



# PAF KIET

**PAF-Karachi Institute of Economics &  
Technology**

**College of Computing and Information Sciences**

## **PROJECT NAME**

# **BANK NETWORK PROJECT REPORT**

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**Submitted to :**

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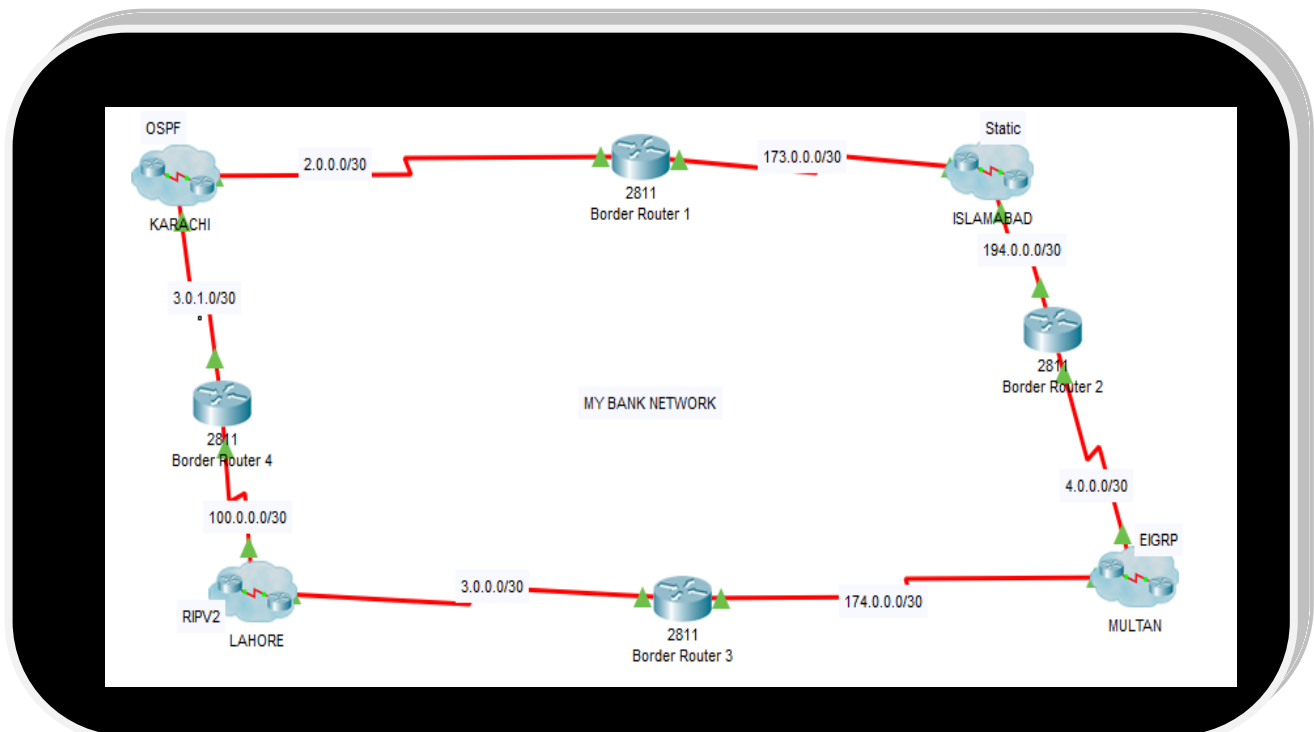
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## **NETWORK DIAGRAM:**

The Network of 15 Routers is divided into 4 Clusters. 4 Clusters indicate 4 Cities. KARACHI is the head of all cities So, OSPF Routing Protocol also ACL is implemented on this cluster. All the Routers have public IPs and all the PCs have private IPs Class A (10.1.1.0/24 , 10.1.2.0/24) , Class B (172.16.1.0/24 , 172.16.2.0/24) , Class C ( 192.168.1.0/24 , 192.168.2.0/24). Static Routing Technique & NATTING is implemented on Islamabad. RIPV2 & Port-Security is implemented on Lahore. EIGRP and Port-Security is implemented on Multan Cluster. Route Redistribution is implemented on all border Router. Also the Routing Protocol from which the Border Router is connected is also configured.



**Figure 1 Topology DIAGRAM**

# **Open Shortest Path First (OSPF)**

## **Introduction:**

Open Shortest Path First (OSPF) is a dynamic routing protocol for use in Internet Protocol (IP) networks. Specifically, it is a link-state routing protocol and falls into the group of interior gateway protocols, operating within a single autonomous system (AS).

OSPF is used to determine the best route for delivering the packets within an IP networks.

## **Enabling the OSPF Routing Protocol:**

The following command is needed in order to enable OSPF routing protocol on the router:

**Router(config)#router ospf *process-number***

The *process-number* is nothing more than a number local to the router. It's only used to distinguish processes within a router and can be given an arbitrary value. This value does not have to be the same on every router within the area. However, it is always good practice to keep this number the same for better administration.

## **Defining OSPF Networks:**

Enabling OSPF is not enough to activate it. The OSPF process needs to know the networks that are going to be advertised (i.e. the interfaces on which OSPF will run) and the area they reside in. Therefore the following command is needed to make OSPF operational:

**Router(config-router)#network *address wildcard-mask* area *area-number***

The *address* can be the network address, subnet, or the address of a specific interface.

**The network command is used to identify the interfaces on the router that are going to participate in the OSPF process. Adjacencies will be created with these interfaces and LSAs will be received and transmitted on these interfaces.**

**Therefore the wildcard-mask parameter needs to be defined for accurately identifying the necessary interfaces.**

**The *wildcard-mask* consists of 4 groups of 8-bits each. Each 0 bit indicates a “must” and each 1 bit indicates an “any”. This will become clearer in the next section on Defining OSPF Networks Examples.**

**The *area-number* specifies the area to be associated with the specific address and consequently the interfaces to be grouped within that area. By default, area 0 is used; if more than one area is to be created in a network, area 0 is the first one that needs to be defined.**

## **Advantages of OSPF :**

**OSPF is an open standard, not related to any particular vendor.**

**OSPF is hierarchical routing protocol, using area 0 (Autonomous System) at the top of the hierarchy.**

**OSPF uses Link State Algorithm, and an OSPF network diameter can be much larger than that of RIP.**

**OSPF supports Variable Length Subnet Masks (VLSM), resulting in efficient use of networking resources.**

**OSPF uses multicasting within areas.**

**After initialization, OSPF only sends updates on routing table sections which have changed, it does not send the entire routing table, which in turn conserves network bandwidth.**

**Using areas, OSPF networks can be logically segmented to improve administration, and decrease the size of routing tables.**

## **Disadvantages of OSPF:**

**OSPF is very processor intensive due to implementation of SPF algorithm.**

**OSPF maintains multiple copies of routing information, increasing the amount of memory needed.**

**OSPF is a more complex protocol to implement compared to RIP.**

## **ACL:**

**ACL provide security on basis of IP address. There are two types of ACL.**

- **Standard ACL (1-99)**
- **Extended ACL (100-199)**

**We have implemented Extended ACL on Korangi Branch. The Authorized PC have the access of all the servers. While, the unauthorized PC can't access the Server's services. ACL will not block the data packets but it will block the services of web , ftp , email & DNS for the unauthorized PCs.**

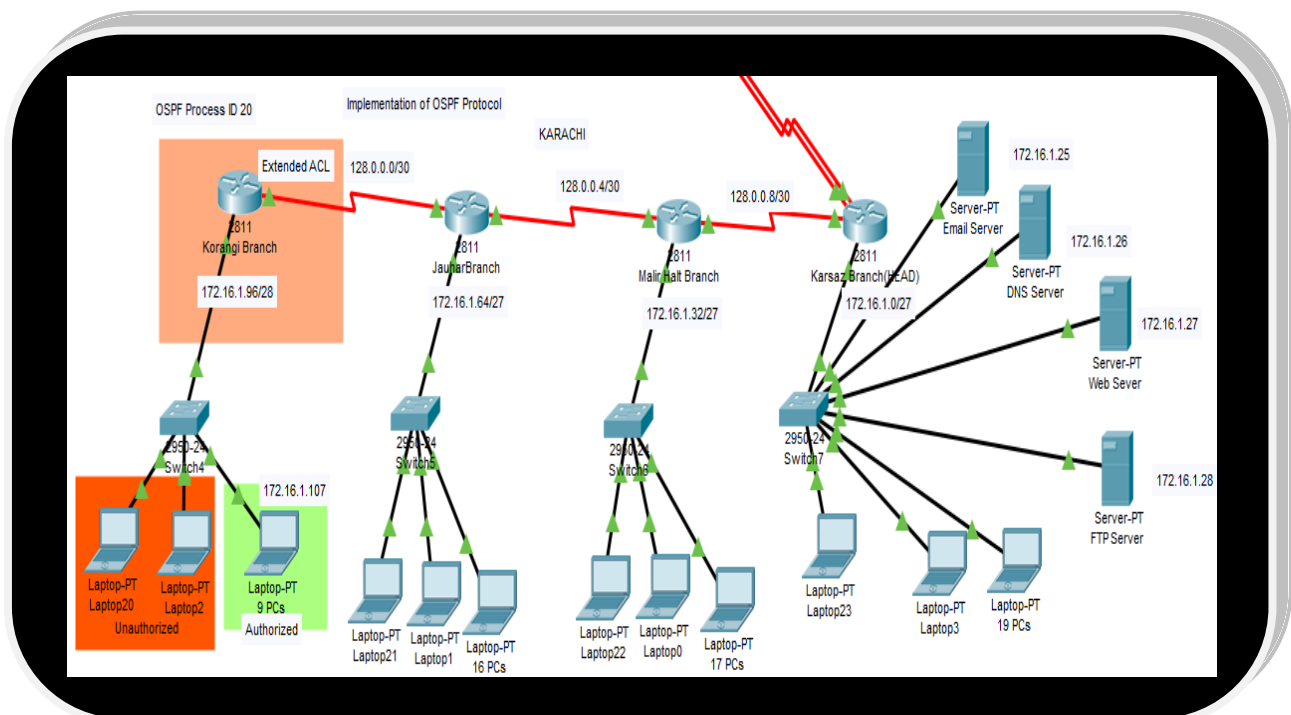
### **Command:**

**Access-list [access-list ID] permit tcp host [PC IP] host [Server IP] eq [Server]**

**Access-list [access-list ID] deny tcp any host [Server IP] eq [Server]**

**Access-list [access-list ID] permit ip any any**

## **NETWORK DIAGRAM OF OSPF:**



**Figure 2 Karachi OSPF**



## **STATIC ROUTING TECHNIQUE:**

Simple Static Routing Technique is implemented on this Cluster.

### **Command :**

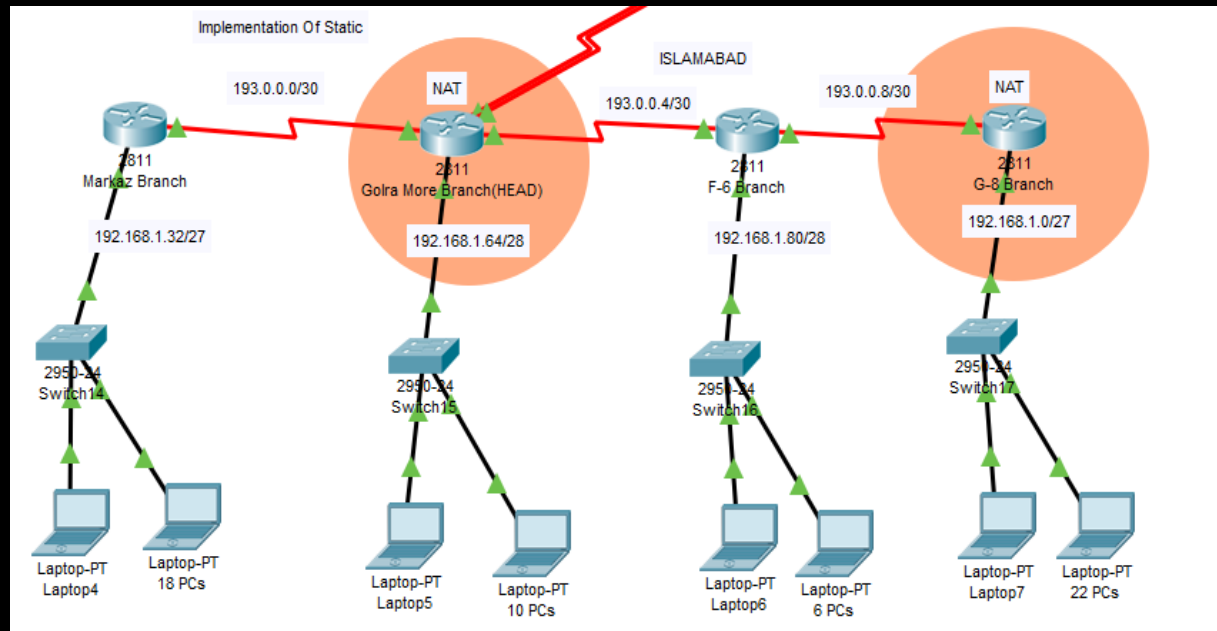
**Ip route                      network                      mask                      next hop**

Also DYNAMIC NATTING is implemented on this Cluster. The advantage of dynamic natting is we make pool of public IPs to translate it into private. If any of the IP is down in dynamic the other IPs of pool is available for translation. This advantage of Dynamic Natting is a Disadvantage of Static Natting.

## **COMMAND FOR DYNAMIC NATTING :**

**Ip NAT pool [poolname] public-IPs-netmask                      mask-of-public IPs  
Access-list [AccessListID] permit Private-IPs Inverse-Mask  
Ip NAT inside source list [SourceListID] pool [Poolname]  
Interface [Public]  
Ip nat outside  
Interca [Private]  
IP nat inside**

## **NETWORK DIAGRAM OF STATIC:**



**Figure 3 Static Islamabad**

## **Rip V2 :**

### **Introduction**

#### **Classless Routing Protocols**

**The true characteristic of a classless routing protocol is the ability to carry subnet masks in their route advertisements.**

**Classless Routing Protocol, sent over UDP port 520**

- **Includes the subnet mask in the routing updates.**
- **Automatic summarization at major network boundaries can be disabled.**

- Updates sent as multicasts unless the neighbor command is used which sends them as unicasts.

## **Configuring static Routes**

### **RipV2**

**Command**  
`Router(config)#router rip`

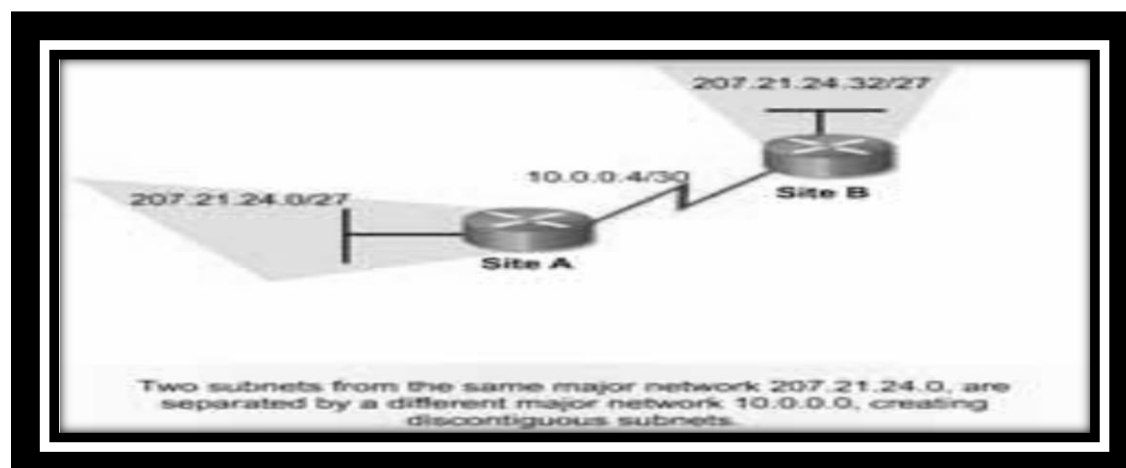
- Starts the RIP routing process

**Command**  
`Router(config-router)#network network-number`

- Selects participating attached networks

**Command**  
`Router(config-router)#version 2`

## **Discontiguous subnets and classless routing**

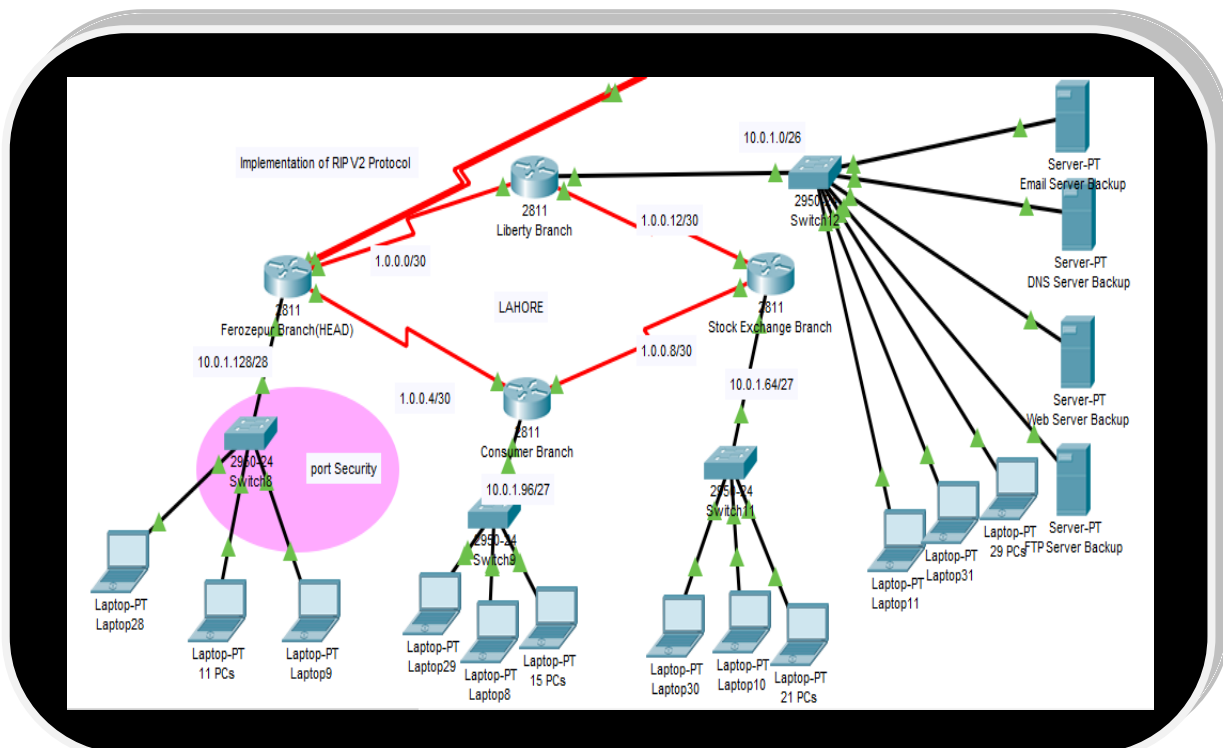


- **RIP v1 always uses automatic summarization.**
- **The default behavior of RIP v2 is to summarize at network boundaries the same as RIP v1.**

## PORT SECURITY

**Port-Security provide security on basis of MAC-address. We implement Port-Security on Switch.**

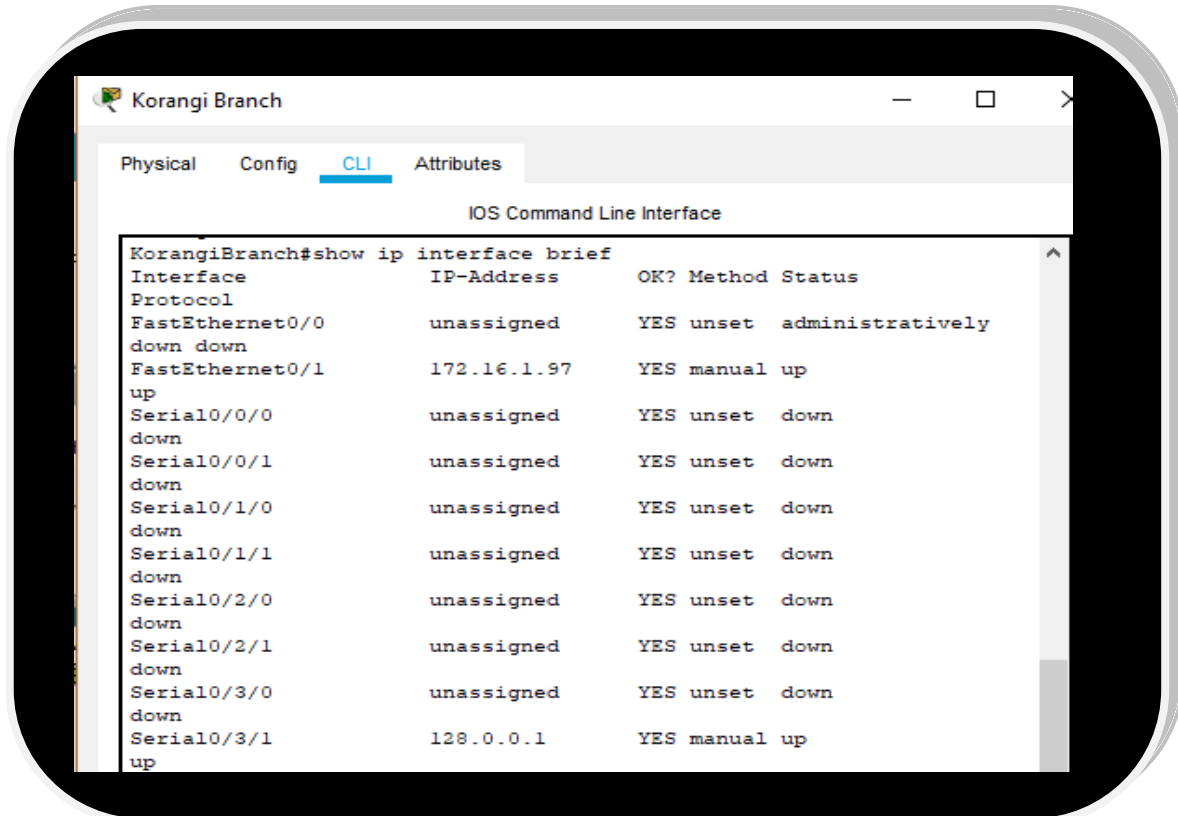
## NETWORK DIAGRAM OF RIPv2:



