VANIER
CÉGEP / COLLEGE

Advanced Networks (420-521-VA)

Group Project

Project-B Network Simulation-VLANS- Routing

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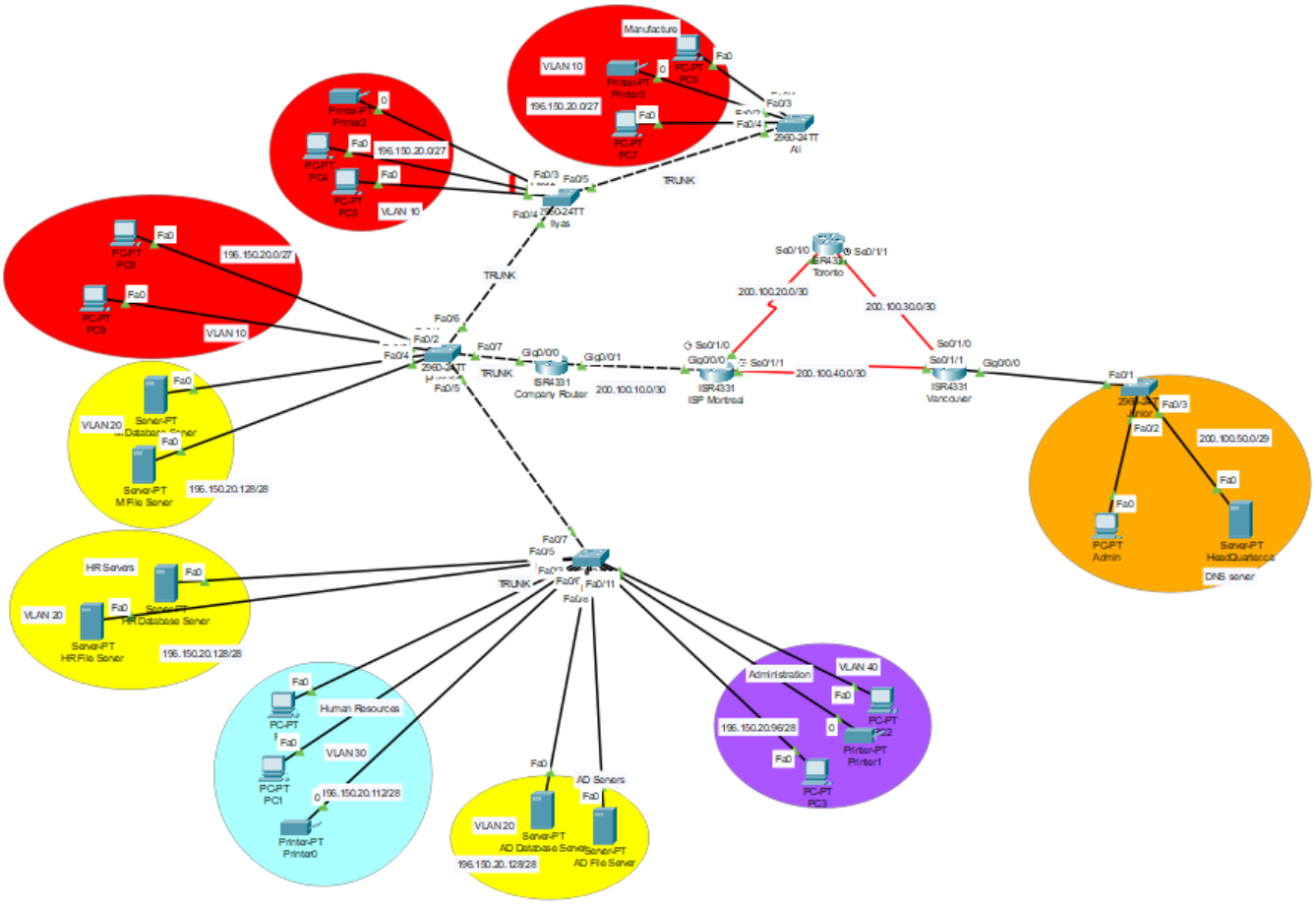
Due Date: Thursday, November 28, 2024

