

CSE 421 Lap Project

Topic 8 (Unknown)

Section- 8

Group 803

Himel Banik

19101633

Mahdi Uddin Ahmed

20301469

SM Minoor Karim

21101111

IP Assignment Table

Domains	Interface	IP Configuration	Subnet Mask
Headquarter	FastEthernet0/0	192.168.16.1	255.255.248.0
	Serial0/0/0	192.168.28.77	255.255.255.252
	Serial0/0/1	192.168.28.69	255.255.255.252
	Serial0/1/0	192.168.28.65	255.255.255.252
	Serial0/1/1	192.168.28.74	255.255.255.252
Intelligence	FastEthernet0/0	192.168.24.1	255.255.252.0
	Serial0/0/0	192.168.28.82	255.255.255.252
	Serial0/0/1	192.168.28.90	255.255.255.252
	Serial0/1/0	192.168.28.66	255.255.255.252
	Serial0/1/1	192.168.28.86	255.255.255.252
Mercenary	FastEthernet0/0	192.168.28.1	255.255.255.224
	Serial0/0/0	192.168.28.97	255.255.255.252
	Serial0/0/1	192.168.28.70	255.255.255.252
	Serial0/1/0	192.168.28.92	255.255.255.252
	Serial0/1/1	192.168.28.81	255.255.255.252
Undertaking	FastEthernet0/0	192.168.28.33	255.255.255.224
	Serial0/0/0	192.168.28.98	255.255.255.252
	Serial0/0/1	192.168.28.102	255.255.255.252
	Serial0/1/0	192.168.28.89	255.255.255.252
	Serial0/1/1	192.168.28.73	255.255.255.252
Lobby	FastEthernet0/0	192.168.0.1	255.255.240.0
	Serial0/0/0	192.168.28.78	255.255.255.252
	Serial0/0/1	192.168.28.101	255.255.255.252
	Serial0/1/0	192.168.28.93	255.255.255.252
	Serial0/1/1	192.168.28.85	255.255.255.252
DHCP	FastEthernet0/0	192.168.16.2	255.255.248.0
DNS	FastEthernet0/0	192.168.16.3	255.255.248.0
HQ Email Server	FastEthernet0/0	192.168.16.4	255.255.248.0
Intelligence Email Server	FastEthernet0/0	192.168.24.4	255.255.252.0
Undertaking Web Server	FastEthernet0/0	192.168.28.35	255.255.255.224
Mercenary Web Server	FastEthernet0/0	192.168.28.3	255.255.255.224

VLSM table

Subnet Name	Needed Size	Allocated Size	Address	Mask	Dec Mask	Assignable Range	Broadcast
L	3200	4094	192.168.0.0	/20	255.255.240.0	192.168.0.1 - 192.168.15.254	192.168.15.255
H	1432	2046	192.168.16.0	/21	255.255.248.0	192.168.16.1 - 192.168.23.254	192.168.23.255
I	520	1022	192.168.24.0	/22	255.255.252.0	192.168.24.1 - 192.168.27.254	192.168.27.255
M	20	30	192.168.28.0	/27	255.255.255.224	192.168.28.1 - 192.168.28.30	192.168.28.31
U	20	30	192.168.28.32	/27	255.255.255.224	192.168.28.33 - 192.168.28.62	192.168.28.63

Route	HQ	Other	Port HQ	Port Other	Mask
H-I	192.168.28.65 255.255.255.252	192.168.28.66 255.255.255.252	s0/1/0	s0/1/0	/30
H-M	192.168.28.69 255.255.255.252	192.168.28.70 255.255.255.252	s0/0/1	s0/0/1	/30
H-U	192.168.28.74 255.255.255.252	192.168.28.73 255.255.255.252	s0/1/1	s0/1/1	/30
H-L	192.168.28.77 255.255.255.252	192.168.28.78 255.255.255.252	s0/0/0	s0/0/0	/30
Intelligence to other Routers					
I- other	Other	Intelligence	Other	Intelligence Port	/30
M-I	192.168.28.81 255.255.255.252	192.168.28.82 255.255.255.252	s0/1/1	s0/0/0	/30
L-I	192.168.28.85 255.255.255.252	192.168.28.86 255.255.255.252	s0/1/1	s0/1/1	/30

U-I	192.168.28.89 255.255.255.252	192.168.28.90 255.255.255.252	s01/0	s0/0/1	/30
Mercenary to all Routers					
	Mercenary		Mercenary	Other	
M-L	192.168.28.92 255.255.255.252	192.168.28.93 255.255.255.252	s0/1/0	s0/1/0	/30
M-U	192.168.28.97 255.255.255.252	192.168.28.98 255.255.255.252	s0/0/0	s0/0/0	/30
Lobby to Undertaker					
L-U	192.168.28.101 255.255.255.252	192.168.28.102 255.255.255.252	s0/0/1	s0/0/1	/30

DHCP Addressing

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User
Undertaker	192.168.28.3 3	192.168.16.3	192.168.28.38	255.255.255.224	32
Lobby	192.168.0.1	192.168.16.3	192.168.0.8	255.255.240.0	4096
Mercenary	192.168.28.1	192.168.16.3	192.168.28.8	255.255.255.224	32
Intelligence	192.168.24.1	192.168.16.3	192.168.24.6	255.255.252.0	1024
HQ	192.168.16.1	192.168.16.3	192.168.16.5	255.255.248.0	2048

ASSUMPTIONS:

1. All other paths will be redirected dynamically, with no default routes.
2. For IP address assignment, we used 192.168.0.0/10 as the network address. (Level 0 Network)
3. The IP addresses required for routers and interfaces are not included in the population count of each domain. Additional IP addresses will be excluded for DHCP leasing.

