

COMPUTER NETWORKS

CSE421

Lab Project

Topic: Institutes and Schools of Brac University



Group Members:

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Submitted to:

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Subnet Name	Need ed Size	Allocat ed Size	Address	Ma sk	Dec Mask	Assignabl e Range	Broadcast
CSE	3000	4094	172.168.0.0	/20	255.255.240.0	172.168.0.1 - 172.168.15.254	172.168.15.255
BBS	2000	2046	172.168.16.0	/21	255.255.248.0	172.168.16.1 - 172.168.23.254	172.168.23.255
BIL	1000	1022	172.168.24.0	/22	255.255.252.0	172.168.24.1 - 172.168.27.254	172.168.27.255
MNS	500	510	172.168.28.0	/23	255.255.254.0	172.168.28.1 - 172.168.29.254	172.168.29.255
EEE	200	254	172.168.30.0	/24	255.255.255.0	172.168.30.1 - 172.168.30.254	172.168.30.255
SHS S	120	126	172.168.31.0	/25	255.255.255.128	172.168.31.1 - 172.168.31.126	172.168.31.127
WAN -1	2	4	172.168.31.128	/30	255.255.255.252	172.168.31.129 -	172.168.31.131

						172.168.31. 130	
WAN -2	2	4	172.168.31 .132	/30	255.255.255 .252	172.168.31. 133 - 172.168.31. 134	172.168.31 .135
WAN -3	2	4	172.168.31 .136	/30	255.255.255 .252	172.168.31. 137 - 172.168.31. 138	172.168.31 .139
WAN -4	2	4	172.168.31 .140	/30	255.255.255 .252	172.168.31. 141 - 172.168.31. 142	172.168.31 .143
WAN -5	2	4	172.168.31 .144	/30	255.255.255 .252	172.168.31. 145 - 172.168.31. 146	172.168.31 .147

172.168.0.0/16

172.168.0.0/20
(CSE)

172.168.16.0/20

172.168.16.0/21
(BBS)

172.168.24.0/21

172.168.24.0/22
(BIL)

172.168.28.0/22

172.168.28.0/23
(MNS)

172.168.30.0/23

172.168.30.0/24
(EEE)

172.168.31.0/24

172.168.31.0/25
(SHSS)

172.168.31.128/25

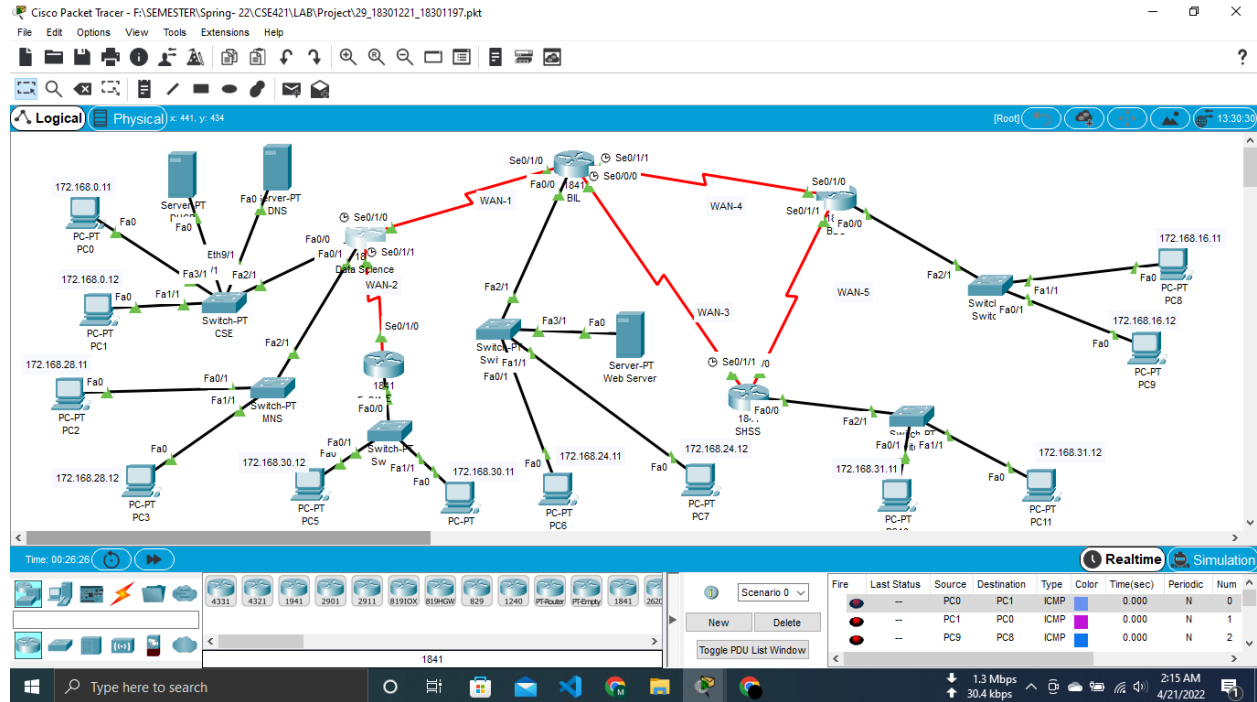
172.168.31.128/30
(WAN-1)

