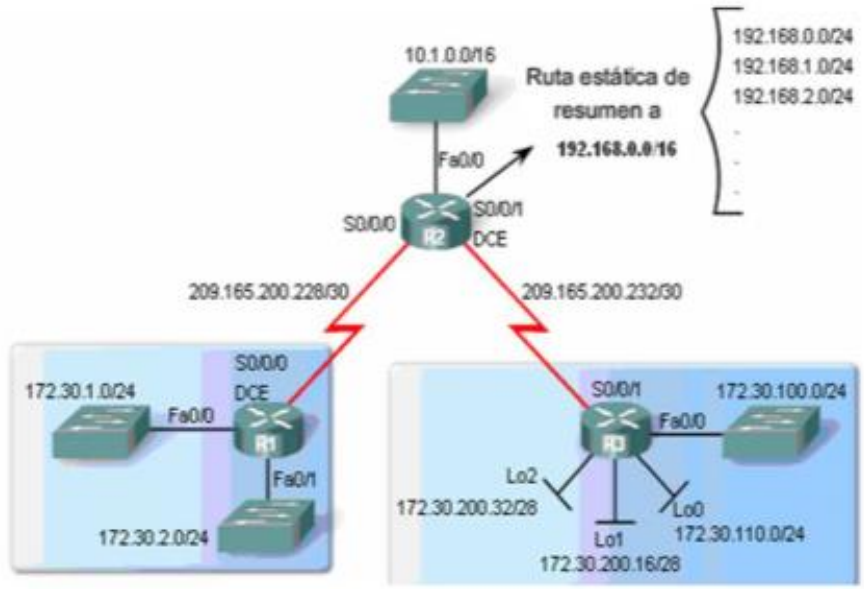
OBJETIVO: se plantea el enfoque en los conceptos protocolos de enrutamiento vector distancia, RIP, VLSM, CIDR y RIPver.2, se inicia con la configuración básica de RIP, direccionamiento con clase y sin clase, VLSM y actividad de resumen de rutas, terminando con configuración de ripV2.

INSTRUCCIONES: a partir de la topología mostrada realizar la tabla de enrutamiento y en base a ello realizar la configuración básica y configuración del protocolo RIP.

MATERIALES:

Software packet tracer.