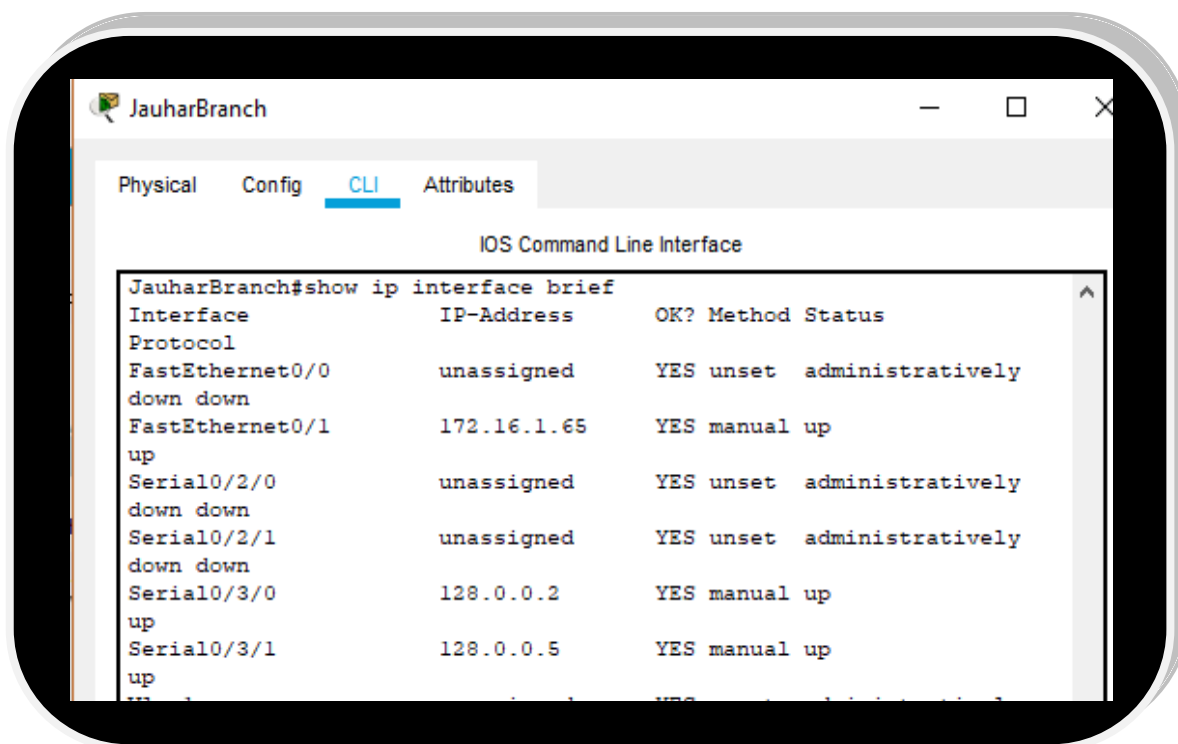
**Figure 4 RIPv2 Lahore**

## SHOW IP INTERFACE BRIEF COMMAND :

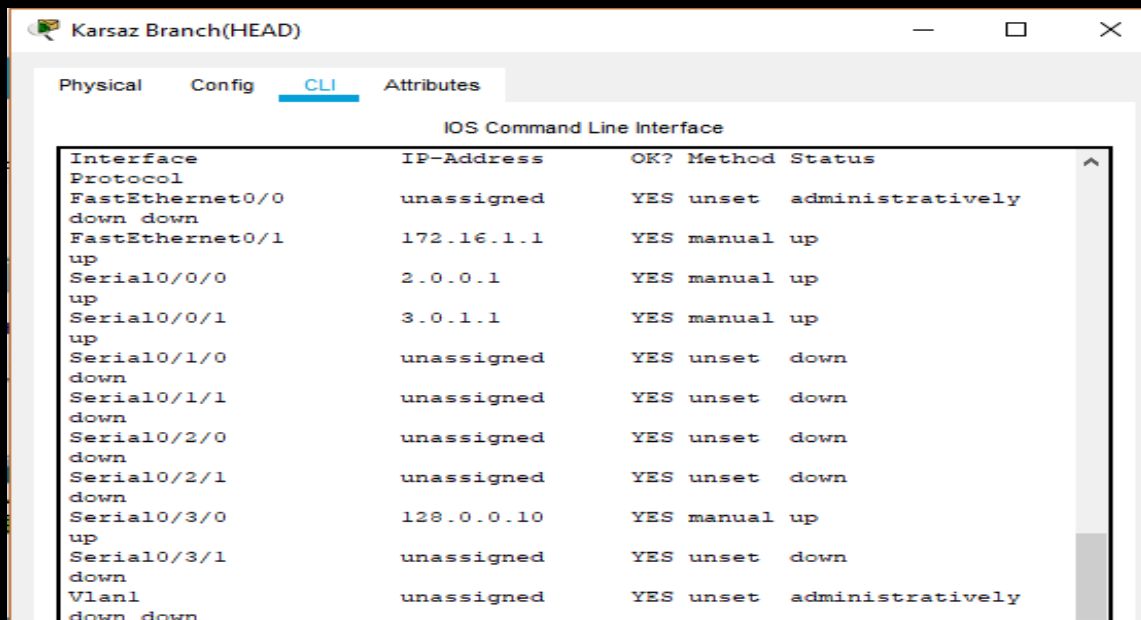
**Figure 5Korangi Branch**



**Figure 6Jauhar Branch**



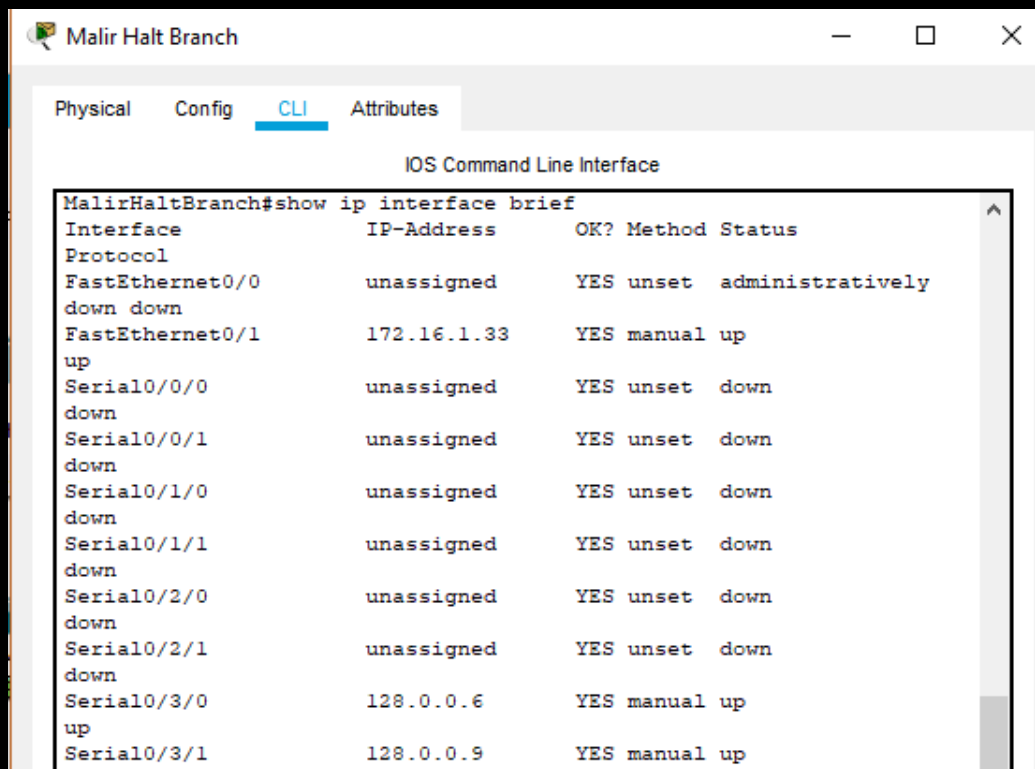
**Figure 7Karsaz Branch**



The screenshot shows a network configuration window titled "Karsaz Branch(HEAD)". It has tabs for "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is active, displaying the "IOS Command Line Interface". The output of a command is shown as a table with columns: Interface, IP-Address, OK?, Method, and Status. The table lists various interfaces including FastEthernet0/0, FastEthernet0/1, and several Serial interfaces (Serial0/0/0 through Serial0/3/1), along with a Vlan1 interface. Each entry shows its current status (up/down), IP address (assigned/unassigned), and configuration method (manual/unset).

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	172.16.1.1	YES	manual	up
Serial0/0/0	2.0.0.1	YES	manual	up
Serial0/0/1	3.0.1.1	YES	manual	up
Serial0/1/0	unassigned	YES	unset	down
Serial0/1/1	unassigned	YES	unset	down
Serial0/2/0	unassigned	YES	unset	down
Serial0/2/1	unassigned	YES	unset	down
Serial0/3/0	128.0.0.10	YES	manual	up
Serial0/3/1	unassigned	YES	unset	down
Vlan1	unassigned	YES	unset	administratively down

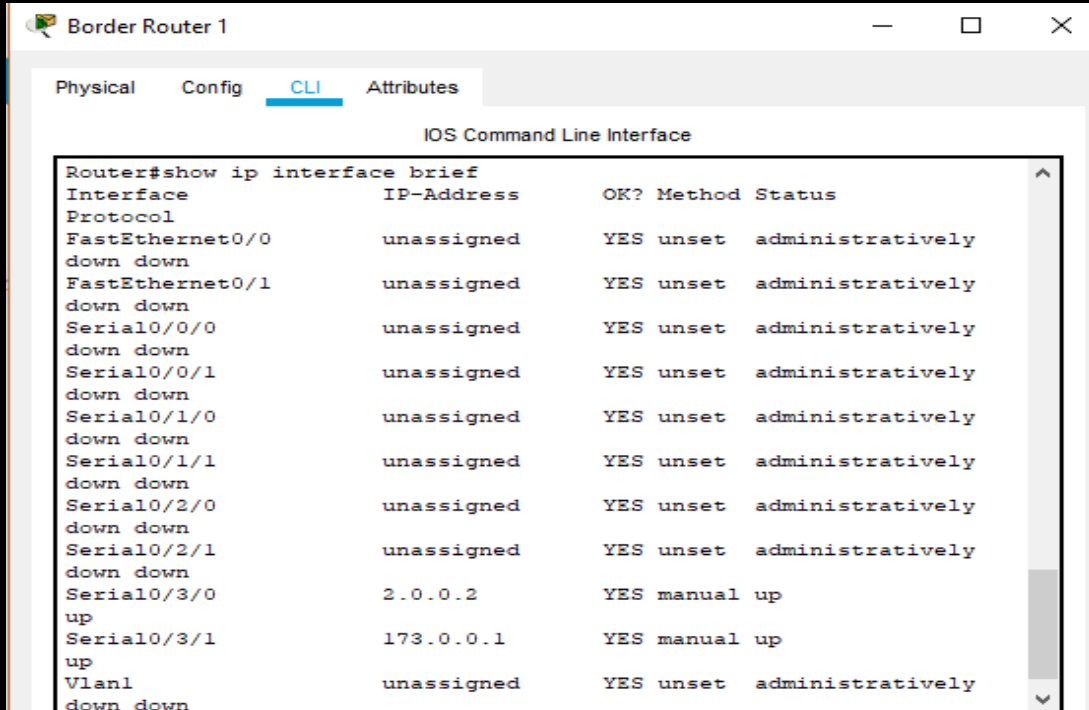
**Figure 8 Malir Halt Branch**



The screenshot shows a network configuration window titled "Malir Halt Branch". It has tabs for "Physical", "Config", "CLI", and "Attributes". The "CLI" tab is active, displaying the "IOS Command Line Interface". The output of the command "show ip interface brief" is shown as a table with columns: Interface, IP-Address, OK?, Method, and Status. The table lists various interfaces including FastEthernet0/0, FastEthernet0/1, and several Serial interfaces (Serial0/0/0 through Serial0/3/1). Each entry shows its current status (up/down), IP address (assigned/unassigned), and configuration method (manual/unset).

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	172.16.1.33	YES	manual	up
Serial0/0/0	unassigned	YES	unset	down
Serial0/0/1	unassigned	YES	unset	down
Serial0/1/0	unassigned	YES	unset	down
Serial0/1/1	unassigned	YES	unset	down
Serial0/2/0	unassigned	YES	unset	down
Serial0/2/1	unassigned	YES	unset	down
Serial0/3/0	128.0.0.6	YES	manual	up
Serial0/3/1	128.0.0.9	YES	manual	up

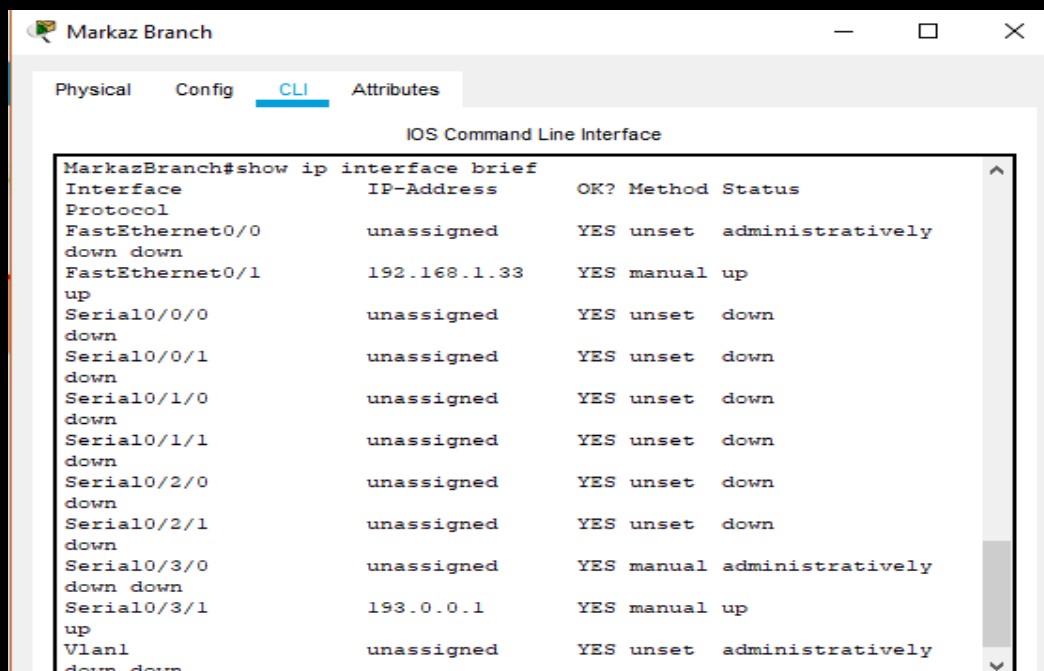
**Figure 9 Border Router 1**



The screenshot shows the CLI of Border Router 1. The command 'show ip interface brief' has been executed, displaying a table of interface configurations. The table has columns for Interface, IP-Address, OK?, Method, and Status. The interfaces listed are FastEthernet0/0, FastEthernet0/1, Serial0/0/0, Serial0/0/1, Serial0/1/0, Serial0/1/1, Serial0/2/0, Serial0/2/1, Serial0/3/0, Serial0/3/1, and Vlan1. Serial0/3/0 and Serial0/3/1 are the only interfaces with IP addresses (2.0.0.2 and 173.0.0.1 respectively) and are in the 'up' status.

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	unassigned	YES	unset	administratively down
Serial0/0/0	unassigned	YES	unset	administratively down
Serial0/0/1	unassigned	YES	unset	administratively down
Serial0/1/0	unassigned	YES	unset	administratively down
Serial0/1/1	unassigned	YES	unset	administratively down
Serial0/2/0	unassigned	YES	unset	administratively down
Serial0/2/1	unassigned	YES	unset	administratively down
Serial0/3/0	2.0.0.2	YES	manual	up
Serial0/3/1	173.0.0.1	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down

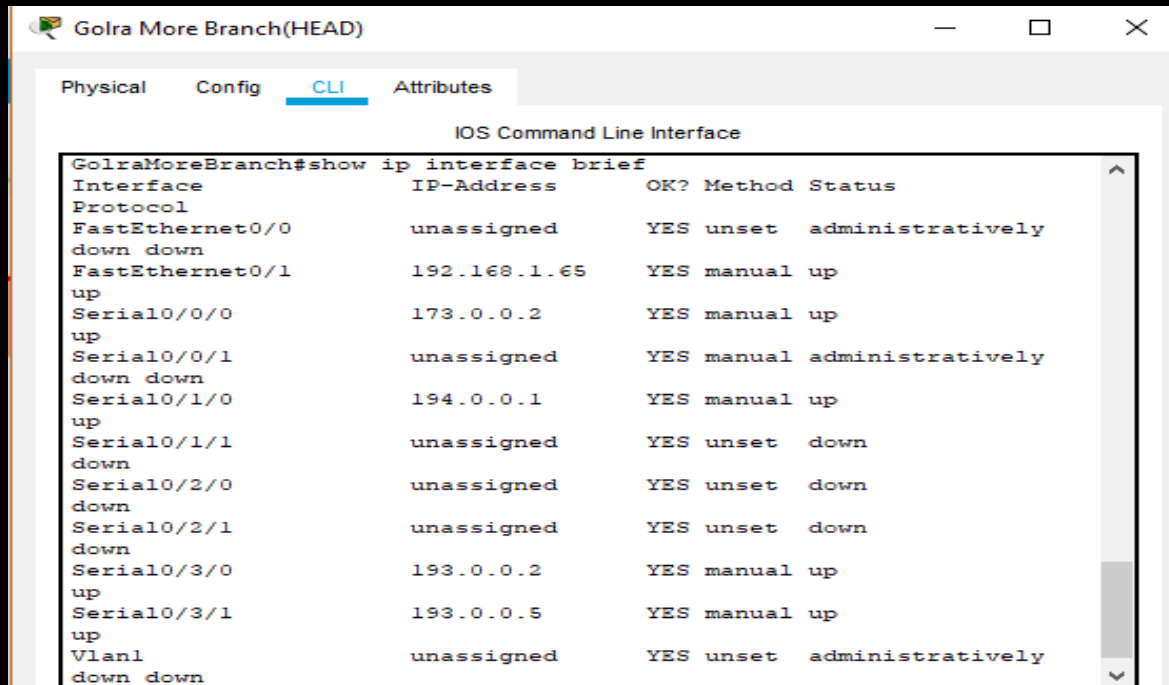
**Figure 10 Markaz Branch**



The screenshot shows the CLI of Markaz Branch. The command 'show ip interface brief' has been executed, displaying a table of interface configurations. The table has columns for Interface, IP-Address, OK?, Method, and Status. The interfaces listed are FastEthernet0/0, FastEthernet0/1, Serial0/0/0, Serial0/0/1, Serial0/1/0, Serial0/1/1, Serial0/2/0, Serial0/2/1, Serial0/3/0, Serial0/3/1, and Vlan1. FastEthernet0/1 and Serial0/3/1 are the only interfaces with IP addresses (192.168.1.33 and 193.0.0.1 respectively) and are in the 'up' status.