Requirements

1,2,3,4:



5.

```
Router>enable
Router#congfigure terminal
                  ^
% Invalid input detected at '^' marker.

Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#line console 0
Router(config-line)#password 123
Router(config-line)#login
Router(config-line)#exit
Router(config)#enable secret 123
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#write memory
Building configuration...
[OK]
Router#exit
```

```
User Access Verification

Password:

Router>enable
Password:
Router#
```

6.

```
User Access Verification

Password:

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

Router#enable
Router#configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#banner motd #
Enter TEXT message.  End with the character '#'.
Welcome to the Company Router !
Managed by Team Members:
Ali, Hussain, Junior
Unautthorized access is prohibited
#

Router(config)#exit
Router#
```

```
Welcome to the Company Router !
Managed by Team Members:
Ali, Hussain, Junior
Unautthorized access is prohibited


User Access Verification

Password:

Router>enable
Password:
Router#
```

7.

```
Ali#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                                Gig0/1, Gig0/2
10   Manufacture                      active    Fa0/1, Fa0/2, Fa0/3
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Ali#
```

```
Ilyas#show vlan brief

VLAN Name                             Status    Ports
---- -------------------------------- --------- -------------------------------
1    default                          active    Fa0/6, Fa0/7, Fa0/8, Fa0/9
                                                Fa0/10, Fa0/11, Fa0/12, Fa0/13
                                                Fa0/14, Fa0/15, Fa0/16, Fa0/17
                                                Fa0/18, Fa0/19, Fa0/20, Fa0/21
                                                Fa0/22, Fa0/23, Fa0/24, Gig0/1
                                                Gig0/2
10   Manufacture                      active    Fa0/1, Fa0/2, Fa0/3
1002 fddi-default                     active
1003 token-ring-default               active
1004 fddinet-default                  active
1005 trnet-default                    active
Ilyas#
```

```
Hussain#show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/8, Fa0/9, Fa0/10, Fa0/11
                                                 Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                 Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                 Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                 Fa0/24, Gig0/1, Gig0/2
10   Manufacture                       active    Fa0/1, Fa0/2
20   Servers                           active    Fa0/3, Fa0/4
30   HumanResouces                     active
40   Administation                     active
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Hussain#
```

```
Amin#show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                 Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                 Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                 Fa0/24, Gig0/1, Gig0/2
10   Manufacture                       active
20   Servers                           active    Fa0/4, Fa0/5, Fa0/6, Fa0/8
30   HumanResources                    active    Fa0/1, Fa0/2, Fa0/3
40   Administration                    active    Fa0/9, Fa0/10, Fa0/11
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Amin#
```

8. Assigned all the IPs for all routers in packet tracker (pkt file in the submission)

9.

```
CompanyRouter(config)#router rip
CompanyRouter(config-router)#network 200.100.10.0
CompanyRouter(config-router)#version 2
CompanyRouter(config-router)#
```