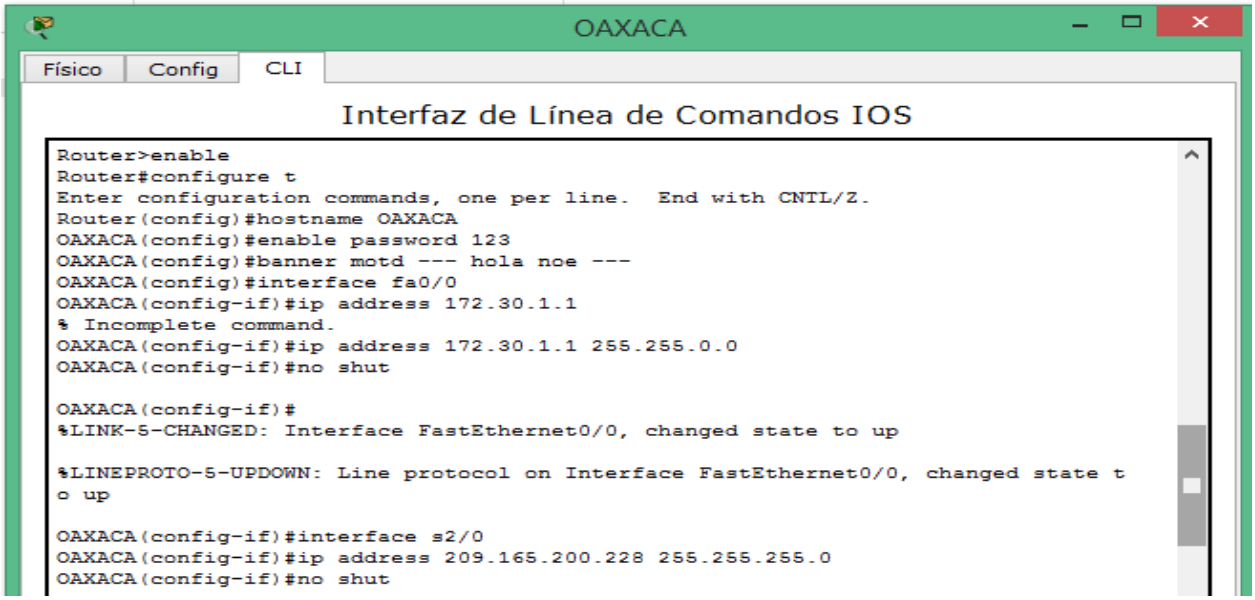
Computadora

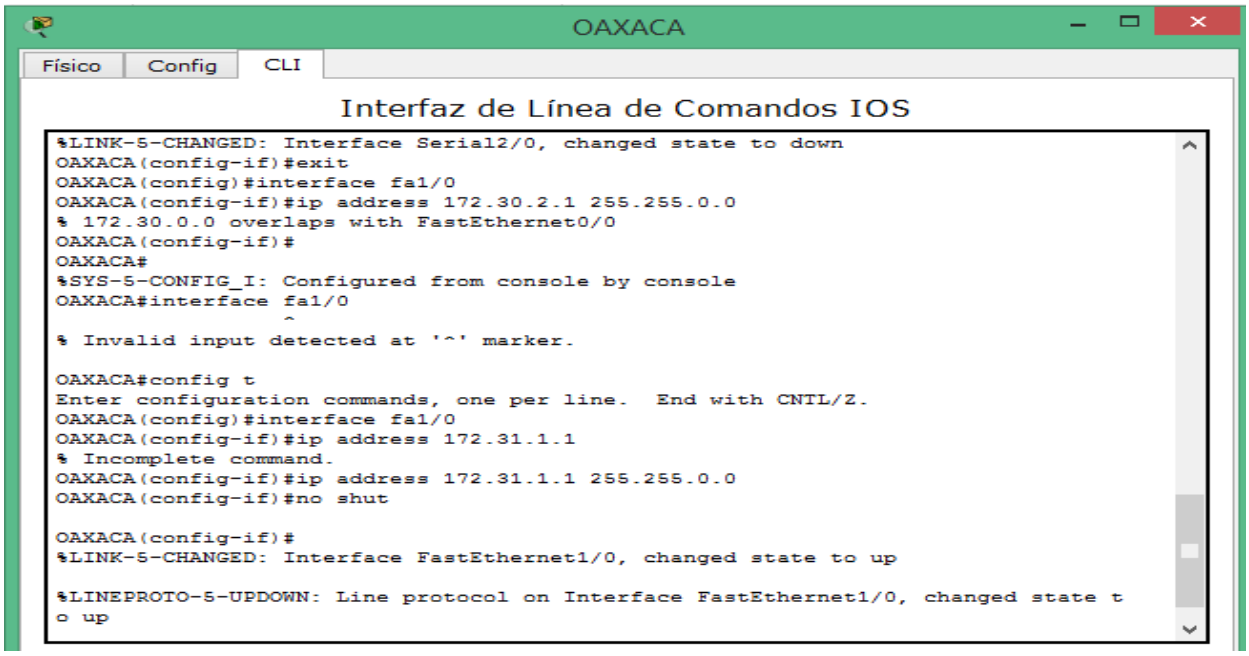


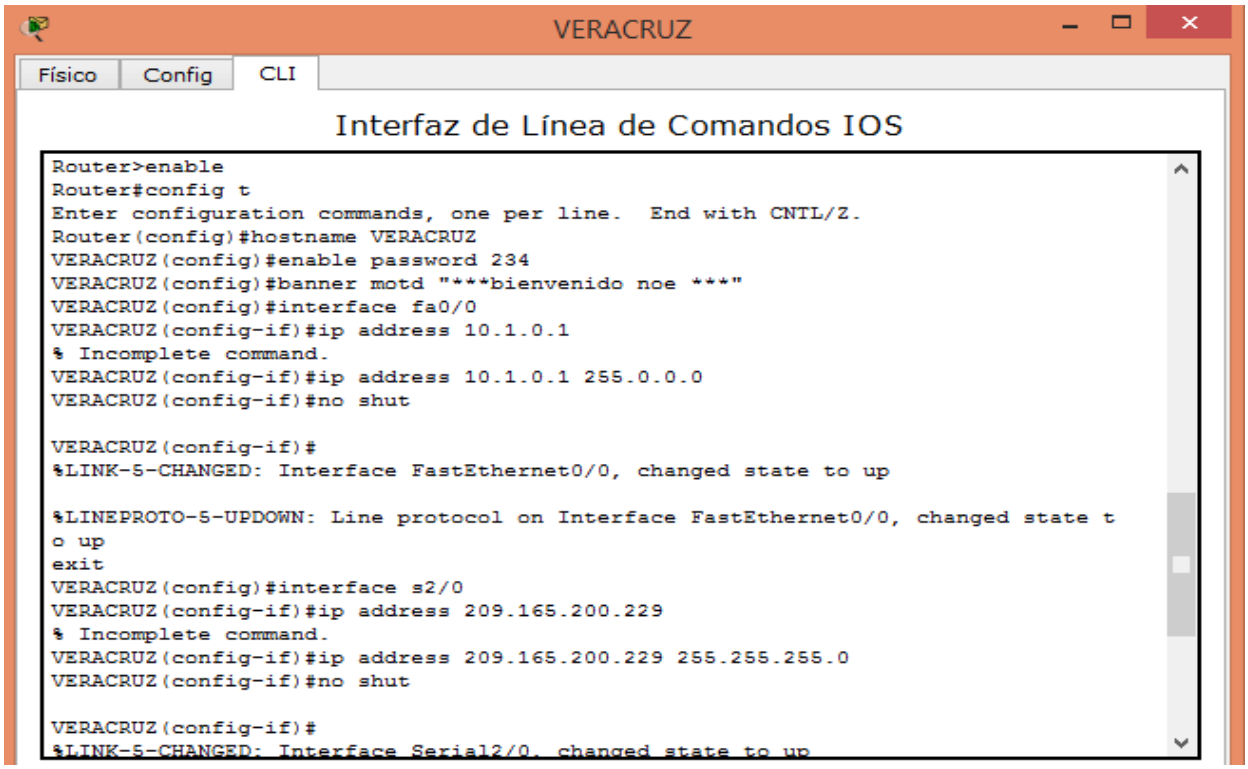
1.- creamos nuestra tabla de ruteo.

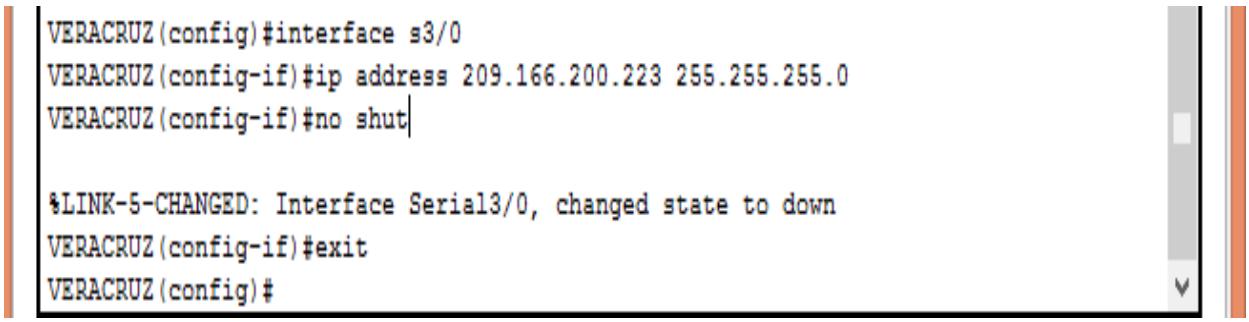
	INTERFAZ	DIRECCION IP	MASCARA DE SUBRED	GATEWAY POR DEFECTO
OAXACA	fa0/0	172.30.1.1	255.255.0.0	n/a
	Fa1/0	172.31.1.1	255.255.0.0	n/a
	S2/0	209.165.200.228	255.255.255.0	n/a
VERACRUZ	Fa0/0	10.1.0.1	255.0.0.0	n/a
	S2/0	209.165.200.229	255.255.255.0	n/a
	S3/0	209.166.200.233	255.255.255.0	n/a
PUEBLA	Fa0/0	172.30.100.1	255.255.0.0	n/a
	S2/0	209.165.200.232	255.255.255.0	n/a