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	192.168.1.33	YES	manual	up
Serial0/0/0	unassigned	YES	unset	down
Serial0/0/1	unassigned	YES	unset	down
Serial0/1/0	unassigned	YES	unset	down
Serial0/1/1	unassigned	YES	unset	down
Serial0/2/0	unassigned	YES	unset	down
Serial0/2/1	unassigned	YES	unset	down
Serial0/3/0	unassigned	YES	manual	administratively down
Serial0/3/1	193.0.0.1	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down

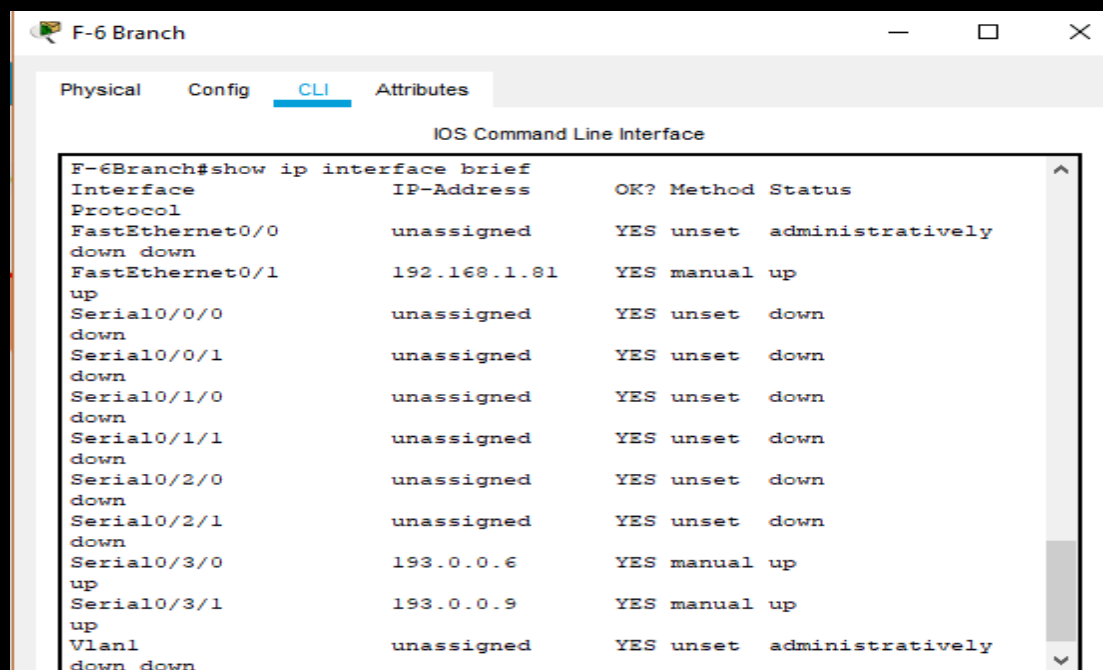
**Figure 12 Golra More Branch**



The screenshot shows a window titled "Golra More Branch(HEAD)" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface" with the command "GolraMoreBranch#show ip interface brief". The output is a table with columns: Interface, IP-Address, OK?, Method, and Status.

Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	192.168.1.65	YES	manual	up
Serial0/0/0	173.0.0.2	YES	manual	up
Serial0/0/1	unassigned	YES	manual	administratively down
Serial0/1/0	194.0.0.1	YES	manual	up
Serial0/1/1	unassigned	YES	unset	down
Serial0/2/0	unassigned	YES	unset	down
Serial0/2/1	unassigned	YES	unset	down
Serial0/3/0	193.0.0.2	YES	manual	up
Serial0/3/1	193.0.0.5	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down

**Figure 13 F-6 Branch**

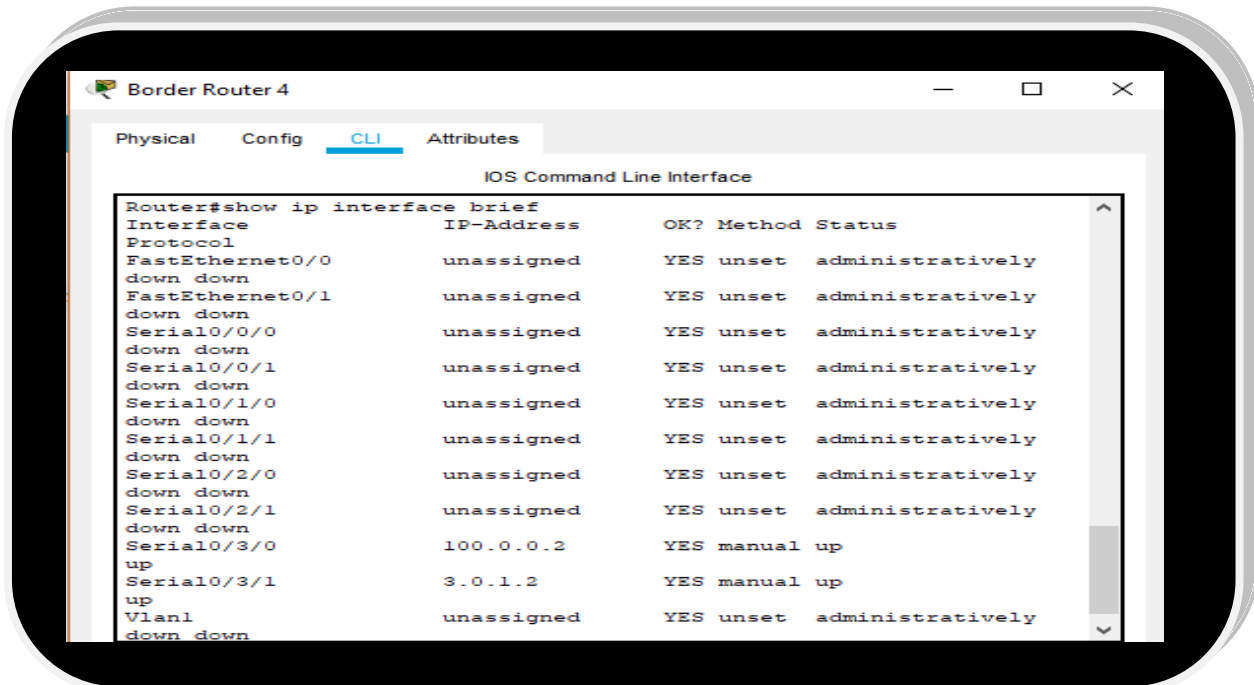


The screenshot shows a window titled "F-6 Branch" with tabs for Physical, Config, CLI, and Attributes. The CLI tab is active, displaying the "IOS Command Line Interface" with the command "F-6Branch#show ip interface brief". The output is a table with columns: Interface, IP-Address, OK?, Method, and Status.

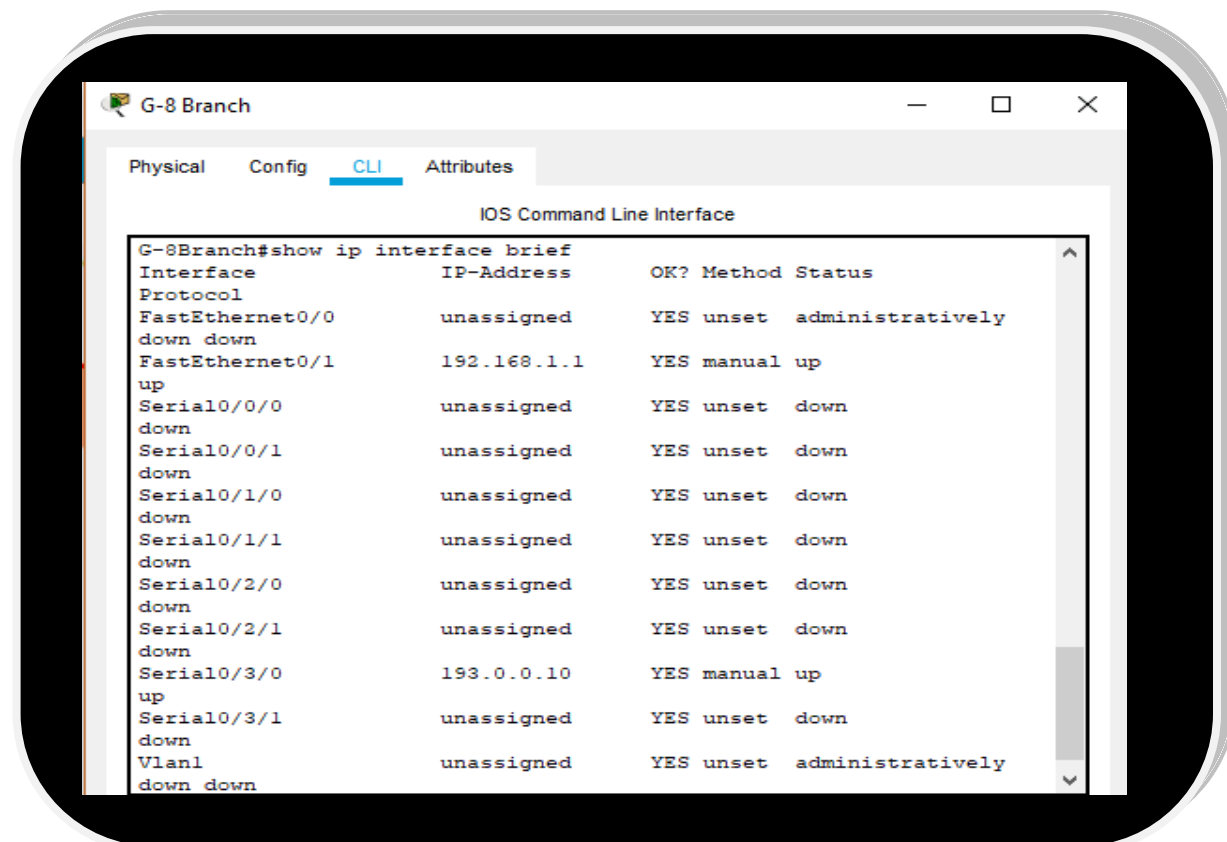
Interface	IP-Address	OK?	Method	Status
FastEthernet0/0	unassigned	YES	unset	administratively down
FastEthernet0/1	192.168.1.81	YES	manual	up
Serial0/0/0	unassigned	YES	unset	down
Serial0/0/1	unassigned	YES	unset	down
Serial0/1/0	unassigned	YES	unset	down
Serial0/1/1	unassigned	YES	unset	down
Serial0/2/0	unassigned	YES	unset	down
Serial0/2/1	unassigned	YES	unset	down
Serial0/3/0	193.0.0.6	YES	manual	up
Serial0/3/1	193.0.0.9	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down