172.168.31.140/30
WAN-4

172.168.31.132/30
(WAN-2)

172.168.31.144/30
(WAN-5)

172.168.31.136/30
(WAN-3)



Device	Interface	IPv4 Address	Subnet Mask	Default Gateway
Data Science	Se0/1/0	172.168.31.129	255.255.255.252	N/A
	Se0/1/1	172.168.31.134	255.255.255.252	N/A
	Fa0/1	172.168.28.5	255.255.254.0	N/A
	Fa0/0	172.168.0.5	255.255.240.0	N/A
EEE	Se0/1/0	172.168.31.133	255.255.255.252	N/A
	Fa0/0	172.168.30.5	255.255.255.0	N/A
BIL	Se0/1/1	172.168.31.142	255.255.255.252	N/A
	Se0/0/0	172.168.31.138	255.255.255.252	N/A
	Fa0/0	172.168.24.5	255.255.252.0	N/A
	Se0/1/0	172.168.31.130	255.255.255.252	N/A
BBS	Se0/1/0	172.168.31.141	255.255.255.252	N/A
	Se0/1/1	172.168.31.146	255.255.255.252	N/A
	Fa0/0	172.168.16.5	255.255.248.0	N/A
SHSS	Fa0/0	172.168.31.5	255.255.255.128	N/A
	Se0/1/1	172.168.31.145	255.255.255.252	N/A
	Se0/1/0	172.168.31.137	255.255.255.252	N/A
DHCP	N/A	172.168.0.10	255.255.240.0	172.168.0.5
DNS	N/A	172.168.0.9	255.255.240.0	172.168.0.5
Web Server	N/A	172.168.30.7	255.255.252.0	172.168.24.5

PC0	N/A	172.168.0.11	255.255.240.0	172.168.0.5
PC1	N/A	172.168.0.13	255.255.240.0	172.168.0.5
PC2	N/A	172.168.28.11	255.255.254.0	172.168.28.5
PC3	N/A	172.168.28.12	255.255.254.0	172.168.28.5
PC4	N/A	172.168.30.11	255.255.255.0	172.168.30.5
PC5	N/A	172.168.30.12	255.255.255.0	172.168.30.5
PC6	N/A	172.168.24.11	255.255.252.0	172.168.24.5
PC7	N/A	172.168.24.12	255.255.252.0	172.168.24.5
PC8	N/A	172.168.16.11	255.255.248.0	172.168.16.5
PC9	N/A	172.168.16.12	255.255.248.0	172.168.16.5
PC10	N/A	172.168.31.11	255.255.255.128	172.168.31.5
PC11	N/A	172.168.31.12	255.255.255.128	172.168.31.5

BBS:

```

Router(config)#int s0/1/1
Router(config-if)#ip address 172.168.31.145 255.255.255.252
Router(config-if)#no shut
Router(config-if)#exit
Router(config)#no shut
^
% Invalid input detected at '^' marker.

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

Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/1
Router(config-if)#

```

```
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 172.168.16.5 255.255.255.252
Router(config-if)#ip address 172.168.16.5 255.255.255.248
Router(config-if)#no shutdown
```

```
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int s0/1/1
Router(config-if)#ip address 172.168.31.146 255.255.255.252
Router(config-if)#no shutdown
```

WAN-4:

```
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 172.168.31.141 255.255.255.252
Router(config-if)#ip address 172.168.31.141 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#
```

Static:

```
Router(config)#
Router(config)#ip route 172.168.31.0 255.255.255.128 172.168.31.145
Router(config)#
```