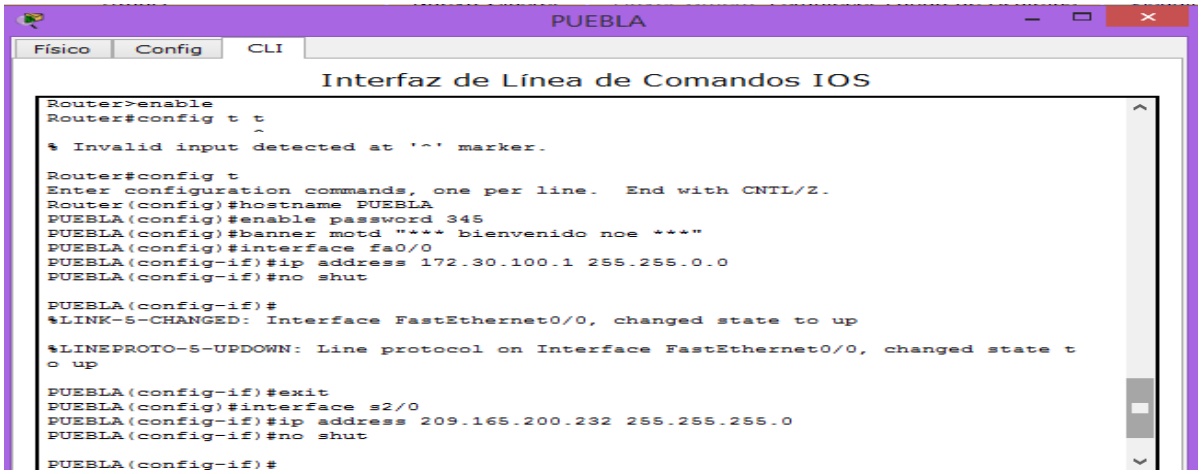
2.- Configuración básica de los routers.



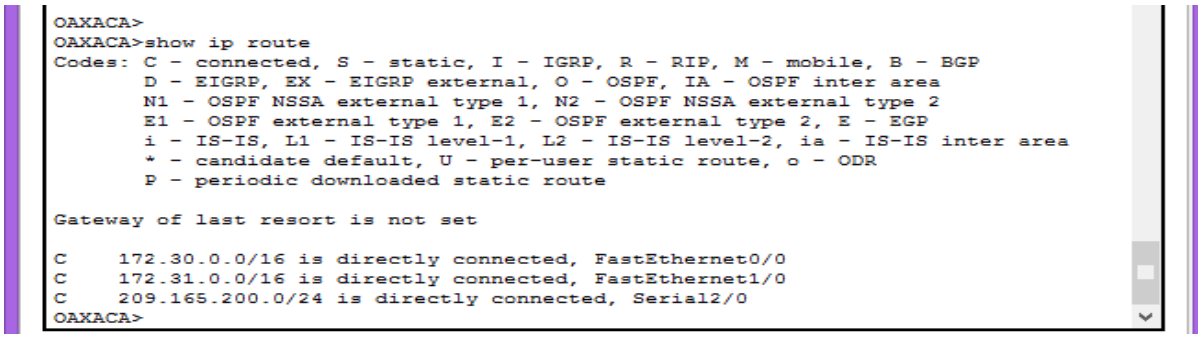

OAXACA
Físico
Config
CLI
Interfaz de Línea de Comandos IOS
%LINK-5-CHANGED: Interface Serial2/0, changed state to down
OAXACA(config-if)#exit
OAXACA(config)#interface fa1/0
OAXACA(config-if)#ip address 172.30.2.1 255.255.0.0
% 172.30.0.0 overlaps with FastEthernet0/0
OAXACA(config-if)#
OAXACA#
%SYS-5-CONFIG_I: Configured from console by console
OAXACA#interface fa1/0
^
% Invalid input detected at '^' marker.
OAXACA#config t
Enter configuration commands, one per line. End with CNTL/Z.
OAXACA(config)#interface fa1/0
OAXACA(config-if)#ip address 172.31.1.1
% Incomplete command.
OAXACA(config-if)#ip address 172.31.1.1 255.255.0.0
OAXACA(config-if)#no shut
OAXACA(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet1/0, changed state t
o up