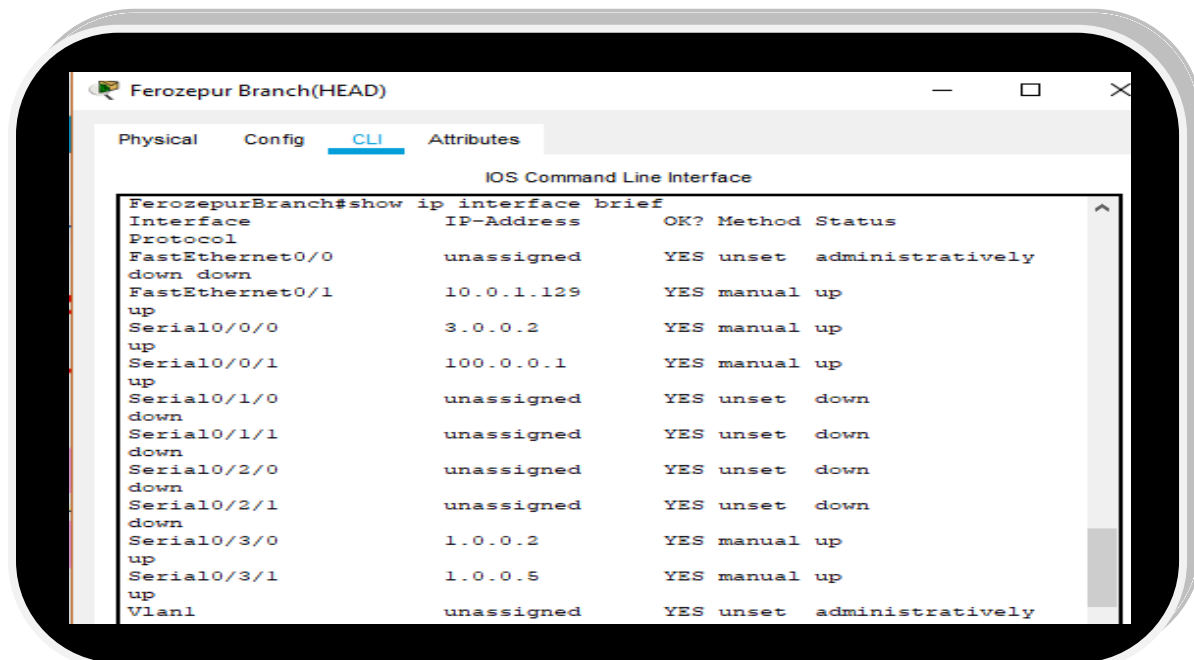
**Figure 14 Border Router 4**



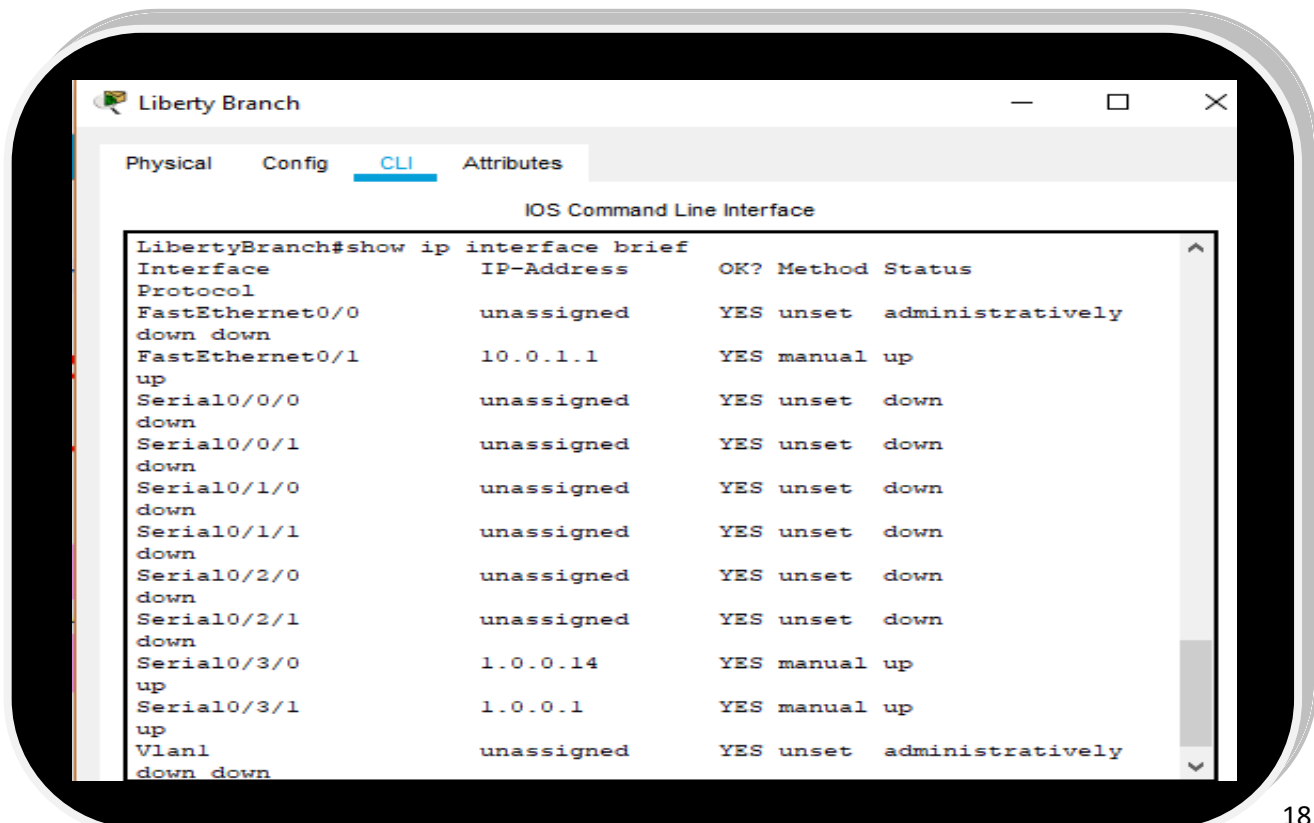
**Figure 15 G-8 Branch**



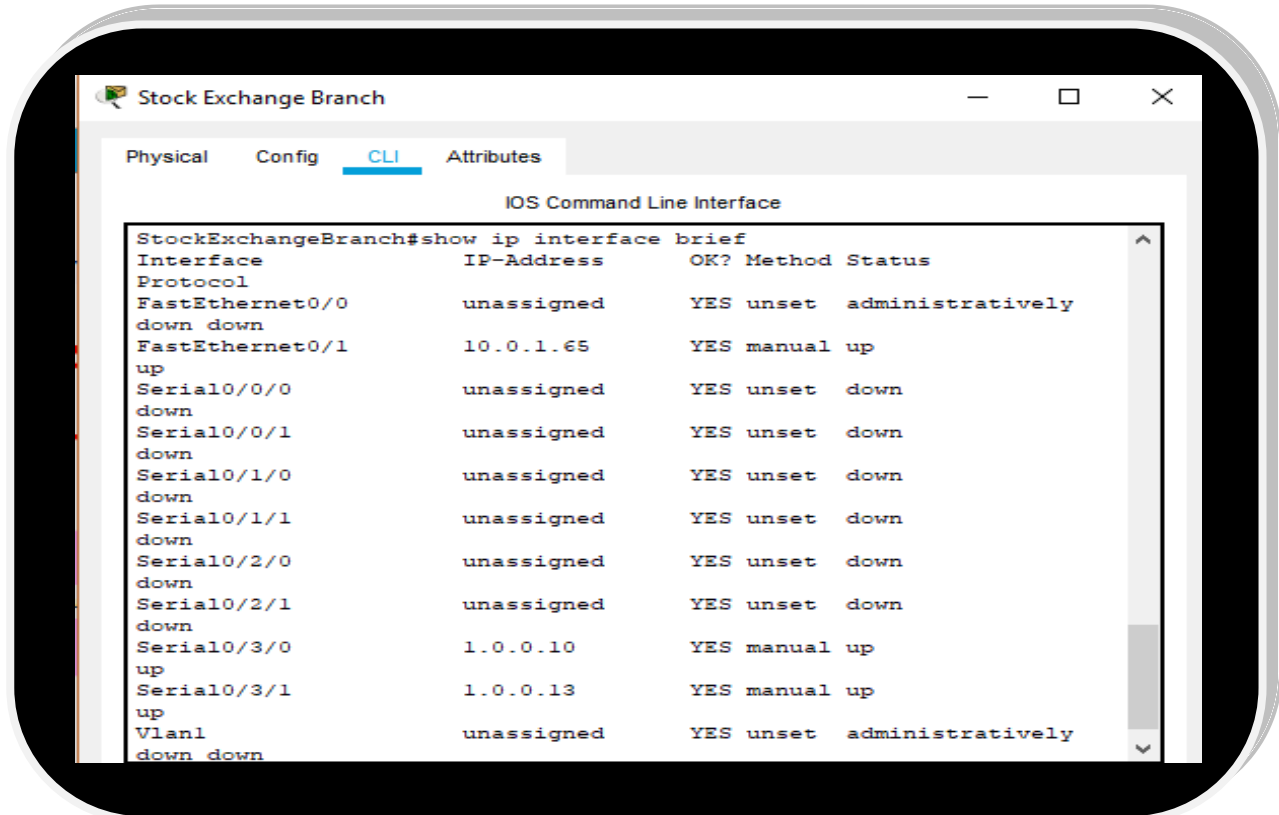
**Figure 16 Ferozepur Branch**



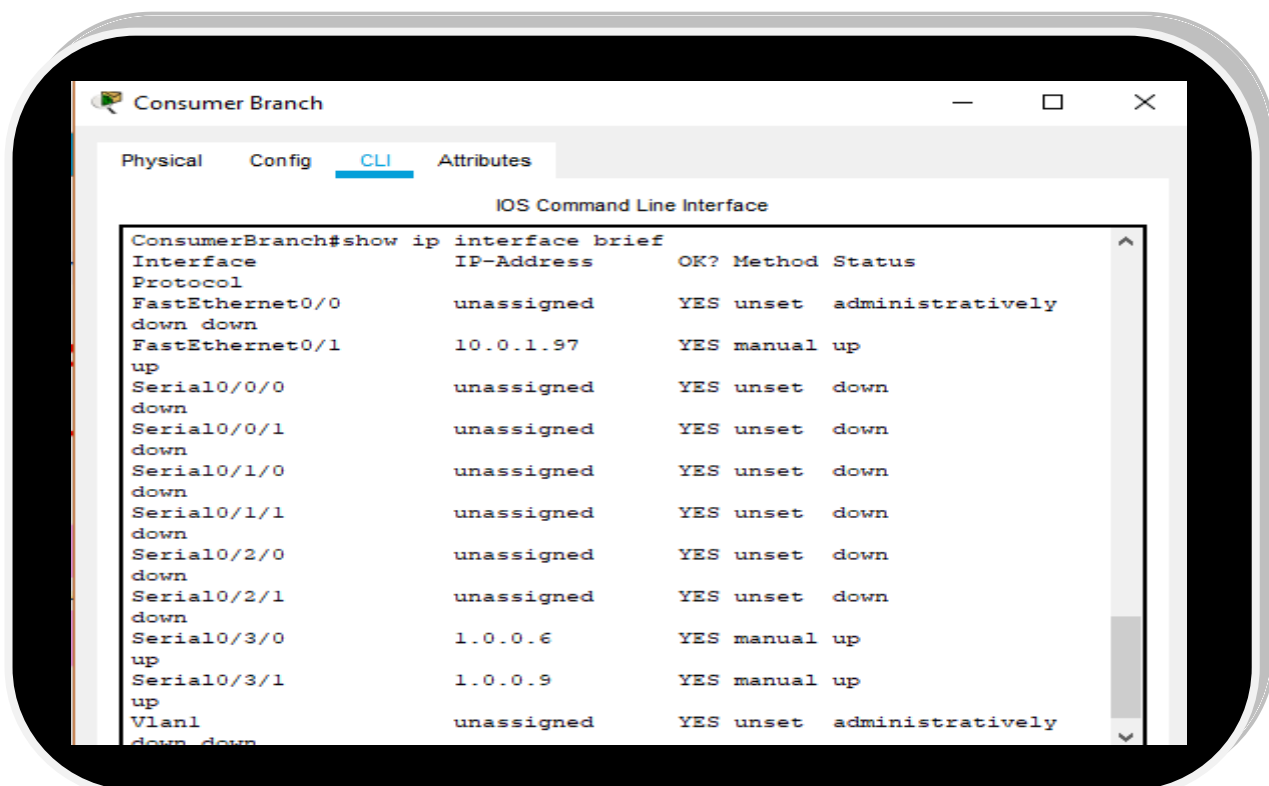
**Figure 17 Liberty Branch**



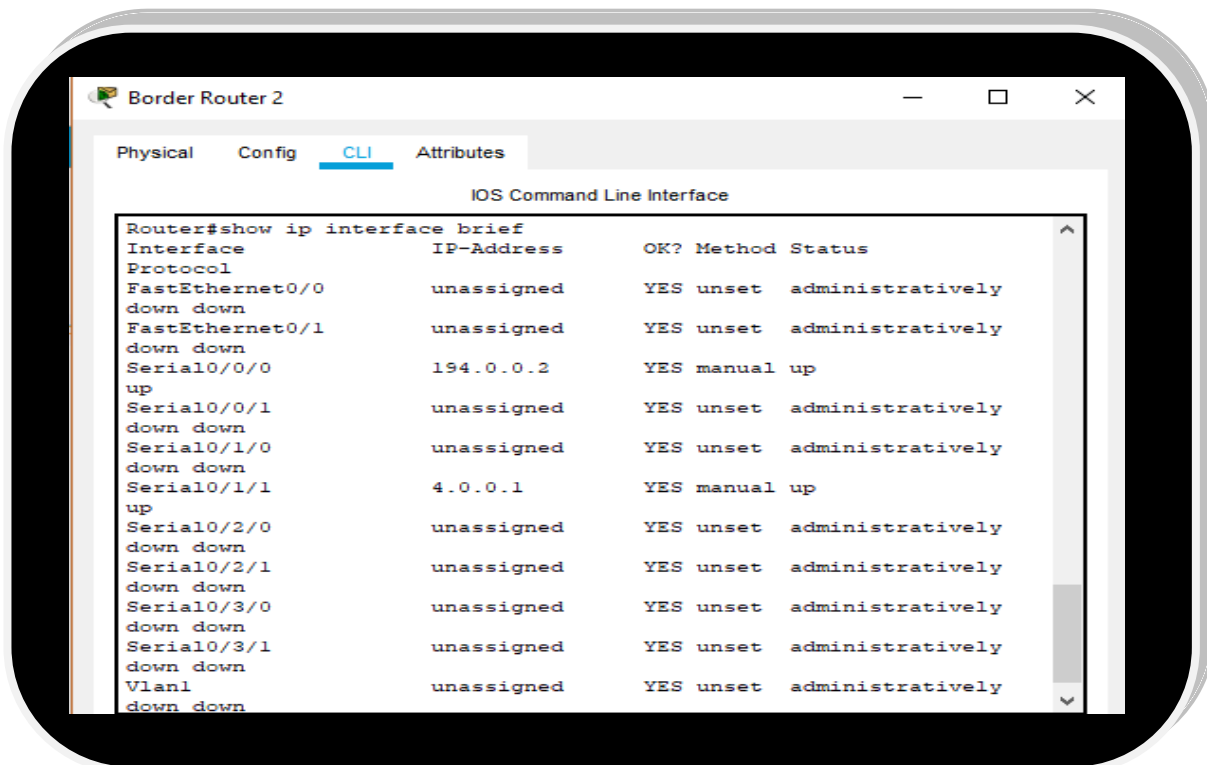
**Figure 18 Stock Exchange Branch**



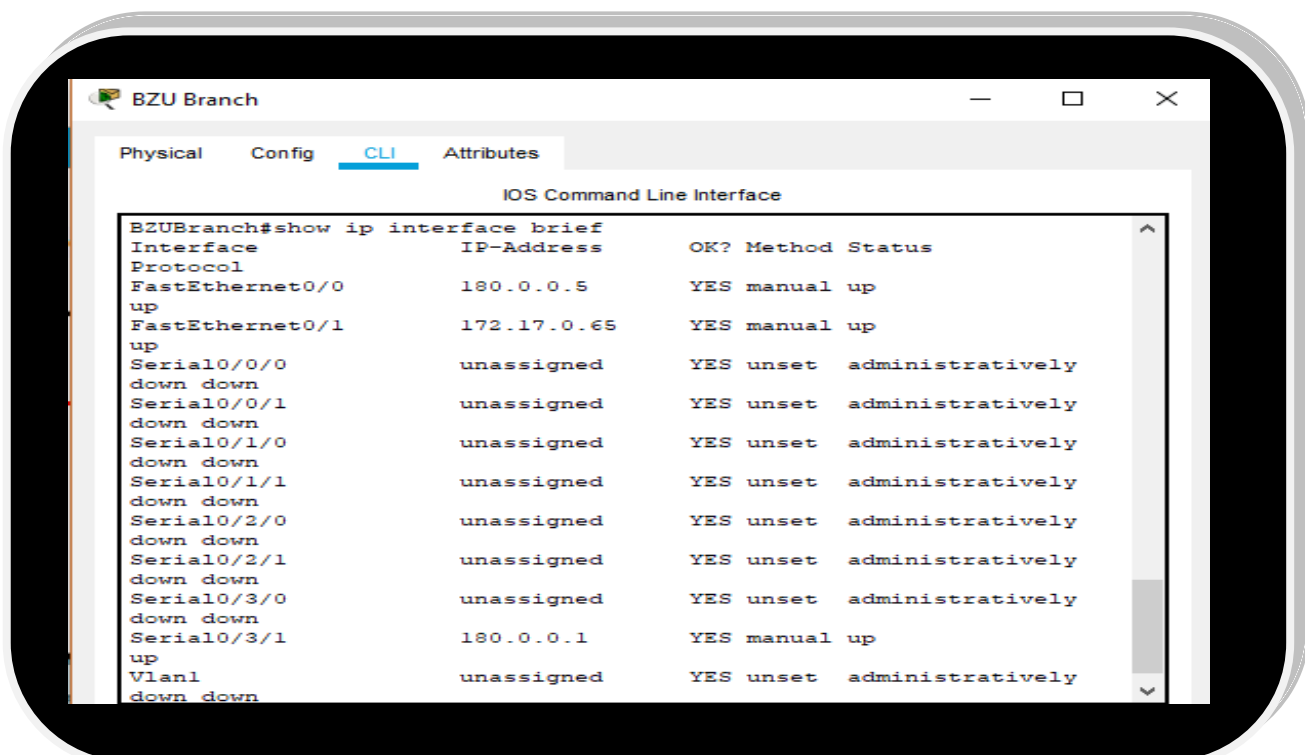
**Figure 19 Consumer Branch**



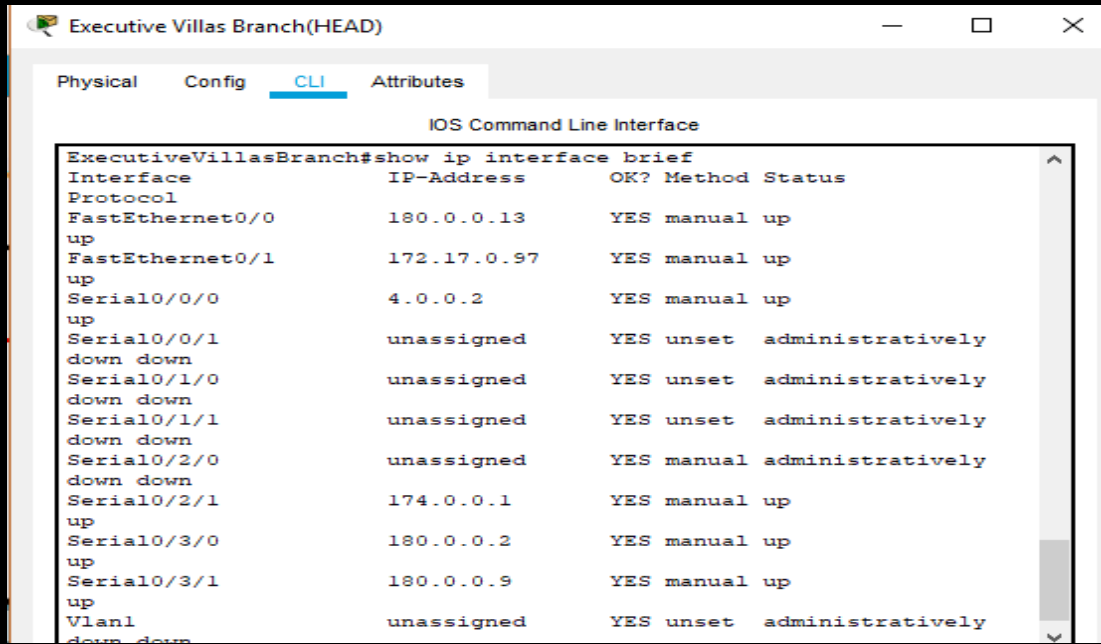
**Figure 20 Border Router 2**



**Figure 21 BZU Branch**



**Figure 22 Executive Villas Branch**



Executive Villas Branch(HEAD)

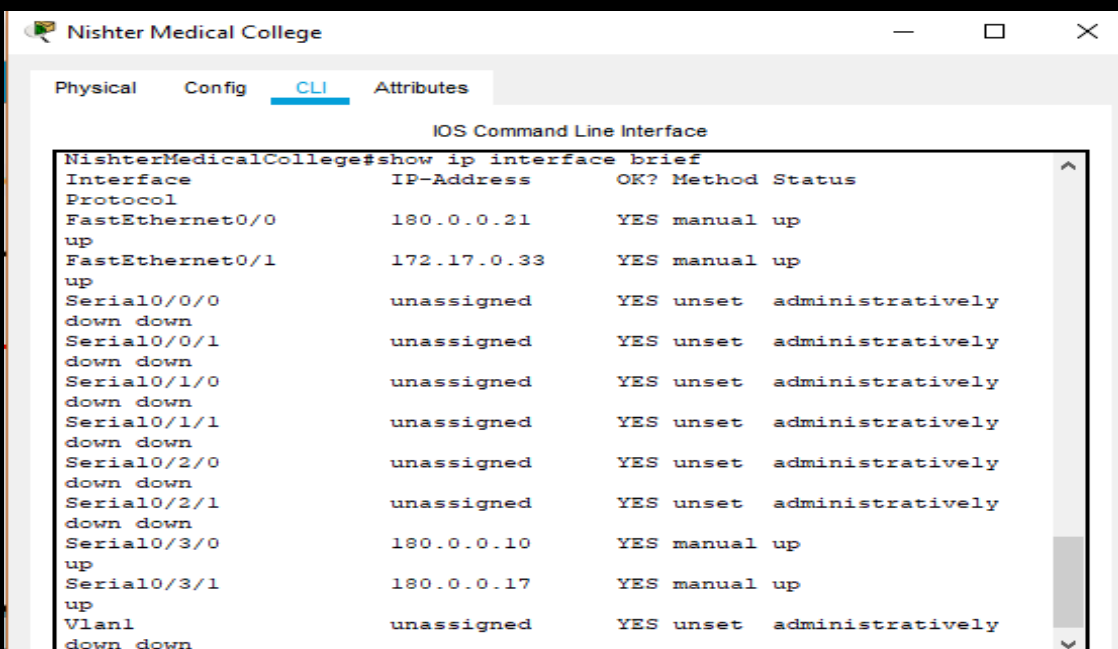
Physical Config **CLI** Attributes

IOS Command Line Interface

```
ExecutiveVillasBranch#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status
Protocol				
FastEthernet0/0	180.0.0.13	YES	manual	up
FastEthernet0/1	172.17.0.97	YES	manual	up
Serial0/0/0	4.0.0.2	YES	manual	up
Serial0/0/1	unassigned	YES	unset	administratively down
Serial0/1/0	unassigned	YES	unset	administratively down
Serial0/1/1	unassigned	YES	unset	administratively down
Serial0/2/0	unassigned	YES	manual	administratively down
Serial0/2/1	174.0.0.1	YES	manual	up
Serial0/3/0	180.0.0.2	YES	manual	up
Serial0/3/1	180.0.0.9	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down

**Figure 23 Nishter Medical College**



Nishter Medical College

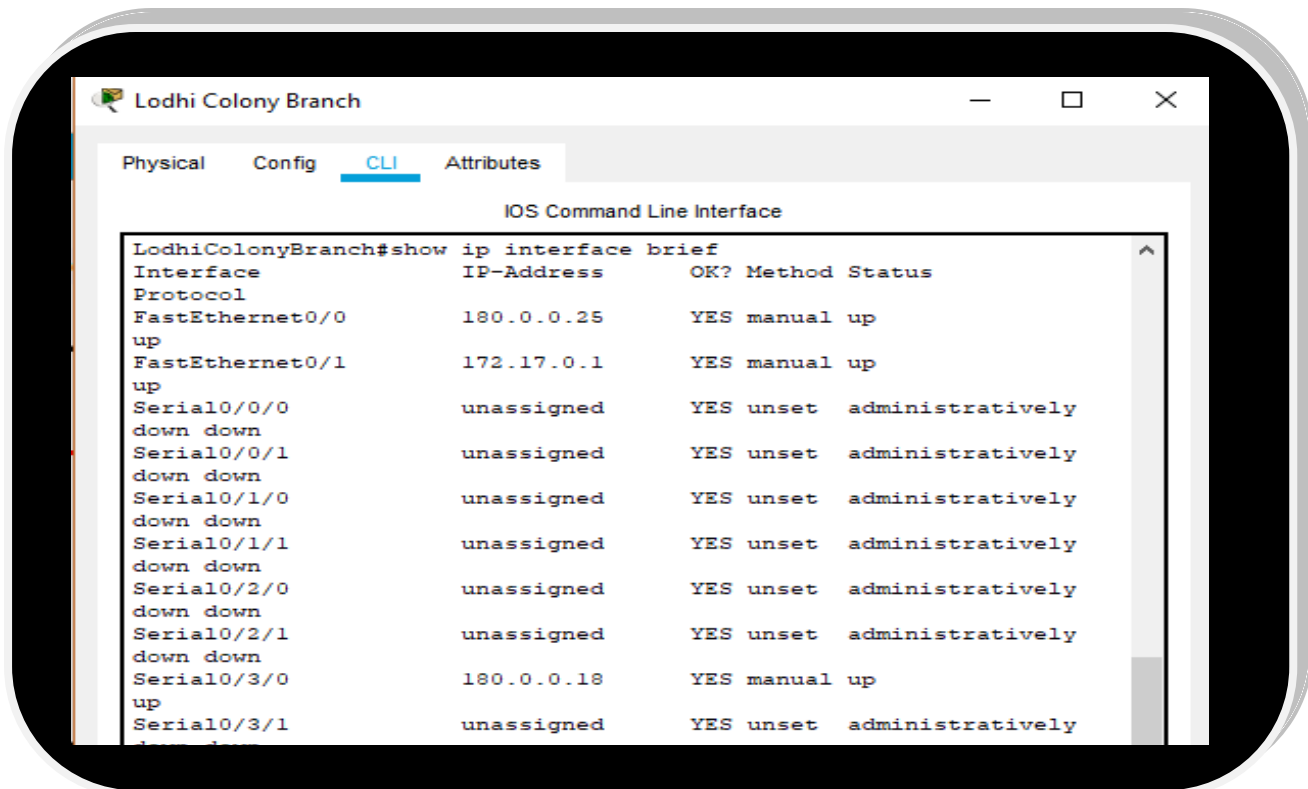
Physical Config **CLI** Attributes

IOS Command Line Interface

```
NishterMedicalCollege#show ip interface brief
```

Interface	IP-Address	OK?	Method	Status
Protocol				
FastEthernet0/0	180.0.0.21	YES	manual	up
FastEthernet0/1	172.17.0.33	YES	manual	up
Serial0/0/0	unassigned	YES	unset	administratively down
Serial0/0/1	unassigned	YES	unset	administratively down
Serial0/1/0	unassigned	YES	unset	administratively down
Serial0/1/1	unassigned	YES	unset	administratively down
Serial0/2/0	unassigned	YES	unset	administratively down
Serial0/2/1	unassigned	YES	unset	administratively down
Serial0/3/0	180.0.0.10	YES	manual	up
Serial0/3/1	180.0.0.17	YES	manual	up
Vlan1	unassigned	YES	unset	administratively down

**Figure 24Lodhi Colony**



## **SHOW RUNNING-CONFIG:**

### **Korangi Branch:**

**ipdhcp excluded-address 172.16.1.107 172.16.1.110**

**!**

**ipdhcp pool KorangiBranch**

**network 172.16.1.96 255.255.255.240**

**default-router 172.16.1.97**

**routerospf 20**

**log-adjacency-changes**

**network 128.0.0.0 0.0.0.3 area 0**

**network 172.16.1.96 0.0.0.15 area 0**

**access-list 120 permit tcp host 172.16.1.107 host 172.16.1.27**

**access-list 120 permit tcp host 172.16.1.107 host 172.16.1.27 eq www**  
**access-list 120 deny tcp any host 172.16.1.27 eq www**  
**access-list 120 permit ip any any**  
**access-list 120 permit tcp host 172.16.1.107 host 172.16.1.26 eq domain**  
**access-list 120 deny tcp any host 172.16.1.26 eq domain**  
**access-list 121 permit tcp host 172.16.1.107 host 172.16.1.28 eq ftp**  
**access-list 121 deny tcp any host 172.16.1.28 eq ftp**  
**access-list 121 permit ip any any**  
**access-list 122 permit ip any any**  
**access-list 122 permit tcp host 172.16.1.107 host 172.16.1.25**  
**access-list 122 permit tcp host 172.16.1.107 host 172.16.1.25 eqsmtp**  
**access-list 122 deny tcp any host 172.16.1.25 eqsmtp**

## **JAUHAR BRANCH:**

**ipdhcp excluded-address 172.16.1.82 172.16.1.94**  
**!**  
**ipdhcp pool JauharBranch**  
**network 172.16.1.64 255.255.255.224**  
**default-router 172.16.1.65**  
**routerospf 20**  
**log-adjacency-changes**  
**network 172.16.1.64 0.0.0.31 area 0**  
**network 128.0.0.0 0.0.0.3 area 0**  
**network 128.0.0.4 0.0.0.3 area 0**

## **MALIR HALT BRANCH:**

**ipdhcp pool MalirHaltBranch**  
**network 172.16.1.32 255.255.255.224**  
**default-router 172.16.1.33**  
**routerospf 20**  
**log-adjacency-changes**  
**network 172.16.1.32 0.0.0.31 area 0**  
**network 128.0.0.4 0.0.0.3 area 0**  
**network 128.0.0.8 0.0.0.3 area 0**

## **KARSAZ BRANCH:**

```
ipdhcp excluded-address 172.16.1.25 172.16.1.30
!  
ipdhcp pool KarsazBranch  
network 172.16.1.0 255.255.255.224  
default-router 172.16.1.1  
routerospf 20  
log-adjacency-changes  
network 172.16.1.0 0.0.0.31 area 0  
network 128.0.0.8 0.0.0.3 area 0  
network 2.0.0.0 0.0.0.3 area 0  
network 3.0.1.0 0.0.0.3 area 0
```

## **MARKAZ BRANCH**

```
ipdhcp excluded-address 192.168.1.52 192.168.1.62
!  
ipdhcp pool MarkazBranch  
network 192.168.1.32 255.255.255.224  
default-router 192.168.1.33  
ip route 193.0.0.4 255.255.255.252 193.0.0.2  
ip route 193.0.0.8 255.255.255.252 193.0.0.2  
ip route 192.168.1.64 255.255.255.240 193.0.0.2  
ip route 192.168.1.80 255.255.255.240 193.0.0.2  
ip route 192.168.1.0 255.255.255.224 193.0.0.2  
ip route 173.0.0.0 255.255.255.252 193.0.0.2  
ip route 194.0.0.0 255.255.255.252 193.0.0.2  
ip route 0.0.0.0 255.255.255.255 193.0.0.2
```

## **GOLRA MORE BRANCH**