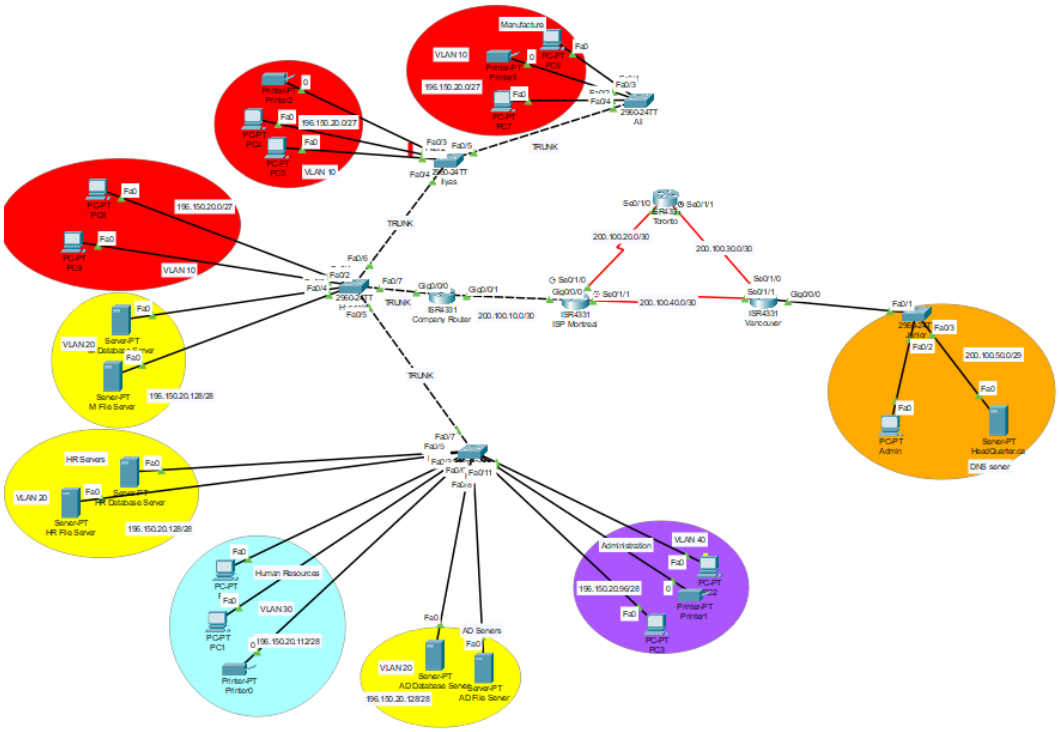
```
Montreal(config)#router rip
Montreal(config-router)#network 200.100.10.0
Montreal(config-router)#network 200.100.20.0
Montreal(config-router)#network 200.100.40.0
Montreal(config-router)#version 2
Montreal(config-router)#
```

```
Toronto(config)#router rip
Toronto(config-router)#network 200.100.20.0
Toronto(config-router)#network 200.100.40.0
Toronto(config-router)#no network 200.100.40.0
Toronto(config-router)#network 200.100.30.0
Toronto(config-router)#version 2
Toronto(config-router)#
```

```
Vancouver(config)#router rip
Vancouver(config-router)#network 200.100.40.0
Vancouver(config-router)#network 200.100.30.0
Vancouver(config-router)#version 2
Vancouver(config-router)#
```

```
Vancouver(config)#router rip
Vancouver(config-router)#network 200.100.50.0
Vancouver(config-router)#version 2
Vancouver(config-router)#
```

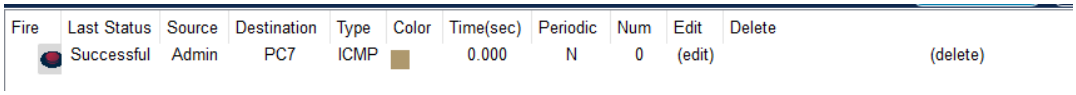
10.



11.

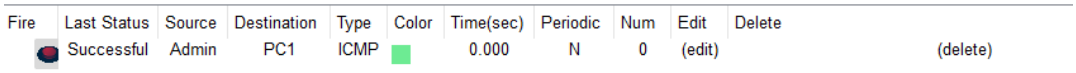
Admin -> departments PCs

Manufacture:



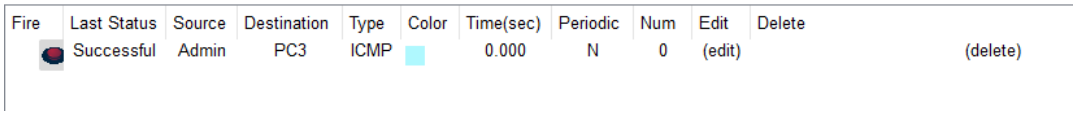
Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	Admin	PC7	ICMP		0.000	N	0	(edit)	(delete)