BBS>

BBS>

BBS>

BBS>en

BBS#conf t

Enter configuration commands, one per line. End with CNTL/Z.

```
BBS(config)#ip route 172.168.0.0 255.255.240.0 172.168.31.142
BBS(config)#ip route 172.168.24.0 255.255.252.0 172.168.31.142
BBS(config)#ip route 172.168.28.0 255.255.254.0 172.168.31.142
BBS(config)#ip route 172.168.30.0 255.255.255.0 172.168.31.142
BBS(config)#
BBS(config)#
```

```
BBS(config)#ip route 172.168.31.128 255.255.255.252 172.168.31.142
BBS(config)#ip route 172.168.31.132 255.255.255.252 172.168.31.142
BBS(config)#exit
BBS#
%SYS-5-CONFIG_I: Configured from console by console
```

```
BBS#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

```
172.168.0.0/16 is variably subnetted, 10 subnets, 7 masks
S 172.168.0.0/20 [1/0] via 172.168.31.142
C 172.168.16.0/21 is directly connected, FastEthernet0/0
S 172.168.24.0/22 [1/0] via 172.168.31.142
S 172.168.28.0/23 [1/0] via 172.168.31.142
S 172.168.30.0/24 [1/0] via 172.168.31.142
S 172.168.31.0/25 [1/0] via 172.168.31.145
S 172.168.31.128/30 [1/0] via 172.168.31.142
S 172.168.31.132/30 [1/0] via 172.168.31.142
C 172.168.31.140/30 is directly connected, Serial0/1/0
C 172.168.31.144/30 is directly connected, Serial0/1/1
```

```
BBS#
```

Floating:

```
BBS>
```

```
BBS>
```

```
BBS>
```

```
BBS>
```

```
BBS>en
```

```
BBS#conf t
```

Enter configuration commands, one per line. End with CNTL/Z.

```
BBS(config)#
```

```
BBS(config)#
```

```
BBS(config)#ip route 172.168.31.0 255.255.255.128 s0/1/1 159
```

```
BBS(config)#
```


BBS(config)#
BBS(config)#

SHSS:

```
Router(config)#interface FastEthernet0/0
Router(config-if)#ip address 172.168.31.5 255.255.0.0
Router(config-if)#ip address 172.168.31.5 255.255.0.0
Router(config-if)#ip address 172.168.31.5 255.255.255.128
Router(config-if)#ip address 172.168.31.5 255.255.255.128
Router(config-if)#no shutdown
```

```
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 172.168.31.146 255.255.255.252
Router(config-if)#
Router(config-if)#exit
Router(config)#
Router(config)#ip route 172.168.16.0 255.255.248.0 172.168.31.146
%Invalid next hop address (it's this router)
Router(config)#ip route 172.168.16.0 255.255.248.0 172.168.31.145
Router(config)#
```

```
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int s0/1/1
Router(config-if)#ip address 172.168.31.145 255.255.255.252
Router(config-if)#clock rate 64000
Router(config-if)#no shutdown
```

WAN-3:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/1
Router(config-if)#
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 172.168.31.137 255.255.255.252
Router(config-if)#ip address 172.168.31.137 255.255.255.252
Router(config-if)#no shutdown
```

Static:

```
Router(config)#
Router(config)#ip route 172.168.16.0 255.255.248.0 172.168.31.146
Router(config)#
```

```
SHSS>
SHSS>
SHSS>
SHSS>
SHSS>en
SHSS#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SHSS(config)#ip route 172.168.0.0 255.255.240.0 172.168.31.138
SHSS(config)#ip route 172.168.24.0 255.255.252.0 172.168.31.138
SHSS(config)#ip route 172.168.28.0 255.255.254.0 172.168.31.138
SHSS(config)#ip route 172.168.30.0 255.255.255.0 172.168.31.138
SHSS(config)#
SHSS(config)#ip route 172.168.31.128 255.255.255.252 172.168.31.138
SHSS(config)#ip route 172.168.31.132 255.255.255.252 172.168.31.138
SHSS(config)#exit
```

```
SHSS#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

172.168.0.0/16 is variably subnetted, 10 subnets, 7 masks
S 172.168.0.0/20 [1/0] via 172.168.31.138
S 172.168.16.0/21 [1/0] via 172.168.31.146
S 172.168.24.0/22 [1/0] via 172.168.31.138
S 172.168.28.0/23 [1/0] via 172.168.31.138
S 172.168.30.0/24 [1/0] via 172.168.31.138
C 172.168.31.0/25 is directly connected, FastEthernet0/0
S 172.168.31.128/30 [1/0] via 172.168.31.138
S 172.168.31.132/30 [1/0] via 172.168.31.138
C 172.168.31.136/30 is directly connected, Serial0/1/0
C 172.168.31.144/30 is directly connected, Serial0/1/1

SHSS#

Floating:

SHSS>
SHSS>
SHSS>
SHSS>
SHSS>en
SHSS#conf t
Enter configuration commands, one per line. End with CNTL/Z.
SHSS(config)#ip route 172.168.16.0 255.255.248.0 s0/0/0 159
SHSS(config)#

Data Science:

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 172.168.0.5 255.255.0.0
Router(config-if)#ip address 172.168.0.5 255.255.0.0
Router(config-if)#ip address 172.168.0.5 255.255.0.0