```
ipdhcp excluded-address 192.168.1.76 192.168.1.78
!  
ipdhcp pool GolraMoreBranch  
network 192.168.1.64 255.255.255.240  
default-router 192.168.1.65
```



```
ipnat pool bank 193.0.0.5 193.0.0.6 netmask 255.255.255.252
ipnat inside source list 10 pool bank
ipnat inside source static 192.168.1.67 193.0.0.5
ipnat inside source static 192.168.1.66 193.0.0.5
access-list 10 permit 192.168.1.64 0.0.0.15
ip route 193.0.0.8 255.255.255.252 193.0.0.6
ip route 192.168.1.80 255.255.255.240 193.0.0.6
ip route 192.168.1.0 255.255.255.224 193.0.0.6
ip route 192.168.1.32 255.255.255.224 193.0.0.1
ip route 0.0.0.0 255.255.255.255 173.0.0.1
ip route 0.0.0.0 255.255.255.255 194.0.0.2
```

## **F-6 BRANCH**

```
ipdhcp excluded-address 192.168.1.89 192.168.1.94
!
ipdhcp pool F-6Branch
network 192.168.1.80 255.255.255.240
default-router 192.168.1.81
ip route 193.0.0.0 255.255.255.252 193.0.0.5
ip route 192.168.1.32 255.255.255.224 193.0.0.5
ip route 192.168.1.64 255.255.255.240 193.0.0.5
ip route 192.168.1.0 255.255.255.224 193.0.0.10
ip route 173.0.0.0 255.255.255.252 193.0.0.5
ip route 194.0.0.0 255.255.255.252 193.0.0.5
ip route 0.0.0.0 255.255.255.255 193.0.0.5
```

## **G-8 BRANCH**

```
ipdhcp excluded-address 192.168.1.23 192.168.1.29
!
ipdhcp pool G-8Branch
network 192.168.1.0 255.255.255.224
default-router 192.168.1.1
ipnat pool bank2 193.0.0.9 193.0.0.10 netmask 255.255.255.252
ipnat inside source list 11 pool bank2
ipnat inside source static 192.168.1.3 193.0.0.10
ipnat inside source static 192.168.1.2 193.0.0.10
ip classless
```

```
ip route 193.0.0.0 255.255.255.252 193.0.0.9
ip route 193.0.0.4 255.255.255.252 193.0.0.9
ip route 192.168.1.32 255.255.255.224 193.0.0.9
ip route 192.168.1.64 255.255.255.240 193.0.0.9
ip route 192.168.1.80 255.255.255.240 193.0.0.9
ip route 173.0.0.0 255.255.255.252 193.0.0.9
ip route 194.0.0.0 255.255.255.252 193.0.0.9
ip route 0.0.0.0 255.255.255.255 193.0.0.9
access-list 11 permit 192.168.1.0 0.0.0.31
```

## **FEROZEPUR BRANCH**

```
ipdhcp excluded-address 10.0.1.141 10.0.1.142
!
ipdhcp pool FerozepurBranch
network 10.0.1.128 255.255.255.240
default-router 10.0.1.129
router rip
version 2
network 1.0.0.0
network 3.0.0.0
network 10.0.0.0
network 100.0.0.0
no auto-summary
```

## **LIBERTY BRANCH**

```
ipdhcp excluded-address 10.0.1.35 10.0.1.62
!
ipdhcp pool LibertyBranch
network 10.0.1.0 255.255.255.192
default-router 10.0.1.1
router rip
version 2
network 1.0.0.0
network 10.0.0.0
no auto-summary
```

## **STOCK EXCHANGE BRANCH**

```
ipdhcp excluded-address 10.0.1.87 10.0.1.94
!  
ipdhcp pool StockExchangeBranch  
network 10.0.1.64 255.255.255.224  
default-router 10.0.1.65  
router rip  
version 2  
network 1.0.0.0  
network 10.0.0.0  
no auto-summary
```

## **CONSUMER BRANCH**

```
ipdhcp excluded-address 10.0.1.113 10.0.1.126
!  
ipdhcp pool ConsumerBranch  
network 10.0.1.96 255.255.255.224  
default-router 10.0.1.97  
router rip  
version 2  
network 1.0.0.0  
network 10.0.0.0  
no auto-summary
```

## **BZU BRANCH**

```
ipdhcp excluded-address 172.17.0.85 172.17.0.94
!  
ipdhcp pool BZUBranch  
network 172.17.0.64 255.255.255.224  
default-router 172.17.0.65  
router eigrp 10  
network 180.0.0.0 0.0.0.3  
network 180.0.0.4 0.0.0.3  
network 172.17.0.64 0.0.0.31  
no auto-summary
```

## **EXECUTIVE VILLAS BRANCH**

```
ipdhcp excluded-address 172.17.0.113 172.17.0.126
!  
ipdhcp pool ExecutiveVillasBranch  
network 172.17.0.96 255.255.255.224  
default-router 172.17.0.97  
router eigrp 10  
network 180.0.0.0 0.0.0.3  
network 180.0.0.8 0.0.0.3  
network 180.0.0.12 0.0.0.3  
network 172.17.0.96 0.0.0.31  
network 4.0.0.0 0.0.0.3  
network 174.0.0.0 0.0.0.3  
no auto-summary
```

## **NISHTER MEDICAL COLLEGE**

```
ipdhcp excluded-address 172.17.0.54 172.17.0.62
!  
ipdhcp pool NishterMedicalCollege  
network 172.17.0.32 255.255.255.224  
default-router 172.17.0.33  
router eigrp 10  
network 180.0.0.8 0.0.0.3  
network 180.0.0.16 0.0.0.3  
network 180.0.0.20 0.0.0.3  
network 172.17.0.32 0.0.0.31  
no auto-summary
```

## **LODHI COLONY BRANCH**

```
ipdhcp excluded-address 172.17.0.23 172.17.0.30
!  
ipdhcp pool LodhiColonyBranch  
network 172.17.0.0 255.255.255.224
```

```
default-router 172.17.0.1
router igrp 10
network 180.0.0.16 0.0.0.3
network 180.0.0.24 0.0.0.3
network 172.17.0.0 0.0.0.31
no auto-summary
```

## **BORDER ROUTER 1**

```
router ospf 20
log-adjacency-changes
redistribute rip metric 1200 subnets
redistribute igrp 10 metric 1100 subnets
redistribute static metric 1500 subnets
network 2.0.0.0 0.0.0.3 area 0
!
ip classless
ip route 194.0.0.0 255.255.255.252 173.0.0.2
ip route 193.0.0.0 255.255.255.252 173.0.0.2
ip route 193.0.0.4 255.255.255.252 173.0.0.2
ip route 193.0.0.8 255.255.255.252 173.0.0.2
ip route 192.168.1.32 255.255.255.224 173.0.0.2
ip route 192.168.1.64 255.255.255.240 173.0.0.2
ip route 192.168.1.80 255.255.255.240 173.0.0.2
ip route 192.168.1.0 255.255.255.224 173.0.0.2
ip route 0.0.0.0 255.255.255.255 2.0.0.1
```

## **BORDER ROUTER 4**

```
router ospf 20
log-adjacency-changes
redistribute rip metric 1000 subnets
redistribute igrp 10 metric 1100 subnets
redistribute static metric 1200 subnets
network 3.0.1.0 0.0.0.3 area 0
!
router rip
version 2
redistribute igrp 10 metric 2
```

```
redistributeospf 20 metric 2
redistribute static metric 4
network 100.0.0.0
no auto-summary
```

## **BORDER ROUTER 3**

```
routerigrp 10
redistribute rip metric 1500 0 210 10 6
redistributeospf 20 metric 1100 3 200 11 6
redistribute static metric 1200 2 200 10 5
passive-interface Serial0/3/1
network 4.0.0.0
network 174.0.0.0 0.0.0.3
no auto-summary
router rip
version 2
redistributeeigrp 10 metric 2
redistributeospf 20 metric 2
redistribute static metric 3
network 3.0.0.0
no auto-summary
```

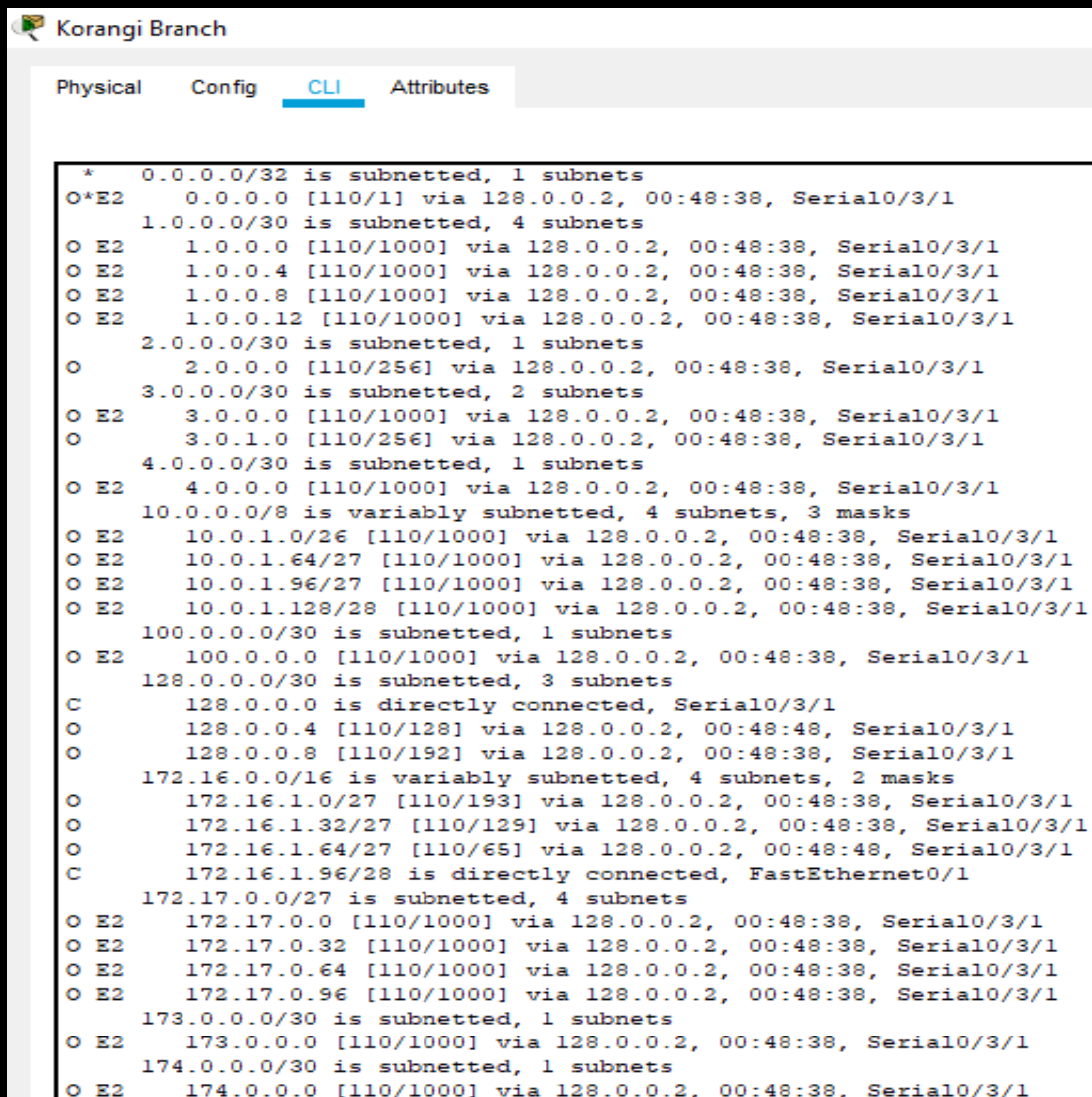
## **BORDER ROUTER 2**

```
routerigrp 10
redistribute rip metric 1200 0 200 10 5
redistributeospf 20 metric 1200 0 200 10 5
redistribute static metric 1200 0 200 10 5
network 4.0.0.0 0.0.0.3
no auto-summary
ip route 173.0.0.0 255.255.255.252 194.0.0.1
ip route 193.0.0.0 255.255.255.252 194.0.0.1
ip route 193.0.0.4 255.255.255.252 194.0.0.1
ip route 193.0.0.8 255.255.255.252 194.0.0.1
ip route 192.168.1.32 255.255.255.224 194.0.0.1
ip route 192.168.1.64 255.255.255.240 194.0.0.1
```

```
ip route 192.168.1.80 255.255.255.240 194.0.0.1
ip route 192.168.1.0 255.255.255.224 194.0.0.1
ip route 0.0.0.0 255.255.255.255 4.0.0.2
```

## **SHOW IP ROUTE**

**Figure 25 Routing Table Korangi Branch**



```
Korangi Branch
Physical  Config  CLI  Attributes

* 0.0.0.0/32 is subnetted, 1 subnets
O*E2 0.0.0.0 [110/1] via 128.0.0.2, 00:48:38, Serial0/3/1
1.0.0.0/30 is subnetted, 4 subnets
O E2 1.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 1.0.0.4 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 1.0.0.8 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 1.0.0.12 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
2.0.0.0/30 is subnetted, 1 subnets
O 2.0.0.0 [110/256] via 128.0.0.2, 00:48:38, Serial0/3/1
3.0.0.0/30 is subnetted, 2 subnets
O E2 3.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O 3.0.1.0 [110/256] via 128.0.0.2, 00:48:38, Serial0/3/1
4.0.0.0/30 is subnetted, 1 subnets
O E2 4.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
O E2 10.0.1.0/26 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 10.0.1.64/27 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 10.0.1.96/27 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 10.0.1.128/28 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
100.0.0.0/30 is subnetted, 1 subnets
O E2 100.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
128.0.0.0/30 is subnetted, 3 subnets
C 128.0.0.0 is directly connected, Serial0/3/1
O 128.0.0.4 [110/128] via 128.0.0.2, 00:48:48, Serial0/3/1
O 128.0.0.8 [110/192] via 128.0.0.2, 00:48:38, Serial0/3/1
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
O 172.16.1.0/27 [110/193] via 128.0.0.2, 00:48:38, Serial0/3/1
O 172.16.1.32/27 [110/129] via 128.0.0.2, 00:48:38, Serial0/3/1
O 172.16.1.64/27 [110/65] via 128.0.0.2, 00:48:48, Serial0/3/1
C 172.16.1.96/28 is directly connected, FastEthernet0/1
172.17.0.0/27 is subnetted, 4 subnets
O E2 172.17.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 172.17.0.32 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 172.17.0.64 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
O E2 172.17.0.96 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
173.0.0.0/30 is subnetted, 1 subnets
O E2 173.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
174.0.0.0/30 is subnetted, 1 subnets
O E2 174.0.0.0 [110/1000] via 128.0.0.2, 00:48:38, Serial0/3/1
```

## Figure 26 Routing Table Malir Halt

Malir Halt Branch	
Physical	Config
CLI	Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets O*E2 0.0.0.0 [110/1] via 128.0.0.10, 00:50:05, Serial0/3/1 1.0.0.0/30 is subnetted, 4 subnets O E2 1.0.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 1.0.0.4 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 1.0.0.8 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 1.0.0.12 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 2.0.0.0/30 is subnetted, 1 subnets O 2.0.0.0 [110/128] via 128.0.0.10, 00:50:05, Serial0/3/1 3.0.0.0/30 is subnetted, 2 subnets O E2 3.0.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O 3.0.1.0 [110/128] via 128.0.0.10, 00:50:05, Serial0/3/1 4.0.0.0/30 is subnetted, 1 subnets O E2 4.0.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks O E2 10.0.1.0/26 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 10.0.1.64/27 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 10.0.1.96/27 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 10.0.1.128/28 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 100.0.0.0/30 is subnetted, 1 subnets O E2 100.0.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 128.0.0.0/30 is subnetted, 3 subnets O 128.0.0.0 [110/128] via 128.0.0.5, 00:50:05, Serial0/3/0 C 128.0.0.4 is directly connected, Serial0/3/0 C 128.0.0.8 is directly connected, Serial0/3/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks O 172.16.1.0/27 [110/65] via 128.0.0.10, 00:50:05, Serial0/3/1 C 172.16.1.32/27 is directly connected, FastEthernet0/1 O 172.16.1.64/27 [110/65] via 128.0.0.5, 00:50:05, Serial0/3/0 O 172.16.1.96/28 [110/129] via 128.0.0.5, 00:50:05, Serial0/3/0 172.17.0.0/27 is subnetted, 4 subnets O E2 172.17.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 172.17.0.32 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 172.17.0.64 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 O E2 172.17.0.96 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 173.0.0.0/30 is subnetted, 1 subnets O E2 173.0.0.0 [110/1000] via 128.0.0.10, 00:50:05, Serial0/3/1 174.0.0.0/30 is subnetted, 1 subnets </pre>	



**Figure 27 Routing Table Karsaz Branch**

Karsaz Branch(HEAD)

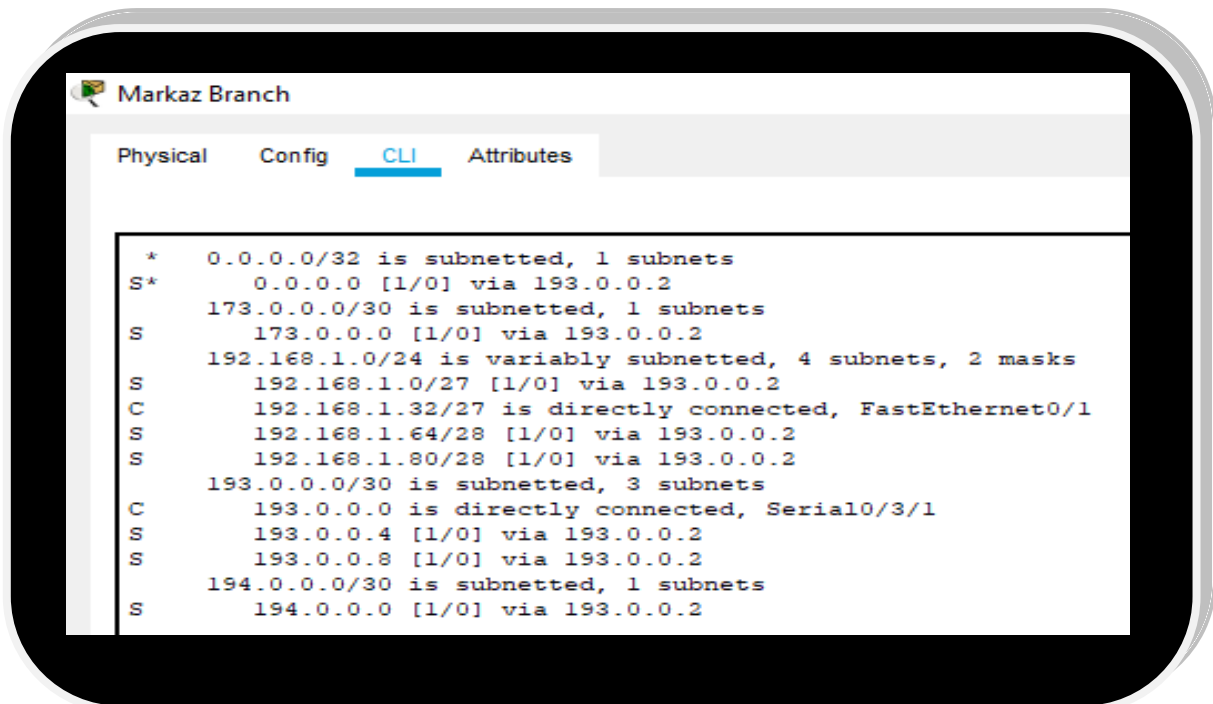
Physical Config CLI Attributes