CONFIGURATIONS COMMAND

##HQ

```
Router>enable
Router#
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.16.1 255.255.248.0
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.77 255.255.255.252
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.69 255.255.255.252
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#ip address 192.168.28.65 255.255.255.252
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config)#ip route 192.168.24.0 255.255.252.0 192.168.28.66
Router(config)#ip route 192.168.0.0 255.255.240.0 192.168.28.78
Router(config)#ip route 192.168.28.0 255.255.255.224 192.168.28.70
Router(config)#ip route 192.168.28.32 255.255.255.224 192.168.28.73
```

##Intelligence

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.24.1 255.255.252.0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.82 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
ip address 192.168.28.90 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.66 255.255.255.252
Router(config-if)#shutdown
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
ip address 192.168.28.86 255.255.255.252
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.65
Router(config)#
```

##Mercenary

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.28.1 255.255.255.224
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.97 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.70 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.92 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 192.168.28.81 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.69
Router(config)#
```

##Undertaking

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up
ip address 192.168.28.33 255.255.255.224
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.98 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.102 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.89 255.255.255.252
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 192.168.28.73 255.255.255.252
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.74
Router(config)#
```


##Lobby

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.0.1 255.255.240.0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.78 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.101 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.93 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
ip address 192.168.28.85 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.77
Router(config)#
```

For all Routers :

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int Fa0/0
Router(config-if)# ip helper-address 192.168.16.2
```

RIP

Intelligence:

```
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.24.0
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
ip address 192.168.28.82 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Mercenary:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Undertaking:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Lobby:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.28.0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route rip
  192.168.28.0/30 is subnetted, 10 subnets
R    192.168.28.64 [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
R    192.168.28.68 [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
R    192.168.28.72 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
```

```
R    192.168.28.80 [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
      [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
R    192.168.28.88 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
      [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
R    192.168.28.96 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
      [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
```

Configuration Commands

##HQ

```
Router>enable
Router#
Router#configure terminal
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.16.1 255.255.248.0
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.77 255.255.255.252
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.69 255.255.255.252
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#
Router(config-if)#ip address 192.168.28.65 255.255.255.252
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
```

```
Router(config-if)#
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config)#ip route 192.168.24.0 255.255.252.0 192.168.28.66
Router(config)#ip route 192.168.0.0 255.255.240.0 192.168.28.78
Router(config)#ip route 192.168.28.0 255.255.255.224 192.168.28.70
Router(config)#ip route 192.168.28.32 255.255.255.224 192.168.28.73
```

##Intelligence

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.24.1 255.255.252.0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.82 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
ip address 192.168.28.90 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.66 255.255.255.252
Router(config-if)#shutdown
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
ip address 192.168.28.86 255.255.255.252
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.65
Router(config)#
```

##Mercenary

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.28.1 255.255.255.224
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.97 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.70 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.92 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 192.168.28.81 255.255.255.252
Router(config-if)#shutdown
```

```
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.69
Router(config)#
```

##Undertaking

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/1, changed state to up
ip address 192.168.28.33 255.255.255.224
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.98 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.102 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.89 255.255.255.252
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 192.168.28.73 255.255.255.252
```

```
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.74
Router(config)#
```

##Lobby

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 192.168.0.1 255.255.240.0
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 192.168.28.78 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
Router(config)#interface Serial0/0/1
Router(config-if)#ip address 192.168.28.101 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/0/1, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 192.168.28.93 255.255.255.252
Router(config-if)#shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/0, changed state to up
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/1, changed state to up
ip address 192.168.28.85 255.255.255.252
Router(config-if)#shutdown
```



```
Router(config-if)#
%LINK-5-CHANGED: Interface Serial0/1/1, changed state to up
Router(config-if)#exit
Router(config)#
Router(config)#ip route 192.168.16.0 255.255.248.0 192.168.28.77
Router(config)#
```

For all Routers :

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int Fa0/0
Router(config-if)# ip helper-address 192.168.16.2
```

RIP

Intelligence:

```
Router(config)#interface Serial0/0/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#
Router(config)#interface Serial0/0/0
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.24.0
Router(config-router)#
Router(config-router)#end
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#
%SYS-5-CONFIG_I: Configured from console by console
```

```
ip address 192.168.28.82 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Mercenary:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Undertaking:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.28.0
Router(config-router)#
```

Lobby:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 192.168.0.0
Router(config-router)#network 192.168.28.0
Router(config-router)#exit
Router(config)#exit
```

Router#

%SYS-5-CONFIG_I: Configured from console by console

Router#show ip route rip

192.168.28.0/30 is subnetted, 10 subnets

```
R    192.168.28.64 [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
R    192.168.28.68 [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
R    192.168.28.72 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
R    192.168.28.80 [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
      [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
R    192.168.28.88 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
      [120/1] via 192.168.28.86, 00:00:29, Serial0/1/1
R    192.168.28.96 [120/1] via 192.168.28.102, 00:00:15, Serial0/0/1
      [120/1] via 192.168.28.92, 00:00:25, Serial0/1/0
```