Human Resources:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	Admin	PC1	ICMP		0.000	N	0	(edit)	(delete)

Administration:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	Admin	PC3	ICMP		0.000	N	0	(edit)	(delete)

Departments PCs-> company servers

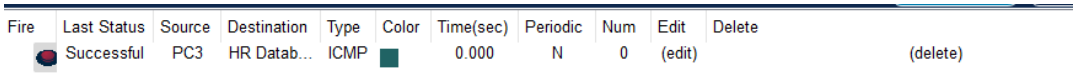
Manufacture:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC8	M Databa...	ICMP		0.000	N	0	(edit)	(delete)

Human Resources:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	M Databa...	ICMP		0.000	N	0	(edit)	(delete)

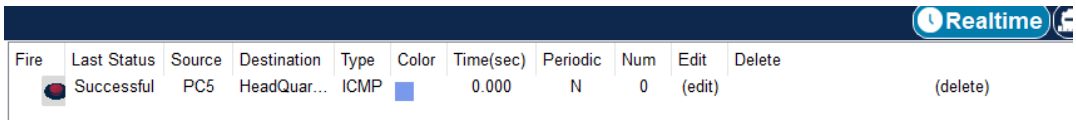
Administration:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC3	HR Datab...	ICMP		0.000	N	0	(edit)	(delete)

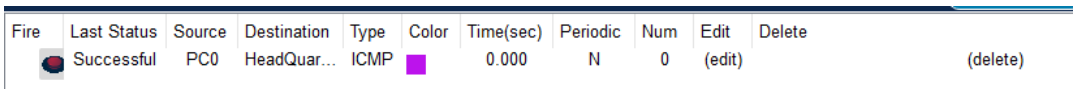
Departments PCs-> HeadQuarters.ca

Manufacture:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC5	HeadQuar...	ICMP		0.000	N	0	(edit)	(delete)

Human Resources:



Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC0	HeadQuar...	ICMP		0.000	N	0	(edit)	(delete)

Administration:

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	PC2	HeadQuar...	ICMP		0.000	N	0	(edit)	(delete)

Troubleshooting the network:

Steps:

1. #do show vlan brief (under the switch (1,2) global configuration mode)
    a. Switch 1

```
Ali>enable
Ali#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Ali(config)#do show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/5, Fa0/6, Fa0/7, Fa0/8
                                                 Fa0/9, Fa0/10, Fa0/11, Fa0/12
                                                 Fa0/13, Fa0/14, Fa0/15, Fa0/16
                                                 Fa0/17, Fa0/18, Fa0/19, Fa0/20
                                                 Fa0/21, Fa0/22, Fa0/23, Fa0/24
                                                 Gig0/1, Gig0/2
10   Manufacture                       active    Fa0/1, Fa0/2, Fa0/3
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Ali(config)#
```

    b. Switch 2

```
Amin>enable
Amin#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
Amin(config)#do show vlan brief

VLAN Name                              Status    Ports
---- --------------------------------- --------- -------------------------------
1    default                           active    Fa0/12, Fa0/13, Fa0/14, Fa0/15
                                                 Fa0/16, Fa0/17, Fa0/18, Fa0/19
                                                 Fa0/20, Fa0/21, Fa0/22, Fa0/23
                                                 Fa0/24, Gig0/1, Gig0/2
10   Manufacture                       active
20   Servers                           active    Fa0/4, Fa0/5, Fa0/6, Fa0/8
30   HumanResources                    active    Fa0/1, Fa0/2, Fa0/3
40   Administration                    active    Fa0/9, Fa0/10, Fa0/11
1002 fddi-default                      active
1003 token-ring-default                active
1004 fddinet-default                   active
1005 trnet-default                     active
Amin(config)#
```