```

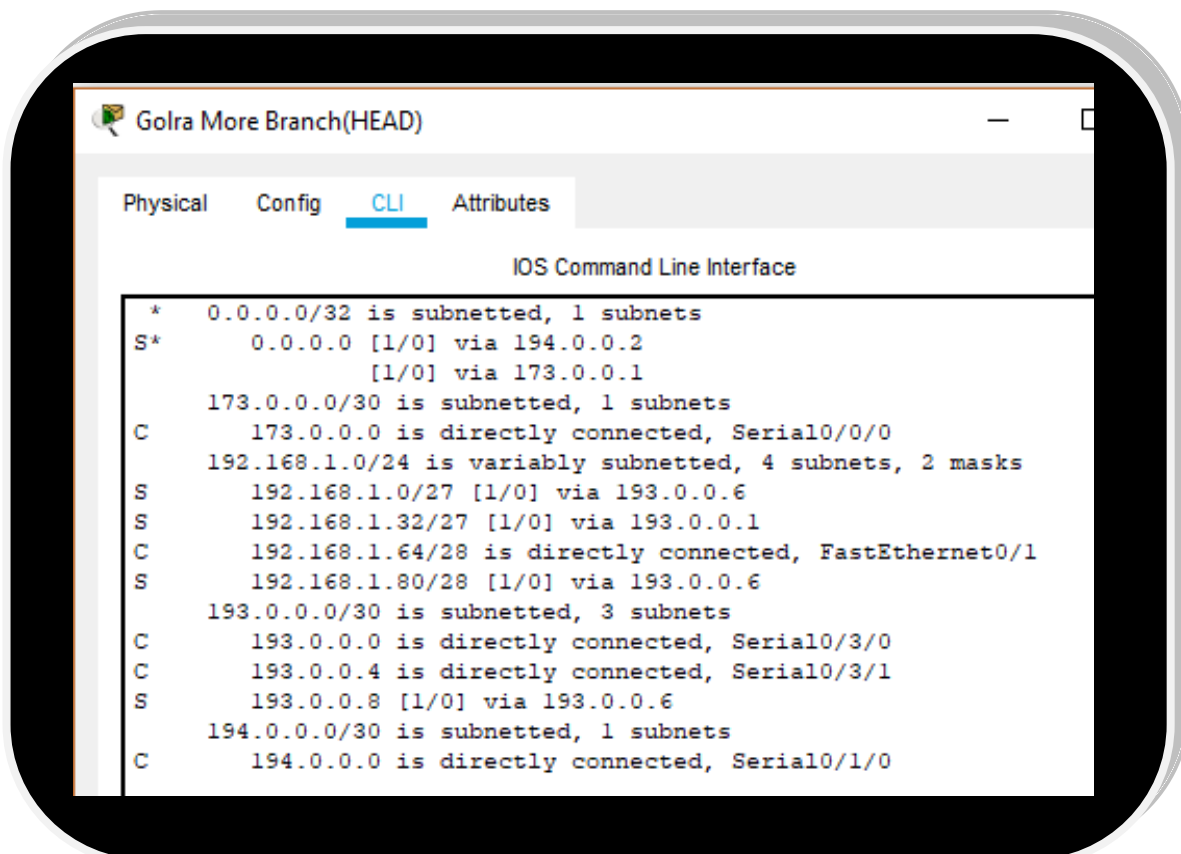
1.0.0.0/30 is subnetted, 4 subnets
O E2   1.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   1.0.0.4 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   1.0.0.8 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   1.0.0.12 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
2.0.0.0/30 is subnetted, 1 subnets
C       2.0.0.0 is directly connected, Serial0/0/0
3.0.0.0/30 is subnetted, 2 subnets
O E2   3.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
C       3.0.1.0 is directly connected, Serial0/0/1
4.0.0.0/30 is subnetted, 1 subnets
O E2   4.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
O E2   10.0.1.0/26 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   10.0.1.64/27 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   10.0.1.96/27 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   10.0.1.128/28 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
100.0.0.0/30 is subnetted, 1 subnets
O E2   100.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
128.0.0.0/30 is subnetted, 3 subnets
O       128.0.0.0 [110/192] via 128.0.0.9, 00:50:42, Serial0/3/0
O       128.0.0.4 [110/128] via 128.0.0.9, 00:50:42, Serial0/3/0
C       128.0.0.8 is directly connected, Serial0/3/0
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
C       172.16.1.0/27 is directly connected, FastEthernet0/1
O       172.16.1.32/27 [110/65] via 128.0.0.9, 00:50:42, Serial0/3/0
O       172.16.1.64/27 [110/129] via 128.0.0.9, 00:50:42, Serial0/3/0
O       172.16.1.96/28 [110/193] via 128.0.0.9, 00:50:42, Serial0/3/0
172.17.0.0/27 is subnetted, 4 subnets
O E2   172.17.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   172.17.0.32 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   172.17.0.64 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
O E2   172.17.0.96 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
173.0.0.0/30 is subnetted, 1 subnets
O E2   173.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
174.0.0.0/30 is subnetted, 1 subnets
O E2   174.0.0.0 [110/1000] via 3.0.1.2, 00:50:42, Serial0/0/1
180.0.0.0/30 is subnetted, 7 subnets

```

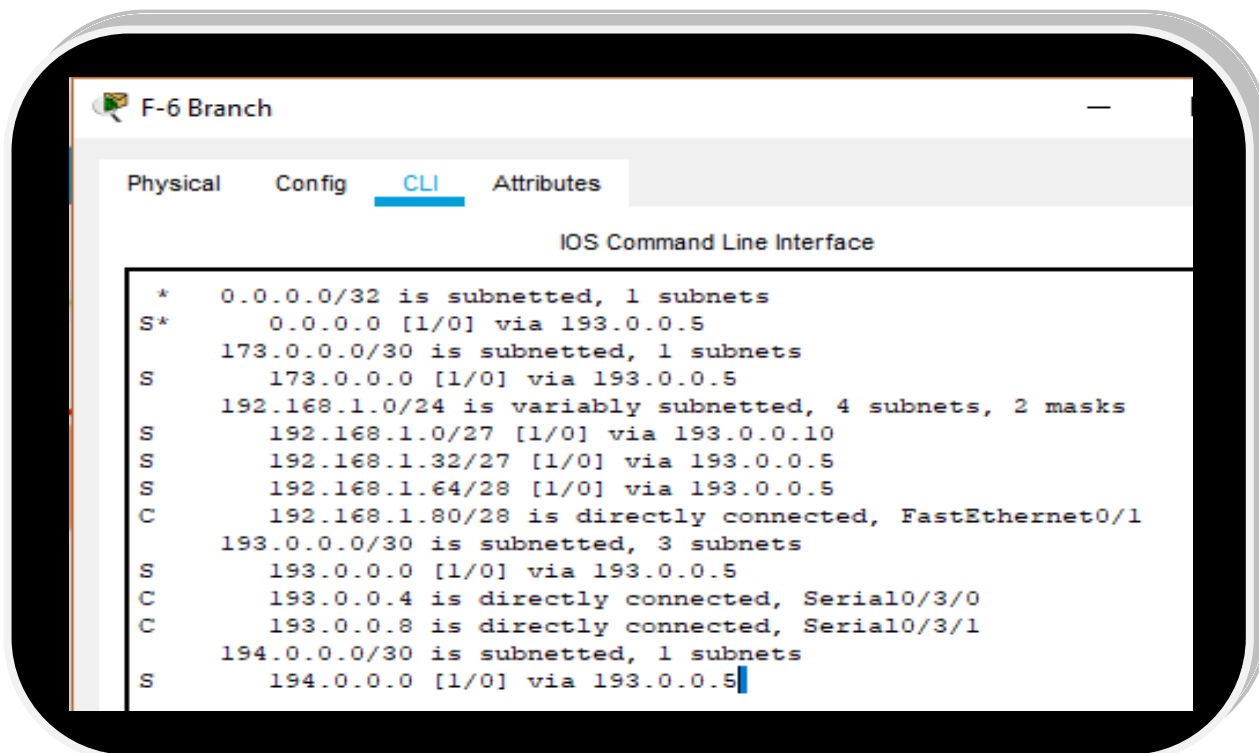
**Figure 28 Routing Table Markaz Branch**



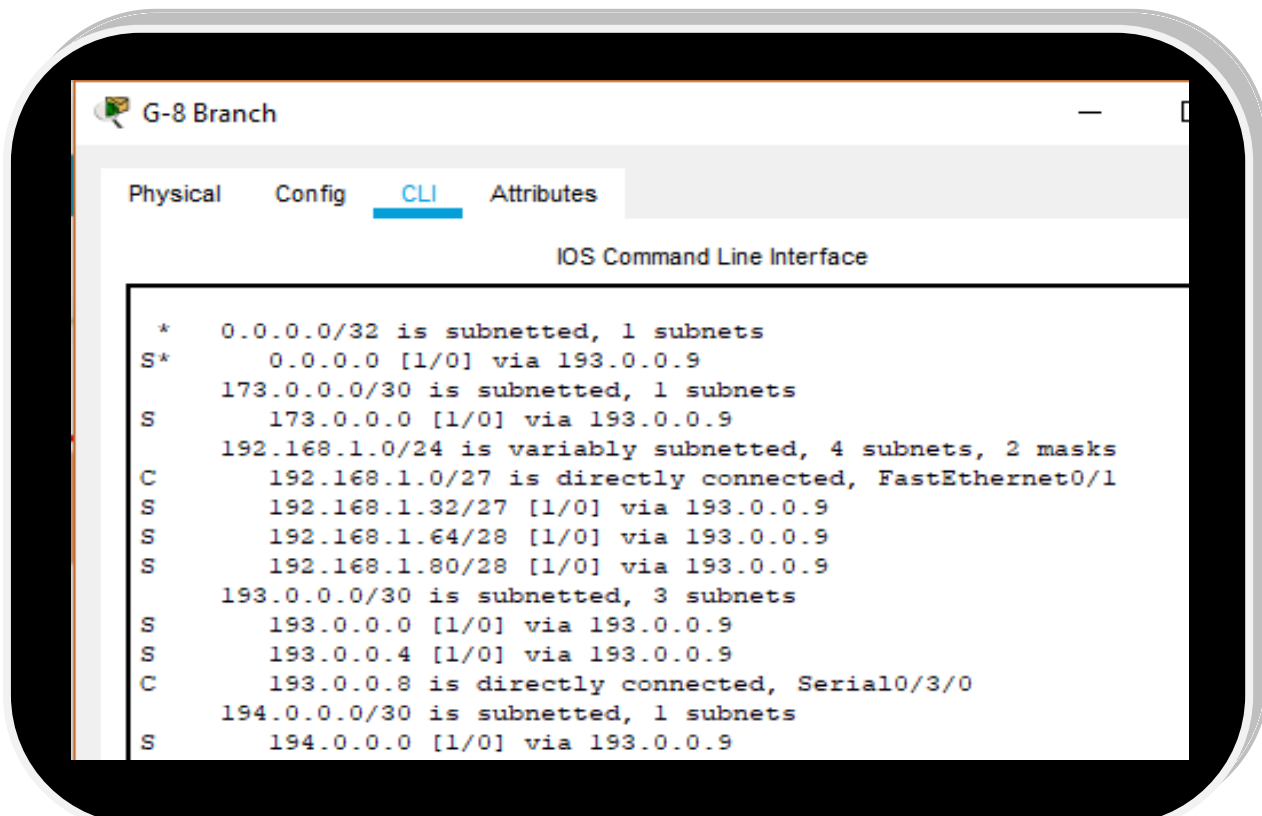
**Figure 29 Routing Table Golra More Branch**



**Figure 30 Routing Table F-6 Branch**



**Figure 31 Routing Table G-8 Branch**



**Figure 32 Routing Table Ferozepur Branch**

Ferozepur Branch(HEAD)	
Physical	Config CLI Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets R* 0.0.0.0 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0    [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 1.0.0.0/30 is subnetted, 4 subnets C 1.0.0.0 is directly connected, Serial0/3/0 C 1.0.0.4 is directly connected, Serial0/3/1 R 1.0.0.8 [120/1] via 1.0.0.6, 00:00:01, Serial0/3/1 R 1.0.0.12 [120/1] via 1.0.0.1, 00:00:17, Serial0/3/0 2.0.0.0/30 is subnetted, 1 subnets R 2.0.0.0 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 3.0.0.0/30 is subnetted, 2 subnets C 3.0.0.0 is directly connected, Serial0/0/0 R 3.0.1.0 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 4.0.0.0/30 is subnetted, 1 subnets R 4.0.0.0 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks R 10.0.1.0/26 [120/1] via 1.0.0.1, 00:00:17, Serial0/3/0 R 10.0.1.64/27 [120/2] via 1.0.0.1, 00:00:17, Serial0/3/0    [120/2] via 1.0.0.6, 00:00:01, Serial0/3/1 R 10.0.1.96/27 [120/1] via 1.0.0.6, 00:00:01, Serial0/3/1 C 10.0.1.128/28 is directly connected, FastEthernet0/1 100.0.0.0/30 is subnetted, 1 subnets C 100.0.0.0 is directly connected, Serial0/0/1 128.0.0.0/30 is subnetted, 3 subnets R 128.0.0.0 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 R 128.0.0.4 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 R 128.0.0.8 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks R 172.16.1.0/27 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 R 172.16.1.32/27 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 R 172.16.1.64/27 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 R 172.16.1.96/28 [120/2] via 100.0.0.2, 00:00:14, Serial0/0/1 172.17.0.0/27 is subnetted, 4 subnets R 172.17.0.0 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0 R 172.17.0.32 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0 R 172.17.0.64 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0 R 172.17.0.96 [120/2] via 3.0.0.1, 00:00:06, Serial0/0/0 </pre>	

**Figure 33 Routing Table Liberty Branch**

```

Liberty Branch

Physical  Config  CLI  Attributes

* 0.0.0.0/32 is subnetted, 1 subnets
R* 0.0.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
1.0.0.0/30 is subnetted, 4 subnets
C 1.0.0.0 is directly connected, Serial0/3/1
R 1.0.0.4 [120/1] via 1.0.0.2, 00:00:16, Serial0/3/1
R 1.0.0.8 [120/1] via 1.0.0.13, 00:00:20, Serial0/3/0
C 1.0.0.12 is directly connected, Serial0/3/0
2.0.0.0/30 is subnetted, 1 subnets
R 2.0.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
3.0.0.0/30 is subnetted, 2 subnets
R 3.0.0.0 [120/1] via 1.0.0.2, 00:00:16, Serial0/3/1
R 3.0.1.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
4.0.0.0/30 is subnetted, 1 subnets
R 4.0.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
C 10.0.1.0/26 is directly connected, FastEthernet0/1
R 10.0.1.64/27 [120/1] via 1.0.0.13, 00:00:20, Serial0/3/0
R 10.0.1.96/27 [120/2] via 1.0.0.2, 00:00:16, Serial0/3/1
[120/2] via 1.0.0.13, 00:00:20, Serial0/3/0
R 10.0.1.128/28 [120/1] via 1.0.0.2, 00:00:16, Serial0/3/1
100.0.0.0/30 is subnetted, 1 subnets
R 100.0.0.0 [120/1] via 1.0.0.2, 00:00:16, Serial0/3/1
128.0.0.0/30 is subnetted, 3 subnets
R 128.0.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 128.0.0.4 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 128.0.0.8 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
R 172.16.1.0/27 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.16.1.32/27 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.16.1.64/27 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.16.1.96/28 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
172.17.0.0/27 is subnetted, 4 subnets
R 172.17.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.17.0.32 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.17.0.64 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
R 172.17.0.96 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
173.0.0.0/30 is subnetted, 1 subnets
R 173.0.0.0 [120/3] via 1.0.0.2, 00:00:16, Serial0/3/1
174.0.0.0/30 is subnetted, 1 subnets

```

**Figure 34 Routing Table Stock Exchange Branch**

Stock Exchange Branch	
Physical	Config CLI Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets R* 0.0.0.0 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 1.0.0.0/30 is subnetted, 4 subnets R 1.0.0.0 [120/1] via 1.0.0.14, 00:00:10, Serial0/3/1 R 1.0.0.4 [120/1] via 1.0.0.9, 00:00:16, Serial0/3/0 C 1.0.0.8 is directly connected, Serial0/3/0 C 1.0.0.12 is directly connected, Serial0/3/1 2.0.0.0/30 is subnetted, 1 subnets R 2.0.0.0 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 3.0.0.0/30 is subnetted, 2 subnets R 3.0.0.0 [120/2] via 1.0.0.14, 00:00:10, Serial0/3/1    [120/2] via 1.0.0.9, 00:00:16, Serial0/3/0 R 3.0.1.0 [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1    [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0 4.0.0.0/30 is subnetted, 1 subnets R 4.0.0.0 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks R 10.0.1.0/26 [120/1] via 1.0.0.14, 00:00:10, Serial0/3/1 C 10.0.1.64/27 is directly connected, FastEthernet0/1 R 10.0.1.96/27 [120/1] via 1.0.0.9, 00:00:16, Serial0/3/0 R 10.0.1.128/28 [120/2] via 1.0.0.14, 00:00:10, Serial0/3/1    [120/2] via 1.0.0.9, 00:00:16, Serial0/3/0 100.0.0.0/30 is subnetted, 1 subnets R 100.0.0.0 [120/2] via 1.0.0.14, 00:00:10, Serial0/3/1    [120/2] via 1.0.0.9, 00:00:16, Serial0/3/0 128.0.0.0/30 is subnetted, 3 subnets R 128.0.0.0 [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1    [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0 R 128.0.0.4 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 R 128.0.0.8 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks R 172.16.1.0/27 [120/4] via 1.0.0.9, 00:00:16, Serial0/3/0    [120/4] via 1.0.0.14, 00:00:10, Serial0/3/1 </pre>	



## Figure 35 Routing Table Consumer Branch

### Consumer Branch

Physical Config **CLI** Attributes