```
Router(config-if)#ip address 172.168.0.5 255.255.240.0
Router(config-if)#ip address 172.168.0.5 255.255.240.0
Router(config-if)#no shutdown
Router(config-if)#
```

```
Router(config-if)#exit
Router(config)#interface FastEthernet0/1
Router(config-if)#ip address 172.168.28.5 255.255.240.0
Router(config-if)#ip address 172.168.28.5 255.255.240.0
Router(config-if)#ip address 172.168.28.5 255.255.254.0
Router(config-if)#no shutdown
Router(config-if)#
DHCP
bil
```

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#router rip

Router(config-router)#network 172.168.0.0

Router(config-router)#

WAN-1:

Router>enable

Router#

Router#configure terminal

Enter configuration commands, one per line. End with CNTL/Z.

Router(config)#interface Serial0/1/0

Router(config-if)#

Router(config-if)#exit

Router(config)#interface Serial0/1/0

Router(config-if)#ip address 172.168.31.129 255.255.254.0

Router(config-if)#ip address 172.168.31.129 255.255.254.0

Router(config-if)#ip address 172.168.31.129 255.255.255.252

Router(config-if)#no shutdown

Router(config-if)#

WAN-2:

Router(config-if)#exit

Router(config)#interface Serial0/1/1

Router(config-if)#ip address 172.168.31.134 255.255.255.252

```
Router(config-if)#ip address 172.168.31.134 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#
```

EEE:

```
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 255.255.255.0
% Incomplete command.
Router(config-if)#ip address
% Incomplete command.
Router(config-if)#ip address 172.168.30.5 255.255.0.0
Router(config-if)#ip address 172.168.30.5 255.255.255.0
Router(config-if)#no shutdown
```

WAN-2:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 172.168.31.133 255.255.255.0
Router(config-if)#ip address 172.168.31.133 255.255.255.252
Router(config-if)#no shutdown
```

BIL:

```
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 172.168.24.5 255.255.0.0
Router(config-if)#ip address 172.168.24.5 255.255.0.0
Router(config-if)#ip address 172.168.24.5 255.255.252.0
Router(config-if)#no shutdown
Router(config-if)#
```

WAN-3:

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#interface Serial0/0/0
Router(config-if)#ip address 172.168.31.138 255.255.255.252
Router(config-if)#ip address 172.168.31.138 255.255.255.252
Router(config-if)#no shutdown
```

WAN-4:

```
Router(config-if)#exit
Router(config)#interface Serial0/1/1
Router(config-if)#ip address 172.168.31.142 255.255.255.252
Router(config-if)#ip address 172.168.31.142 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#
```

WAN-1:

```
Router(config-if)#exit
Router(config)#interface Serial0/1/0
Router(config-if)#ip address 172.168.31.130 255.255.255.252
Router(config-if)#ip address 172.168.31.130 255.255.255.252
Router(config-if)#no shutdown
Router(config-if)#
```

DHCP:

Cse

```
Router>enable
Router#
Router#configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router rip
Router(config-router)#network 172.168.0.0
Router(config-router)#
```

DHCP AT DATA SCIENCE:

```
Router>en
```

```
Router#conf t
```

```
Enter configuration commands, one per line. End with CNTL/Z.
```

```
Router(config)#
```

```
Router(config)#
```

```
Router(config)#
```

```
Router(config)#ip exclude-address 172.168.0.1 172.168.0.10
```

```
^
```

```
% Invalid input detected at '^' marker.
```

```
Router(config)#ip excluded-address 172.168.0.1 172.168.0.10
```

```
^
```

```
% Invalid input detected at '^' marker.
```

```
Router(config)#ip dhcp excluded-address 172.168.0.1 172.168.0.10
```

```
Router(config)#ip dhcp excluded-address 172.168.16.1 172.168.16.10
```

```
Router(config)#ip dhcp excluded-address 172.168.24.1 172.168.24.10
```

```
Router(config)#ip dhcp excluded-address 172.168.28.1 172.168.28.10
```

```
Router(config)#ip dhcp excluded-address 172.168.30.1 172.168.30.10
```

```
Router(config)#ip dhcp excluded-address 172.168.31.1 172.168.31.10
```

```
Router(config)#
```

```
Router(config)#
```

```
Router(config)#ip dhcp pool CSE
```

```
Router(dhcp-config)#network 172.168.0.0
```

```
% Incomplete command.
```

```
Router(dhcp-config)#network 172.168.0.0 255.255.240.0
```

```
Router(dhcp-config)#default-router
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to down
```

```
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
```

```
% Incomplete command.
```

```
Router(dhcp-config)#default-router 172.168.0.5
```

```
Router(dhcp-config)#dns-server 172.168.0.9
```

Router(dhcp-config)#exit

Dynamic Routing

DATA SCIENCE

```
Data_Science>
Data_Science>
Data_Science>
Data_Science>en
Data_Science#
Data_Science#
Data_Science#
Data_Science#
Data_Science#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Data_Science(config)#router rip
Data_Science(config-router)#version 2
Data_Science(config-router)#no auto-summary
Data_Science(config-router)#network 172.168.0.0
Data_Science(config-router)#network 172.168.28.0
Data_Science(config-router)#network 172.168.31.128
Data_Science(config-router)#network 172.168.31.132
Data_Science(config-router)#passive-interface Fa0/0
Data_Science(config-router)#passive-interface Fa0/1
Data_Science(config-router)#exit
Data_Science(config)#exit
Data_Science#
%SYS-5-CONFIG_I: Configured from console by console

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

EEE:


```
Router>
Router>
Router>
Router>
Router>en
Router#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#
Router(config)#
Router(config)#router rip
Router(config-router)#version 2
Router(config-router)#no auto-summary
Router(config-router)#network 172.168.30.0
Router(config-router)#network 172.168.31.132
Router(config-router)#passive-interface Fa0/0
Router(config-router)#exit
Router(config)#exit
Router#
%SYS-5-CONFIG_I: Configured from console by console
```

```
Router#
Router#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
Router#
Router#
Router#
Router#
Router#
BIL
BIL>
BIL>
BIL>
BIL>
BIL>
BIL>en
BIL#
BIL#
BIL#conf t
Enter configuration commands, one per line. End with CNTL/Z.
BIL(config)#
BIL(config)#
```

```
BIL(config)#ip route 172.168.16.0 255.255.248.0 172.168.31.141
BIL(config)#ip route 172.168.31.0 255.255.255.128 172.168.31.137
BIL(config)#
BIL(config)#router rip
BIL(config-router)#version 2
BIL(config-router)#redistribute static
BIL(config-router)#no auto-summary
BIL(config-router)#network 172.168.31.128
BIL(config-router)#network 172.168.31.136
BIL(config-router)#network 172.168.31.140
BIL(config-router)#network 172.168.24.0
BIL(config-router)#passive-interface Fa0/0
BIL(config-router)#
BIL(config-router)#exit
BIL(config)#exit
BIL#
%SYS-5-CONFIG_I: Configured from console by console
```

```
BIL#
BIL#
BIL#copy run start
Destination filename [startup-config]?
Building configuration...
[OK]
BIL#
BIL#
BIL#
BIL#
BIL#
BIL#
Default
BIL>
BIL>
BIL>
BIL>en
BIL#conf t
Enter configuration commands, one per line. End with CNTL/Z.
BIL(config)#ip route 0.0.0.0 0.0.0.0 s0/1/0
```

DHCP SETTINGS:

Data_Science>

Data_Science>

Data_Science>

Data_Science>

Data_Science>en

Data_Science#conf t

Enter configuration commands, one per line. End with CNTL/Z.