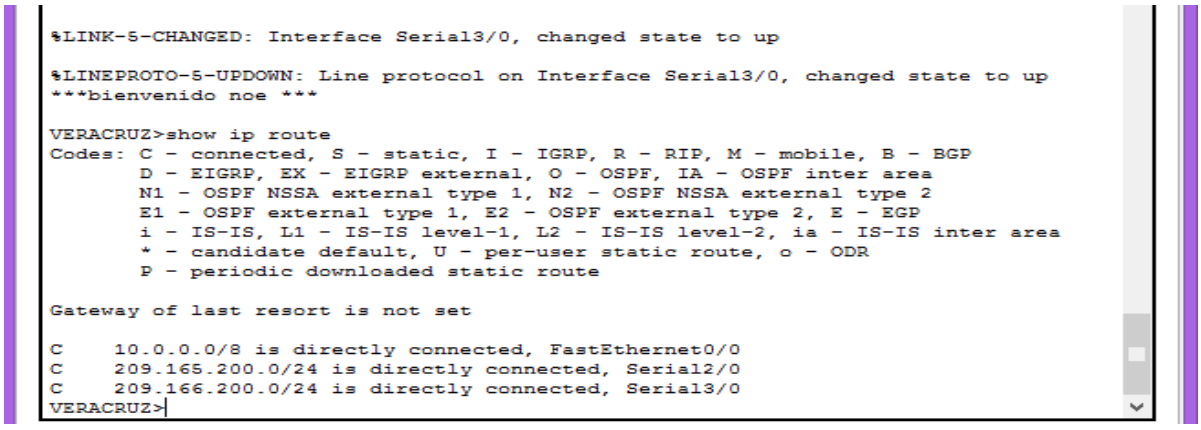

VERACRUZ
Físico
Config
CLI
Interfaz de Línea de Comandos IOS
Router>enable
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname VERACRUZ
VERACRUZ(config)#enable password 234
VERACRUZ(config)#banner motd "***bienvenido noe ***"
VERACRUZ(config)#interface fa0/0
VERACRUZ(config-if)#ip address 10.1.0.1
% Incomplete command.
VERACRUZ(config-if)#ip address 10.1.0.1 255.0.0.0
VERACRUZ(config-if)#no shut
VERACRUZ(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state t
o up
exit
VERACRUZ(config)#interface s2/0
VERACRUZ(config-if)#ip address 209.165.200.229
% Incomplete command.
VERACRUZ(config-if)#ip address 209.165.200.229 255.255.255.0
VERACRUZ(config-if)#no shut
VERACRUZ(config-if)#
%LINK-5-CHANGED: Interface Serial2/0, changed state to up

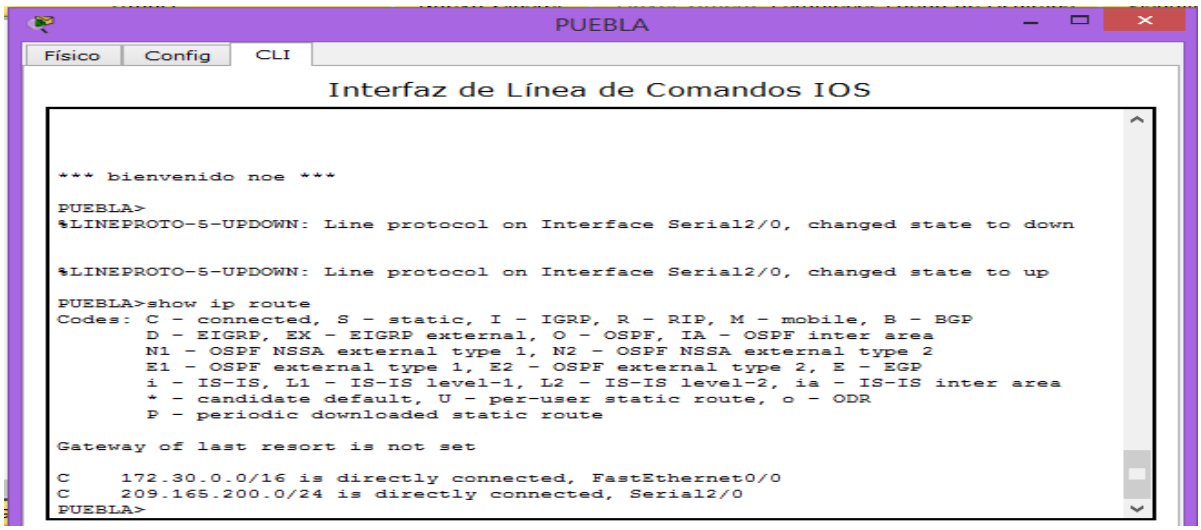

VERACRUZ(config)#interface s3/0
VERACRUZ(config-if)#ip address 209.166.200.223 255.255.255.0
VERACRUZ(config-if)#no shut
%LINK-5-CHANGED: Interface Serial3/0, changed state to down
VERACRUZ(config-if)#exit
VERACRUZ(config)#



3.- verificación de las ip que están conectadas a nuestro router con el comando show ip route.