```
* 0.0.0.0/32 is subnetted, 1 subnets
R* 0.0.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
1.0.0.0/30 is subnetted, 4 subnets
R 1.0.0.0 [120/1] via 1.0.0.5, 00:00:19, Serial0/3/0
C 1.0.0.4 is directly connected, Serial0/3/0
C 1.0.0.8 is directly connected, Serial0/3/1
R 1.0.0.12 [120/1] via 1.0.0.10, 00:00:24, Serial0/3/1
2.0.0.0/30 is subnetted, 1 subnets
R 2.0.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
3.0.0.0/30 is subnetted, 2 subnets
R 3.0.0.0 [120/1] via 1.0.0.5, 00:00:19, Serial0/3/0
R 3.0.1.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
4.0.0.0/30 is subnetted, 1 subnets
R 4.0.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
R 10.0.1.0/26 [120/2] via 1.0.0.5, 00:00:19, Serial0/3/0
[120/2] via 1.0.0.10, 00:00:24, Serial0/3/1
R 10.0.1.64/27 [120/1] via 1.0.0.10, 00:00:24, Serial0/3/1
C 10.0.1.96/27 is directly connected, FastEthernet0/1
R 10.0.1.128/28 [120/1] via 1.0.0.5, 00:00:19, Serial0/3/0
100.0.0.0/30 is subnetted, 1 subnets
R 100.0.0.0 [120/1] via 1.0.0.5, 00:00:19, Serial0/3/0
128.0.0.0/30 is subnetted, 3 subnets
R 128.0.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 128.0.0.4 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 128.0.0.8 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
R 172.16.1.0/27 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.16.1.32/27 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.16.1.64/27 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.16.1.96/28 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
172.17.0.0/27 is subnetted, 4 subnets
R 172.17.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.17.0.32 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.17.0.64 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
R 172.17.0.96 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
173.0.0.0/30 is subnetted, 1 subnets
R 173.0.0.0 [120/3] via 1.0.0.5, 00:00:19, Serial0/3/0
```

## Figure 36 Routing Table BZU Branch

BZU Branch	
Physical	Config CLI Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets D*EX 0.0.0.0 [170/3157248] via 180.0.0.2, 00:57:22, Serial0/3/1 1.0.0.0/30 is subnetted, 4 subnets D EX 1.0.0.0 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 1.0.0.4 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 1.0.0.8 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 1.0.0.12 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 2.0.0.0/30 is subnetted, 1 subnets D EX 2.0.0.0 [170/2730496] via 180.0.0.2, 00:57:12, Serial0/3/1 3.0.0.0/30 is subnetted, 2 subnets D EX 3.0.0.0 [170/2730496] via 180.0.0.2, 00:57:26, Serial0/3/1 D EX 3.0.1.0 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 4.0.0.0/30 is subnetted, 1 subnets D 4.0.0.0 [90/2681856] via 180.0.0.2, 00:57:23, Serial0/3/1 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks D EX 10.0.1.0/26 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 10.0.1.64/27 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 10.0.1.96/27 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 D EX 10.0.1.128/28 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 100.0.0.0/30 is subnetted, 1 subnets D EX 100.0.0.0 [170/2730496] via 180.0.0.2, 00:57:23, Serial0/3/1 128.0.0.0/30 is subnetted, 3 subnets D EX 128.0.0.0 [170/2730496] via 180.0.0.2, 00:57:11, Serial0/3/1 D EX 128.0.0.4 [170/2730496] via 180.0.0.2, 00:57:12, Serial0/3/1 D EX 128.0.0.8 [170/2730496] via 180.0.0.2, 00:57:12, Serial0/3/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks D EX 172.16.1.0/27 [170/2730496] via 180.0.0.2, 00:57:12, Serial0/3/1 D EX 172.16.1.32/27 [170/2730496] via 180.0.0.2, 00:57:12, Serial0/3/1 D EX 172.16.1.64/27 [170/2730496] via 180.0.0.2, 00:57:11, Serial0/3/1 D EX 172.16.1.96/28 [170/2730496] via 180.0.0.2, 00:57:11, Serial0/3/1 172.17.0.0/27 is subnetted, 4 subnets D 172.17.0.0 [90/3196416] via 180.0.0.2, 00:57:23, Serial0/3/1 D 172.17.0.32 [90/2684416] via 180.0.0.2, 00:57:23, Serial0/3/1 C 172.17.0.64 is directly connected, FastEthernet0/1 D 172.17.0.96 [90/2172416] via 180.0.0.2, 00:57:26, Serial0/3/1 173.0.0.0/30 is subnetted, 1 subnets D EX 173.0.0.0 [170/3157248] via 180.0.0.2, 00:57:21, Serial0/3/1 174.0.0.0/30 is subnetted, 1 subnets </pre>	



**Figure 37 Routing Table Executive Villas**

Executive Villas Branch(HEAD)	
Physical	Config
CLI	Attributes
<pre> 0.0.0.0/32 is subnetted, 1 subnets D*EX    0.0.0.0 [170/2645248] via 4.0.0.1, 00:57:49, Serial0/0/0 1.0.0.0/30 is subnetted, 4 subnets D EX    1.0.0.0 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    1.0.0.4 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    1.0.0.8 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    1.0.0.12 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 2.0.0.0/30 is subnetted, 1 subnets D EX    2.0.0.0 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 3.0.0.0/30 is subnetted, 2 subnets D EX    3.0.0.0 [170/2218496] via 174.0.0.2, 00:57:54, Serial0/2/1 D EX    3.0.1.0 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 4.0.0.0/30 is subnetted, 1 subnets C        4.0.0.0 is directly connected, Serial0/0/0 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks D EX    10.0.1.0/26 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    10.0.1.64/27 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    10.0.1.96/27 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 D EX    10.0.1.128/28 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 100.0.0.0/30 is subnetted, 1 subnets D EX    100.0.0.0 [170/2218496] via 174.0.0.2, 00:57:50, Serial0/2/1 128.0.0.0/30 is subnetted, 3 subnets D EX    128.0.0.0 [170/2218496] via 174.0.0.2, 00:57:38, Serial0/2/1 D EX    128.0.0.4 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 D EX    128.0.0.8 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks D EX    172.16.1.0/27 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 D EX    172.16.1.32/27 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 D EX    172.16.1.64/27 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 D EX    172.16.1.96/28 [170/2218496] via 174.0.0.2, 00:57:39, Serial0/2/1 172.17.0.0/27 is subnetted, 4 subnets D        172.17.0.0 [90/2684416] via 180.0.0.10, 00:57:50, Serial0/3/1 D        172.17.0.32 [90/2172416] via 180.0.0.10, 00:57:50, Serial0/3/1 D        172.17.0.64 [90/2172416] via 180.0.0.1, 00:57:53, Serial0/3/0 C        172.17.0.96 is directly connected, FastEthernet0/1 173.0.0.0/30 is subnetted, 1 subnets D EX    173.0.0.0 [170/2645248] via 4.0.0.1, 00:57:49, Serial0/0/0 174.0.0.0/30 is subnetted, 1 subnets C        174.0.0.0 is directly connected, Serial0/2/1 </pre>	

## Figure 38 Routing Table Nishter Medical

Nishter Medical College	
Physical	Config CLI Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets D*EX 0.0.0.0 [170/3157248] via 180.0.0.9, 00:58:15, Serial0/3/0 1.0.0.0/30 is subnetted, 4 subnets D EX 1.0.0.0 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 1.0.0.4 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 1.0.0.8 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 1.0.0.12 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 2.0.0.0/30 is subnetted, 1 subnets D EX 2.0.0.0 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 3.0.0.0/30 is subnetted, 2 subnets D EX 3.0.0.0 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 3.0.1.0 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 4.0.0.0/30 is subnetted, 1 subnets D 4.0.0.0 [90/2681856] via 180.0.0.9, 00:58:16, Serial0/3/0 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks D EX 10.0.1.0/26 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 10.0.1.64/27 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 10.0.1.96/27 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 D EX 10.0.1.128/28 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 100.0.0.0/30 is subnetted, 1 subnets D EX 100.0.0.0 [170/2730496] via 180.0.0.9, 00:58:16, Serial0/3/0 128.0.0.0/30 is subnetted, 3 subnets D EX 128.0.0.0 [170/2730496] via 180.0.0.9, 00:58:04, Serial0/3/0 D EX 128.0.0.4 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 D EX 128.0.0.8 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks D EX 172.16.1.0/27 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 D EX 172.16.1.32/27 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 D EX 172.16.1.64/27 [170/2730496] via 180.0.0.9, 00:58:05, Serial0/3/0 D EX 172.16.1.96/28 [170/2730496] via 180.0.0.9, 00:58:04, Serial0/3/0 172.17.0.0/27 is subnetted, 4 subnets D 172.17.0.0 [90/2172416] via 180.0.0.18, 00:58:18, Serial0/3/1 C 172.17.0.32 is directly connected, FastEthernet0/1 D 172.17.0.64 [90/2684416] via 180.0.0.9, 00:58:16, Serial0/3/0 D 172.17.0.96 [90/2172416] via 180.0.0.9, 00:58:16, Serial0/3/0 173.0.0.0/30 is subnetted, 1 subnets D EX 173.0.0.0 [170/3157248] via 180.0.0.9, 00:58:15, Serial0/3/0 174.0.0.0/30 is subnetted, 1 subnets </pre>	

## Figure 39 Routing Table Lodhi Colony

Lodhi Colony Branch

Physical Config **CLI** Attributes

```

* 0.0.0.0/32 is subnetted, 1 subnets
D*EX 0.0.0.0 [170/3669248] via 180.0.0.17, 00:58:40, Serial0/3/0
1.0.0.0/30 is subnetted, 4 subnets
D EX 1.0.0.0 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 1.0.0.4 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 1.0.0.8 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 1.0.0.12 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
2.0.0.0/30 is subnetted, 1 subnets
D EX 2.0.0.0 [170/3242496] via 180.0.0.17, 00:58:30, Serial0/3/0
3.0.0.0/30 is subnetted, 2 subnets
D EX 3.0.0.0 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 3.0.1.0 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
4.0.0.0/30 is subnetted, 1 subnets
D 4.0.0.0 [90/3193856] via 180.0.0.17, 00:58:41, Serial0/3/0
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
D EX 10.0.1.0/26 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 10.0.1.64/27 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 10.0.1.96/27 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
D EX 10.0.1.128/28 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
100.0.0.0/30 is subnetted, 1 subnets
D EX 100.0.0.0 [170/3242496] via 180.0.0.17, 00:58:41, Serial0/3/0
128.0.0.0/30 is subnetted, 3 subnets
D EX 128.0.0.0 [170/3242496] via 180.0.0.17, 00:58:29, Serial0/3/0
D EX 128.0.0.4 [170/3242496] via 180.0.0.17, 00:58:30, Serial0/3/0
D EX 128.0.0.8 [170/3242496] via 180.0.0.17, 00:58:30, Serial0/3/0
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
D EX 172.16.1.0/27 [170/3242496] via 180.0.0.17, 00:58:30, Serial0/3/0
D EX 172.16.1.32/27 [170/3242496] via 180.0.0.17, 00:58:30, Serial0/3/0
D EX 172.16.1.64/27 [170/3242496] via 180.0.0.17, 00:58:29, Serial0/3/0
D EX 172.16.1.96/28 [170/3242496] via 180.0.0.17, 00:58:29, Serial0/3/0
172.17.0.0/27 is subnetted, 4 subnets
C 172.17.0.0 is directly connected, FastEthernet0/1
D 172.17.0.32 [90/2172416] via 180.0.0.17, 00:58:43, Serial0/3/0
D 172.17.0.64 [90/3196416] via 180.0.0.17, 00:58:41, Serial0/3/0
D 172.17.0.96 [90/2684416] via 180.0.0.17, 00:58:41, Serial0/3/0
173.0.0.0/30 is subnetted, 1 subnets
D EX 173.0.0.0 [170/3669248] via 180.0.0.17, 00:58:40, Serial0/3/0
174.0.0.0/30 is subnetted, 1 subnets

```

**Figure 40 Routing Table Border Router 1**

Border Router 1

Physical Config CLI Attributes

```
* 0.0.0.0/32 is subnetted, 1 subnets
S* 0.0.0.0 [1/0] via 2.0.0.1
1.0.0.0/30 is subnetted, 4 subnets
O E2 1.0.0.0 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 1.0.0.4 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 1.0.0.8 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 1.0.0.12 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
2.0.0.0/30 is subnetted, 1 subnets
C 2.0.0.0 is directly connected, Serial0/3/0
3.0.0.0/30 is subnetted, 2 subnets
O E2 3.0.0.0 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O 3.0.1.0 [110/128] via 2.0.0.1, 00:58:57, Serial0/3/0
4.0.0.0/30 is subnetted, 1 subnets
O E2 4.0.0.0 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
O E2 10.0.1.0/26 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 10.0.1.64/27 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 10.0.1.96/27 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 10.0.1.128/28 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
100.0.0.0/30 is subnetted, 1 subnets
O E2 100.0.0.0 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
128.0.0.0/30 is subnetted, 3 subnets
O 128.0.0.0 [110/256] via 2.0.0.1, 00:58:57, Serial0/3/0
O 128.0.0.4 [110/192] via 2.0.0.1, 00:58:57, Serial0/3/0
O 128.0.0.8 [110/128] via 2.0.0.1, 00:58:57, Serial0/3/0
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
O 172.16.1.0/27 [110/65] via 2.0.0.1, 00:58:57, Serial0/3/0
O 172.16.1.32/27 [110/129] via 2.0.0.1, 00:58:57, Serial0/3/0
O 172.16.1.64/27 [110/193] via 2.0.0.1, 00:58:57, Serial0/3/0
O 172.16.1.96/28 [110/257] via 2.0.0.1, 00:58:57, Serial0/3/0
172.17.0.0/27 is subnetted, 4 subnets
O E2 172.17.0.0 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 172.17.0.32 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 172.17.0.64 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
O E2 172.17.0.96 [110/1000] via 2.0.0.1, 00:58:47, Serial0/3/0
173.0.0.0/30 is subnetted, 1 subnets
C 173.0.0.0 is directly connected, Serial0/3/1
174.0.0.0/30 is subnetted, 1 subnets
```

**Figure 41 Routing Table Border Router 4**

Border Router 4	
Physical	Config CLI Attributes
<pre> * 0.0.0.0/32 is subnetted, 1 subnets O*E2 0.0.0.0 [110/1] via 3.0.1.1, 00:59:30, Serial0/3/1 1.0.0.0/30 is subnetted, 4 subnets R 1.0.0.0 [120/1] via 100.0.0.1, 00:00:23, Serial0/3/0 R 1.0.0.4 [120/1] via 100.0.0.1, 00:00:23, Serial0/3/0 R 1.0.0.8 [120/2] via 100.0.0.1, 00:00:23, Serial0/3/0 R 1.0.0.12 [120/2] via 100.0.0.1, 00:00:23, Serial0/3/0 2.0.0.0/30 is subnetted, 1 subnets O 2.0.0.0 [110/128] via 3.0.1.1, 00:59:30, Serial0/3/1 3.0.0.0/30 is subnetted, 2 subnets R 3.0.0.0 [120/1] via 100.0.0.1, 00:00:23, Serial0/3/0 C 3.0.1.0 is directly connected, Serial0/3/1 4.0.0.0/30 is subnetted, 1 subnets R 4.0.0.0 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks R 10.0.1.0/26 [120/2] via 100.0.0.1, 00:00:23, Serial0/3/0 R 10.0.1.64/27 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 R 10.0.1.96/27 [120/2] via 100.0.0.1, 00:00:23, Serial0/3/0 R 10.0.1.128/28 [120/1] via 100.0.0.1, 00:00:23, Serial0/3/0 100.0.0.0/30 is subnetted, 1 subnets C 100.0.0.0 is directly connected, Serial0/3/0 128.0.0.0/30 is subnetted, 3 subnets O 128.0.0.0 [110/256] via 3.0.1.1, 00:59:30, Serial0/3/1 O 128.0.0.4 [110/192] via 3.0.1.1, 00:59:30, Serial0/3/1 O 128.0.0.8 [110/128] via 3.0.1.1, 00:59:30, Serial0/3/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks O 172.16.1.0/27 [110/65] via 3.0.1.1, 00:59:30, Serial0/3/1 O 172.16.1.32/27 [110/129] via 3.0.1.1, 00:59:30, Serial0/3/1 O 172.16.1.64/27 [110/193] via 3.0.1.1, 00:59:30, Serial0/3/1 O 172.16.1.96/28 [110/257] via 3.0.1.1, 00:59:30, Serial0/3/1 172.17.0.0/27 is subnetted, 4 subnets R 172.17.0.0 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 R 172.17.0.32 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 R 172.17.0.64 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 R 172.17.0.96 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 173.0.0.0/30 is subnetted, 1 subnets R 173.0.0.0 [120/3] via 100.0.0.1, 00:00:23, Serial0/3/0 174.0.0.0/30 is subnetted, 1 subnets </pre>	



## Figure 42 Routing Table Border Router 3

Border Router 3

Physical Config CLI Attributes

```

* 0.0.0.0/32 is subnetted, 1 subnets
D*EX 0.0.0.0 [170/3157248] via 174.0.0.1, 01:00:08, Serial0/3/0
1.0.0.0/30 is subnetted, 4 subnets
R 1.0.0.0 [120/1] via 3.0.0.2, 00:00:23, Serial0/3/1
R 1.0.0.4 [120/1] via 3.0.0.2, 00:00:23, Serial0/3/1
R 1.0.0.8 [120/2] via 3.0.0.2, 00:00:23, Serial0/3/1
R 1.0.0.12 [120/2] via 3.0.0.2, 00:00:23, Serial0/3/1
2.0.0.0/30 is subnetted, 1 subnets
R 2.0.0.0 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
3.0.0.0/30 is subnetted, 2 subnets
C 3.0.0.0 is directly connected, Serial0/3/1
R 3.0.1.0 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
4.0.0.0/30 is subnetted, 1 subnets
D 4.0.0.0 [90/2681856] via 174.0.0.1, 01:00:09, Serial0/3/0
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
R 10.0.1.0/26 [120/2] via 3.0.0.2, 00:00:23, Serial0/3/1
R 10.0.1.64/27 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 10.0.1.96/27 [120/2] via 3.0.0.2, 00:00:23, Serial0/3/1
R 10.0.1.128/28 [120/1] via 3.0.0.2, 00:00:23, Serial0/3/1
100.0.0.0/30 is subnetted, 1 subnets
R 100.0.0.0 [120/1] via 3.0.0.2, 00:00:23, Serial0/3/1
128.0.0.0/30 is subnetted, 3 subnets
R 128.0.0.0 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 128.0.0.4 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 128.0.0.8 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
R 172.16.1.0/27 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 172.16.1.32/27 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 172.16.1.64/27 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
R 172.16.1.96/28 [120/3] via 3.0.0.2, 00:00:23, Serial0/3/1
172.17.0.0/27 is subnetted, 4 subnets
D 172.17.0.0 [90/3196416] via 174.0.0.1, 01:00:09, Serial0/3/0
D 172.17.0.32 [90/2684416] via 174.0.0.1, 01:00:09, Serial0/3/0
D 172.17.0.64 [90/2684416] via 174.0.0.1, 01:00:12, Serial0/3/0
D 172.17.0.96 [90/2172416] via 174.0.0.1, 01:00:13, Serial0/3/0
173.0.0.0/30 is subnetted, 1 subnets
D EX 173.0.0.0 [170/3157248] via 174.0.0.1, 01:00:08, Serial0/3/0
174.0.0.0/30 is subnetted, 1 subnets

```

**Figure 43 Routing Table Border Router 2**

Border Router 2	
Physical	Config CLI Attributes
<pre>* 0.0.0.0/32 is subnetted, 1 subnets S* 0.0.0.0 [1/0] via 4.0.0.2 1.0.0.0/30 is subnetted, 4 subnets D EX 1.0.0.0 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 1.0.0.4 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 1.0.0.8 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 1.0.0.12 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 2.0.0.0/30 is subnetted, 1 subnets D EX 2.0.0.0 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 3.0.0.0/30 is subnetted, 2 subnets D EX 3.0.0.0 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 3.0.1.0 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 4.0.0.0/30 is subnetted, 1 subnets C 4.0.0.0 is directly connected, Serial0/1/1 10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks D EX 10.0.1.0/26 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 10.0.1.64/27 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 10.0.1.96/27 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 D EX 10.0.1.128/28 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 100.0.0.0/30 is subnetted, 1 subnets D EX 100.0.0.0 [170/2730496] via 4.0.0.2, 01:00:35, Serial0/1/1 128.0.0.0/30 is subnetted, 3 subnets D EX 128.0.0.0 [170/2730496] via 4.0.0.2, 01:00:23, Serial0/1/1 D EX 128.0.0.4 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 D EX 128.0.0.8 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks D EX 172.16.1.0/27 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 D EX 172.16.1.32/27 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 D EX 172.16.1.64/27 [170/2730496] via 4.0.0.2, 01:00:24, Serial0/1/1 D EX 172.16.1.96/28 [170/2730496] via 4.0.0.2, 01:00:23, Serial0/1/1 172.17.0.0/27 is subnetted, 4 subnets D 172.17.0.0 [90/3196416] via 4.0.0.2, 01:00:35, Serial0/1/1 D 172.17.0.32 [90/2684416] via 4.0.0.2, 01:00:35, Serial0/1/1 D 172.17.0.64 [90/2684416] via 4.0.0.2, 01:00:35, Serial0/1/1 D 172.17.0.96 [90/2172416] via 4.0.0.2, 01:00:35, Serial0/1/1 173.0.0.0/30 is subnetted, 1 subnets S 173.0.0.0 [1/0] via 194.0.0.1 174.0.0.0/30 is subnetted, 1 subnets</pre>	

**Figure 44 Routing Table Jauhar Branch**

JauharBranch

Physical Config CLI Attributes

```

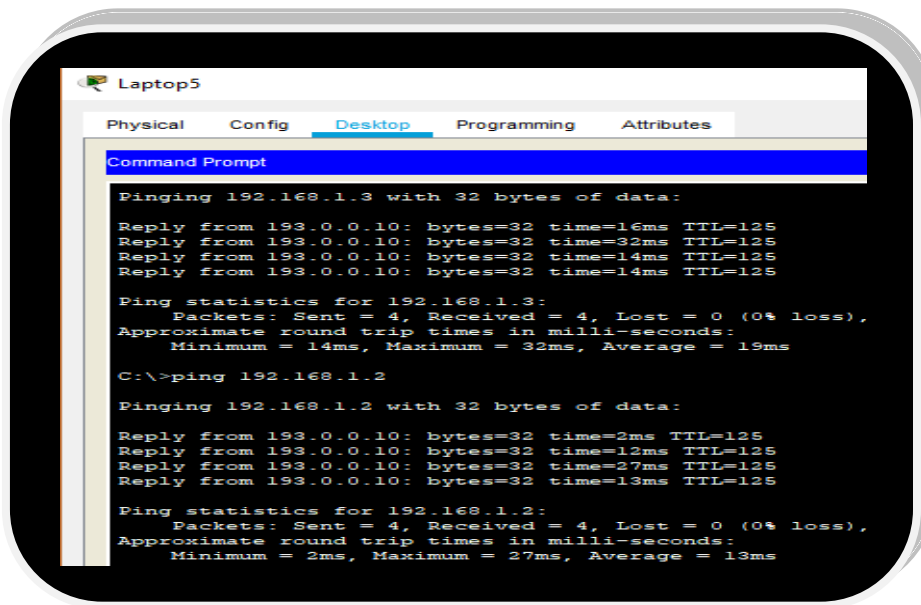
* 0.0.0.0/32 is subnetted, 1 subnets
O*E2 0.0.0.0 [110/1] via 128.0.0.6, 00:49:36, Serial0/3/1
1.0.0.0/30 is subnetted, 4 subnets
O E2 1.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 1.0.0.4 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 1.0.0.8 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 1.0.0.12 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
2.0.0.0/30 is subnetted, 1 subnets
O 2.0.0.0 [110/192] via 128.0.0.6, 00:49:36, Serial0/3/1
3.0.0.0/30 is subnetted, 2 subnets
O E2 3.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O 3.0.1.0 [110/192] via 128.0.0.6, 00:49:36, Serial0/3/1
4.0.0.0/30 is subnetted, 1 subnets
O E2 4.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
10.0.0.0/8 is variably subnetted, 4 subnets, 3 masks
O E2 10.0.1.0/26 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 10.0.1.64/27 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 10.0.1.96/27 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 10.0.1.128/28 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
100.0.0.0/30 is subnetted, 1 subnets
O E2 100.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
128.0.0.0/30 is subnetted, 3 subnets
C 128.0.0.0 is directly connected, Serial0/3/0
C 128.0.0.4 is directly connected, Serial0/3/1
O 128.0.0.8 [110/128] via 128.0.0.6, 00:49:36, Serial0/3/1
172.16.0.0/16 is variably subnetted, 4 subnets, 2 masks
O 172.16.1.0/27 [110/129] via 128.0.0.6, 00:49:36, Serial0/3/1
O 172.16.1.32/27 [110/65] via 128.0.0.6, 00:49:36, Serial0/3/1
C 172.16.1.64/27 is directly connected, FastEthernet0/1
O 172.16.1.96/28 [110/65] via 128.0.0.1, 00:49:36, Serial0/3/0
172.17.0.0/27 is subnetted, 4 subnets
O E2 172.17.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 172.17.0.32 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 172.17.0.64 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
O E2 172.17.0.96 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
173.0.0.0/30 is subnetted, 1 subnets
O E2 173.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1
174.0.0.0/30 is subnetted, 1 subnets
O E2 174.0.0.0 [110/1000] via 128.0.0.6, 00:49:36, Serial0/3/1

```



# **PING Result of NATTING:**

**Figure 45 Ping Result Natting**