Data_Science(config)#

Data_Science(config)#ip dhcp excluded-address 172.168.0.1 172.168.0.10

Data_Science(config)#ip dhcp excluded-address 172.168.16.1 172.168.16.10

Data_Science(config)#ip dhcp excluded-address 172.168.24.1 172.168.24.10

Data_Science(config)#ip dhcp excluded-address 172.168.28.1 172.168.28.10

Data_Science(config)#ip dhcp excluded-address 172.168.30.1 172.168.30.10

Data_Science(config)#ip dhcp excluded-address 172.168.31.1 172.168.31.10

Data_Science(config)#

Data_Science(config)#

Data_Science(config)#ip dhcp pool CSE

Data_Science(dhcp-config)#network 172.168.0.0 255.255.240.0

Data_Science(dhcp-config)#default-router 172.168.0.5

Data_Science(dhcp-config)#dns-server 172.168.0.9

Data_Science(dhcp-config)#exit

Data_Science(config)#ip dhcp pool MNS

Data_Science(dhcp-config)#network 172.168.28.0 255.255.254.0

Data_Science(dhcp-config)#default-router 172.168.28.5

Data_Science con0 is now available

Press RETURN to get started.

```
Data_Science>
Data_Science>en
Data_Science#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Data_Science(config)#ip dhcp pool MNS
Data_Science(dhcp-config)#network 172.168.28.0 255.255.254.0
Data_Science(dhcp-config)#default-router 172.168.28.5
Data_Science(dhcp-config)#dns-server 172.168.0.9
Data_Science(dhcp-config)#exit
Data_Science(config)#
Data_Science(config)#int Fa0/1
Data_Science(config-if)#ip helper-address 172.168.28.5
Data_Science(config-if)#%DHCPD-4-PING_CONFLICT: DHCP address conflict: server
pinged 172.168.28.12.
```

```
Data_Science(config-if)#
```

```
Data_Science(config)#ip dhcp pool EEE
Data_Science(dhcp-config)#network 172.168.30.0 255.255.255.0
Data_Science(dhcp-config)#default-router 172.168.30.5
Data_Science(dhcp-config)#dns-server 172.168.0.9
Data_Science(dhcp-config)#exit
Data_Science(config)#
```

```
EEE(config)#int Fa0/0
EEE(config-if)#ip helper-address 172.168.31.134
EEE(config-if)#exit
EEE(config)#
```

```
Data_Science>
Data_Science>
Data_Science>en
Data_Science#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Data_Science(config)#ip dhcp pool
% Incomplete command.
Data_Science(config)#ip dhcp pool BIL
Data_Science(dhcp-config)#network 172.168.24.0 255.255.252.0
Data_Science(dhcp-config)#default-router 172.168.24.5
Data_Science(dhcp-config)#dns-server 172.168.0.9
Data_Science(dhcp-config)#exit
Data_Science(config)#
```

```
BIL>
BIL>
BIL>en
BIL#conf t
Enter configuration commands, one per line. End with CNTL/Z.
BIL(config)#int Fa0/0
BIL(config-if)#ip hepler-address 172.168.31.129
^
% Invalid input detected at '^' marker.

BIL(config-if)#ip helper-address 172.168.31.129
BIL(config-if)#
```

DHCP Again

```
Data_Science>
```

Data_Science>EN
Data_Science#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Data_Science(config)#int Fa0/0
Data_Science(config-if)#ip helper-address 172.168.0.10
Data_Science(config-if)#

Data_Science>
Data_Science>EN
Data_Science#conf t
Enter configuration commands, one per line. End with CNTL/Z.
Data_Science(config)#int Fa0/1
Data_Science(config-if)#ip helper-address 172.168.0.10
Data_Science(config-if)#

EEE>
EEE>
EEE>
EEE>EN
EEE#conf t
Enter configuration commands, one per line. End with CNTL/Z.
EEE(config)#int Fa0/0
EEE(config-if)#ip helper-address 172.168.0.10
EEE(config-if)#
EEE(config-if)#

BIL>
BIL>
BIL>
BIL>EN
BIL#CONF T
Enter configuration commands, one per line. End with CNTL/Z.
BIL(config)#int Fa0/0
BIL(config-if)#ip helper-address 172.168.0.10
BIL(config-if)#

BBS>
BBS>
BBS>
BBS>EN

BBS#conf t

Enter configuration commands, one per line. End with CNTL/Z.

BBS(config)#int Fa0/0

BBS(config-if)#ip helper-address 172.168.0.10

BBS(config-if)#

BBS(config-if)

SHSS>

SHSS>>

SHSS>>

SHSS>>EN

SHSS>#conf t

Enter configuration commands, one per line. End with CNTL/Z.

SHSS>(config)#int Fa0/0

SHSS>(config-if)#ip helper-address 172.168.0.10

SHSS>(config-if)#

SHSS>(config-if)