2. #do show ip interface brief (switch(1,2)/router)

a. Switch 1

```
Ali(config)#do show ip interface brief
Interface              IP-Address      OK? Method Status                Protoc
FastEthernet0/1        unassigned      YES manual up                    up
FastEthernet0/2        unassigned      YES manual up                    up
FastEthernet0/3        unassigned      YES manual up                    up
FastEthernet0/4        unassigned      YES manual up                    up
FastEthernet0/5        unassigned      YES manual down                  down
FastEthernet0/6        unassigned      YES manual down                  down
FastEthernet0/7        unassigned      YES manual down                  down
FastEthernet0/8        unassigned      YES manual down                  down
FastEthernet0/9        unassigned      YES manual down                  down
FastEthernet0/10       unassigned      YES manual down                  down
FastEthernet0/11       unassigned      YES manual down                  down
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual down                  down
GigabitEthernet0/2     unassigned      YES manual down                  down
Vlan1                  unassigned      YES manual administratively down down
Ali(config)#
Ali(config)#
```

b. Switch 2

```
Amin(config)#do show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
FastEthernet0/1        unassigned      YES manual up                    up
FastEthernet0/2        unassigned      YES manual up                    up
FastEthernet0/3        unassigned      YES manual up                    up
FastEthernet0/4        unassigned      YES manual up                    up
FastEthernet0/5        unassigned      YES manual up                    up
FastEthernet0/6        unassigned      YES manual up                    up
FastEthernet0/7        unassigned      YES manual up                    up
FastEthernet0/8        unassigned      YES manual up                    up
FastEthernet0/9        unassigned      YES manual up                    up
FastEthernet0/10       unassigned      YES manual up                    up
FastEthernet0/11       unassigned      YES manual up                    up
FastEthernet0/12       unassigned      YES manual down                  down
FastEthernet0/13       unassigned      YES manual down                  down
FastEthernet0/14       unassigned      YES manual down                  down
FastEthernet0/15       unassigned      YES manual down                  down
FastEthernet0/16       unassigned      YES manual down                  down
FastEthernet0/17       unassigned      YES manual down                  down
FastEthernet0/18       unassigned      YES manual down                  down
FastEthernet0/19       unassigned      YES manual down                  down
FastEthernet0/20       unassigned      YES manual down                  down
FastEthernet0/21       unassigned      YES manual down                  down
FastEthernet0/22       unassigned      YES manual down                  down
FastEthernet0/23       unassigned      YES manual down                  down
FastEthernet0/24       unassigned      YES manual down                  down
GigabitEthernet0/1     unassigned      YES manual down                  down
GigabitEthernet0/2     unassigned      YES manual down                  down
Vlan1                  unassigned      YES manual administratively down down
```

c. Router

```
Welcome to the Company Router !
Managed by Team Members:
Ali, Hussain, Junior
Unautthorized access is prohibited


User Access Verification

Password:

CompanyRouter>enable
Password:
CompanyRouter#conf t
Enter configuration commands, one per line.  End with CNTL/Z.
CompanyRouter(config)#do show ip interface brief
Interface              IP-Address      OK? Method Status                Protocol
GigabitEthernet0/0/0   unassigned      YES unset  up                    up
GigabitEthernet0/0/0.10196.150.20.1    YES manual up                    up
GigabitEthernet0/0/0.20196.150.20.129  YES manual up                    up
GigabitEthernet0/0/0.30196.150.20.113  YES manual up                    up
GigabitEthernet0/0/0.40196.150.20.97   YES manual up                    up
GigabitEthernet0/0/1   200.100.10.2    YES manual up                    up
GigabitEthernet0/0/2   unassigned      YES unset  administratively down down
Vlan1                  unassigned      YES unset  administratively down down
CompanyRouter(config)#
```