```
Laptop5
Physical Config Desktop Programming Attributes
Command Prompt

Pinging 192.168.1.3 with 32 bytes of data:
Reply from 193.0.0.10: bytes=32 time=16ms TTL=125
Reply from 193.0.0.10: bytes=32 time=32ms TTL=125
Reply from 193.0.0.10: bytes=32 time=14ms TTL=125
Reply from 193.0.0.10: bytes=32 time=14ms TTL=125

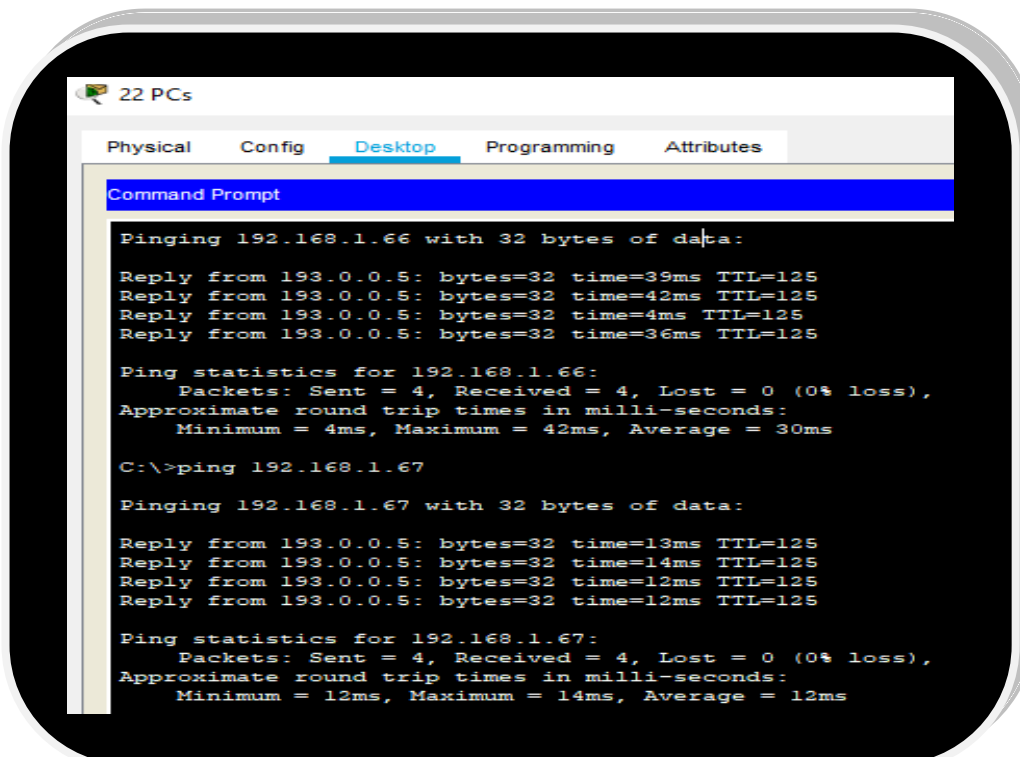
Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 14ms, Maximum = 32ms, Average = 19ms

C:\>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:
Reply from 193.0.0.10: bytes=32 time=2ms TTL=125
Reply from 193.0.0.10: bytes=32 time=12ms TTL=125
Reply from 193.0.0.10: bytes=32 time=27ms TTL=125
Reply from 193.0.0.10: bytes=32 time=13ms TTL=125

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 27ms, Average = 13ms
```

**Figure 46 Ping result natting**



```
22 PCs
Physical Config Desktop Programming Attributes
Command Prompt

Pinging 192.168.1.66 with 32 bytes of data:
Reply from 193.0.0.5: bytes=32 time=39ms TTL=125
Reply from 193.0.0.5: bytes=32 time=42ms TTL=125
Reply from 193.0.0.5: bytes=32 time=4ms TTL=125
Reply from 193.0.0.5: bytes=32 time=36ms TTL=125

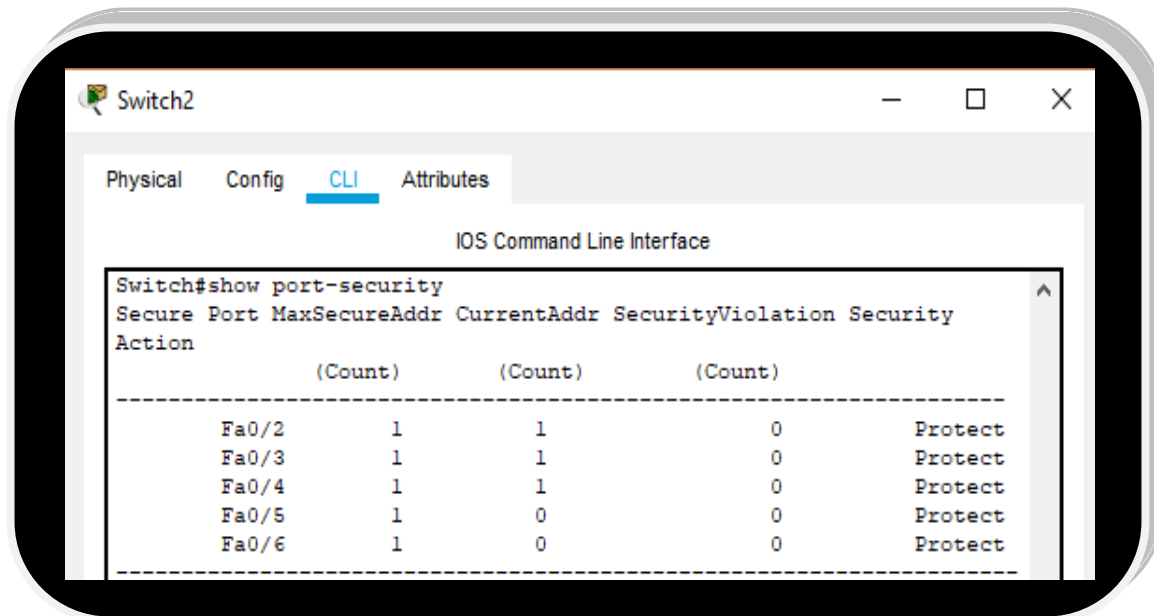
Ping statistics for 192.168.1.66:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 4ms, Maximum = 42ms, Average = 30ms

C:\>ping 192.168.1.67

Pinging 192.168.1.67 with 32 bytes of data:
Reply from 193.0.0.5: bytes=32 time=13ms TTL=125
Reply from 193.0.0.5: bytes=32 time=14ms TTL=125
Reply from 193.0.0.5: bytes=32 time=12ms TTL=125
Reply from 193.0.0.5: bytes=32 time=12ms TTL=125

Ping statistics for 192.168.1.67:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 12ms, Maximum = 14ms, Average = 12ms
```

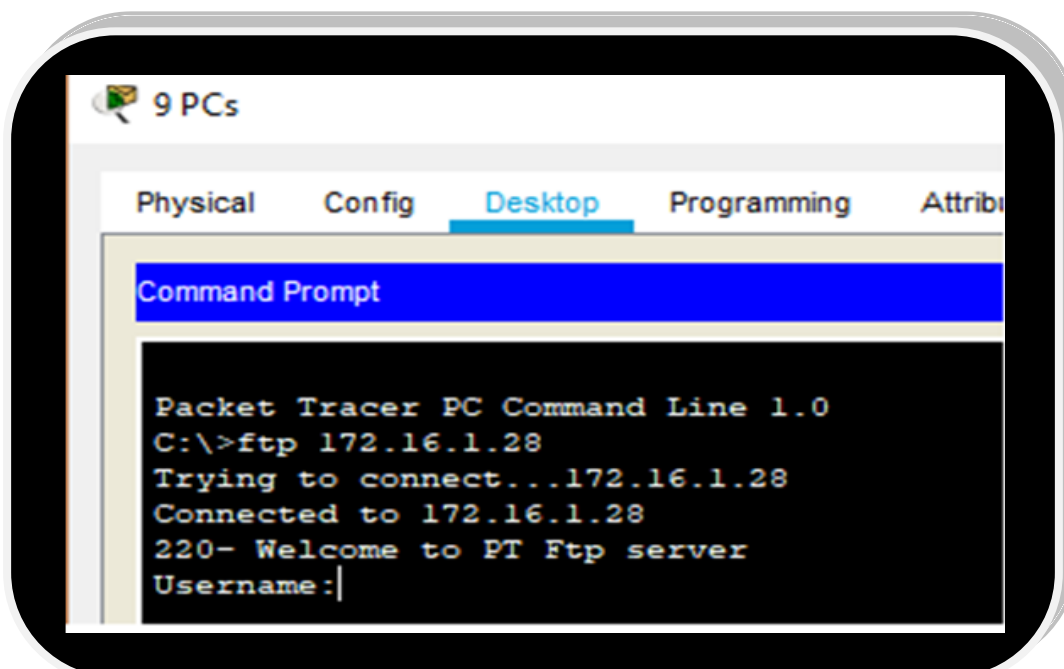
**Figure 47 Port-security**



## **ACL PING RESULTS:**

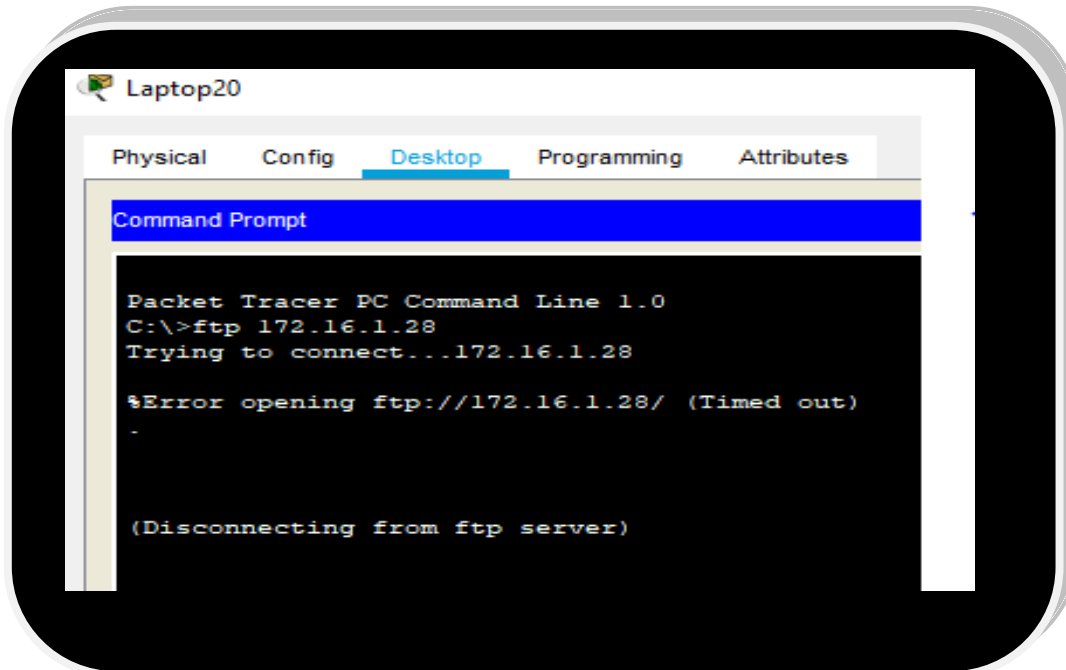
## **FTP Authorized:**

**Figure 48 FTP Authorized**



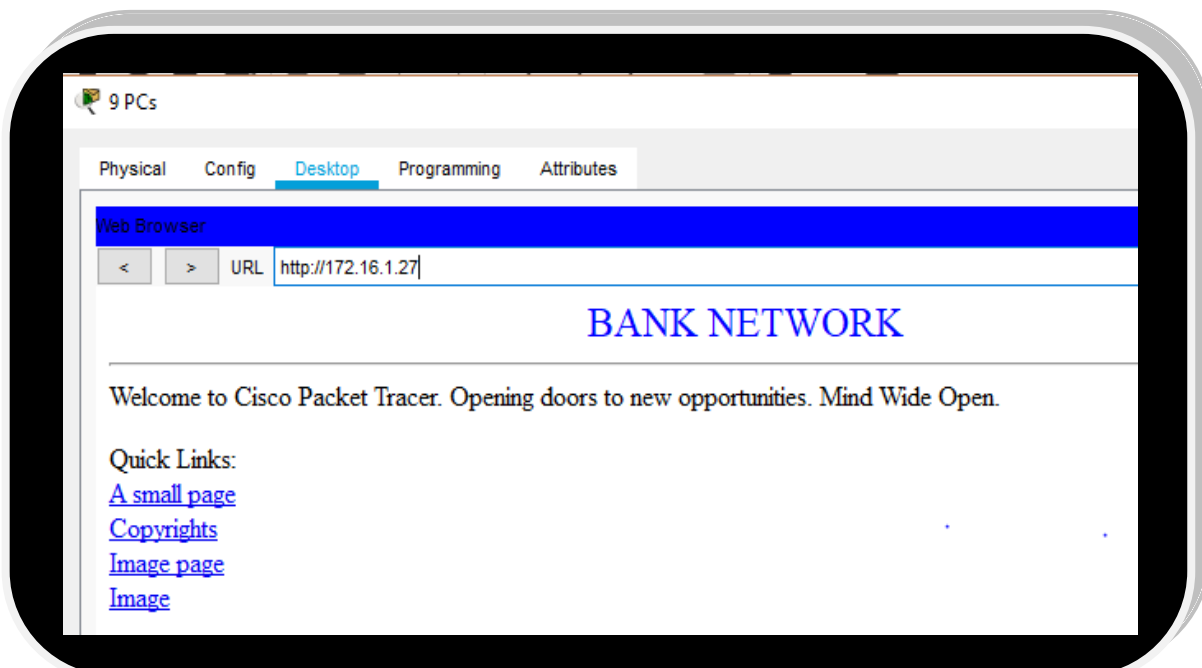
## **FTP Unauthorized:**

**Figure 49 FTP UNauthorized**



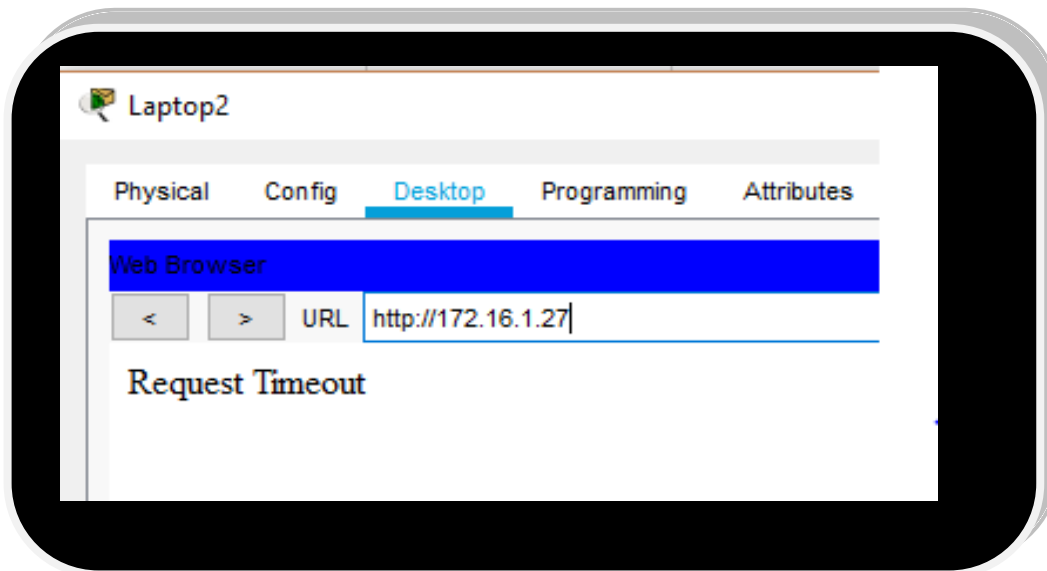
## **WEB SERVER AUTHORIZED:**

**Figure 50 Web Server Authorized**



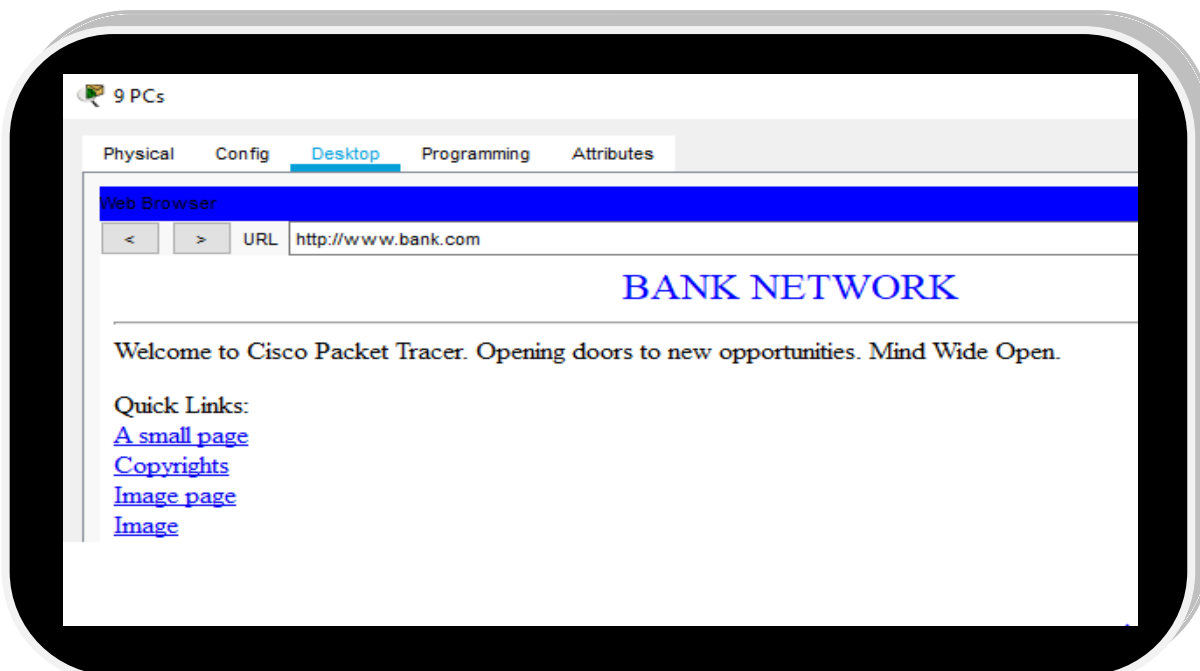
## **WEB SERVER UNAUTHORIZED:**

**Figure 51 Web Server Unauthorized**



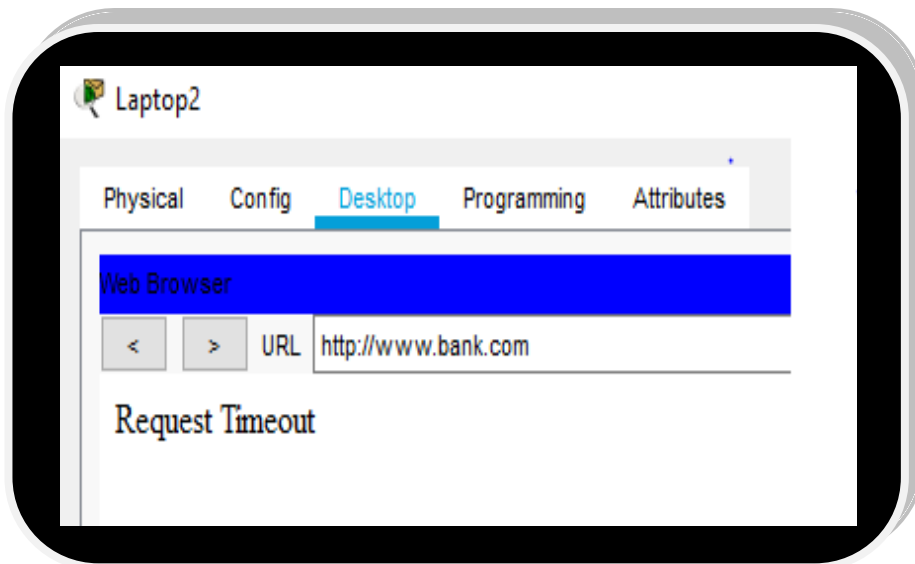
## **DNS SERVER AUTHORIZED**

**Figure 52 DNS Server Authorized**



## **DNS SERVER UNAUTHORIZED**

**Figure 53 DNS server Unauthorized**



\*\*\*\*\* **THE END** \*\*\*\*\*