4.- configuración del protocolo RIPv1

```
OAXACA>enable
Password:
OAXACA#config t
Enter configuration commands, one per line.  End with CNTL/Z.
OAXACA(config)#router rip
OAXACA(config-router)#network 172.30.0.0
OAXACA(config-router)#network 209.165.200.0
OAXACA(config-router)#end
OAXACA#
%SYS-5-CONFIG_I: Configured from console by console

OAXACA#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
OAXACA#
```

```
***bienvenido noe ***

VERACRUZ>enable
Password:
VERACRUZ#config t
Enter configuration commands, one per line.  End with CNTL/Z.
VERACRUZ(config)#router rip
VERACRUZ(config-router)#exit
VERACRUZ(config)#ip route 192.168.0.0 255.255.255.0
% Incomplete command.
VERACRUZ(config)#ip route 192.168.0.0 255.255.255.0 null0
VERACRUZ(config)#router rip
VERACRUZ(config-router)#redistribute static
VERACRUZ(config-router)#network
% Incomplete command.
VERACRUZ(config-router)#network 10.0.0.0
VERACRUZ(config-router)#network 209.265.200.0
                                ^
% Invalid input detected at '^' marker.

VERACRUZ(config-router)#network 209.165.200.0
VERACRUZ(config-router)#
```

```
VERACRUZ(config-router)#end
VERACRUZ#
%SYS-5-CONFIG_I: Configured from console by console

VERACRUZ#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
VERACRUZ#
```

```
*** bienvenido noe ***

PUEBLA>enable
Password:
PUEBLA#config t
Enter configuration commands, one per line.  End with CNTL/Z.
PUEBLA(config)#router rip
PUEBLA(config-router)#network 172.30.0.0
PUEBLA(config-router)#network 209.165.200
                              ^
% Invalid input detected at '^' marker.

PUEBLA(config-router)#network 209.165.200.0
PUEBLA(config-router)#end
PUEBLA#
%SYS-5-CONFIG_I: Configured from console by console

PUEBLA#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
PUEBLA#
```

5.- verificación y prueba la conectividad.

```
PUEBLA>show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol

FastEthernet0/0        172.30.100.1    YES manual up                    up

FastEthernet1/0        unassigned      YES unset  administratively down down

Serial2/0              209.165.200.232 YES manual up                    up

Serial3/0              unassigned      YES unset  administratively down down

FastEthernet4/0        unassigned      YES unset  administratively down down

FastEthernet5/0        unassigned      YES unset  administratively down down

Modem6/0               unassigned      YES unset  administratively down down

Modem7/0               unassigned      YES unset  administratively down down

Modem8/0               unassigned      YES unset  administratively down down

Modem9/0               unassigned      YES unset  administratively down down
PUEBLA>
```

6.- Análisis de las tablas de enrutamiento con debug ip rip.

```
PUEBLA>enable
Password:
PUEBLA#debug ip rip
RIP protocol debugging is on
PUEBLA#RIP: sending  v1 update to 255.255.255.255 via FastEthernet0/0 (172.30.10
0.1)
RIP: build update entries
      network 209.165.200.0 metric 1
RIP: sending  v1 update to 255.255.255.255 via Serial2/0 (209.165.200.232)
RIP: build update entries
      network 172.30.0.0 metric 1

PUEBLA#RIP: sending  v1 update to 255.255.255.255 via FastEthernet0/0 (172.30.10
0.1)
RIP: build update entries
      network 209.165.200.0 metric 1
RIP: sending  v1 update to 255.255.255.255 via Serial2/0 (209.165.200.232)
RIP: build update entries
      network 172.30.0.0 metric 1
RIP: sending  v1 update to 255.255.255.255 via FastEthernet0/0 (172.30.100.1)
RIP: build update entries
```

7.- mostrar el protocolo configurado

```
*** bienvenido noe ***

PUEBLA>show ip protocol
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 14 seconds
Invalid after 180 seconds, hold down 180, flushed after 240
Outgoing update filter list for all interfaces is not set
Incoming update filter list for all interfaces is not set
Redistributing: rip
Default version control: send version 1, receive any version
  Interface              Send  Recv  Triggered RIP  Key-chain
  FastEthernet0/0        1     2 1
  Serial2/0              1     2 1
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
        172.30.0.0
        209.165.200.0
Passive Interface(s):
Routing Information Sources:
        Gateway         Distance      Last Update
Distance: (default is 120)
PUEBLA>
```

Conclusión:

En esta práctica partimos de la creación de nuestra tabla de enrutamiento en base a la topología mostrada en la imagen que se nos proporcionó para esta práctica, posteriormente realizamos la configuración básica de cada uno de los routers como siguiente paso configuramos el protocolo RIPv1 ya para finalizar verificamos las interfaces habilitadas y visualizamos el protocolo configurado con el uso de “show ip protocol”.