3. #do show int trunk (switch1,2)
   a. Switch 1

```
Ali(config)#do show int trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/4       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/4       1-1005

Port        Vlans allowed and active in management domain
Fa0/4       1,10

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/4       1,10

Ali(config)#
```

   b. Switch 2

```
Amin(config)#do show int trunk
Port        Mode         Encapsulation  Status        Native vlan
Fa0/7       on           802.1q         trunking      1

Port        Vlans allowed on trunk
Fa0/7       1-1005

Port        Vlans allowed and active in management domain
Fa0/7       1,10,20,30,40

Port        Vlans in spanning tree forwarding state and not pruned
Fa0/7       1,10,20,30,40

Amin(config)#
```

4. #do show ip route (router)

```
CompanyRouter(config)#do show ip route
Codes: L - local, C - connected, S - static, 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

     196.150.20.0/24 is variably subnetted, 8 subnets, 3 masks
C       196.150.20.0/27 is directly connected, GigabitEthernet0/0/0.10
L       196.150.20.1/32 is directly connected, GigabitEthernet0/0/0.10
C       196.150.20.96/28 is directly connected, GigabitEthernet0/0/0.40
L       196.150.20.97/32 is directly connected, GigabitEthernet0/0/0.40
C       196.150.20.112/28 is directly connected, GigabitEthernet0/0/0.30
L       196.150.20.113/32 is directly connected, GigabitEthernet0/0/0.30
C       196.150.20.128/28 is directly connected, GigabitEthernet0/0/0.20
L       196.150.20.129/32 is directly connected, GigabitEthernet0/0/0.20
     200.100.10.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.100.10.0/30 is directly connected, GigabitEthernet0/0/1
L       200.100.10.2/32 is directly connected, GigabitEthernet0/0/1
R    200.100.20.0/24 [120/1] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.30.0/24 [120/2] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.40.0/24 [120/1] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.50.0/24 [120/2] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1

CompanyRouter(config)#
```

5. #sh ip protocols

```
CompanyRouter#sh ip protocols
Routing Protocol is "rip"
Sending updates every 30 seconds, next due in 0 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 2, receive 2
  Interface             Send  Recv  Triggered RIP  Key-chain
  GigabitEthernet0/0/0.1022
  GigabitEthernet0/0/0.2022
  GigabitEthernet0/0/0.3022
  GigabitEthernet0/0/0.4022
  GigabitEthernet0/0/1  22
Automatic network summarization is in effect
Maximum path: 4
Routing for Networks:
          196.150.20.0
          200.100.10.0
Passive Interface(s):
Routing Information Sources:
          Gateway         Distance      Last Update
          200.100.10.1         120      00:00:05
Distance: (default is 120)
CompanyRouter#
```

6. #sh ip route

```
CompanyRouter#sh ip route
Codes: L - local, C - connected, S - static, 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

     196.150.20.0/24 is variably subnetted, 8 subnets, 3 masks
C       196.150.20.0/27 is directly connected, GigabitEthernet0/0/0.10
L       196.150.20.1/32 is directly connected, GigabitEthernet0/0/0.10
C       196.150.20.96/28 is directly connected, GigabitEthernet0/0/0.40
L       196.150.20.97/32 is directly connected, GigabitEthernet0/0/0.40
C       196.150.20.112/28 is directly connected, GigabitEthernet0/0/0.30
L       196.150.20.113/32 is directly connected, GigabitEthernet0/0/0.30
C       196.150.20.128/28 is directly connected, GigabitEthernet0/0/0.20
L       196.150.20.129/32 is directly connected, GigabitEthernet0/0/0.20
     200.100.10.0/24 is variably subnetted, 2 subnets, 2 masks
C       200.100.10.0/30 is directly connected, GigabitEthernet0/0/1
L       200.100.10.2/32 is directly connected, GigabitEthernet0/0/1
R    200.100.20.0/24 [120/1] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.30.0/24 [120/2] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.40.0/24 [120/1] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1
R    200.100.50.0/24 [120/2] via 200.100.10.1, 00:00:05, GigabitEthernet0/0/1

CompanyRouter#
```