21162121017_BDA

CN

Prac-4

BATCH-54

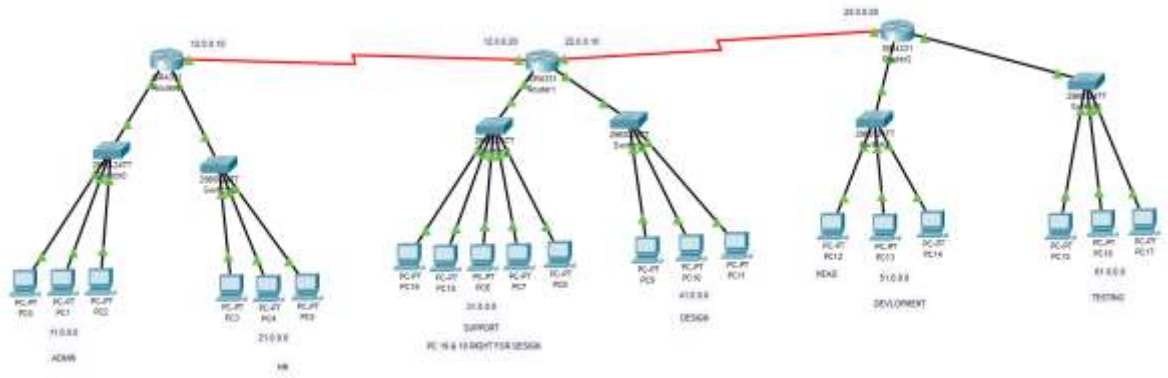
There is an organization named
CORPUS having 6 different departments Admin, HR, Support, Development, Testing and Design. IPv4 addressing scheme is used for assigning the IP address to the device. Each department has multiple employees, which have specific rights to communicate within the network. The details of the rights are as mentioned below:

The Admin Department can access all the devices in the organization. The Testing Department can only communicate with the Admin, HR and Development department. Only the head of the development department can communicate with the support department. Two members of the support department out of five members can contact the design department.

Implement the network in Cisco packet tracer, as per the requirement. As the number of the end devices are not mentioned in the requirement, you can take as per your requirement.

AIM – IMPLEMENT ACL

1) Create a network having 6 departments Admin, HR, Support , Development, Testing and Design



ADMIN : 11.0.0.0

HR:21.0.0.0

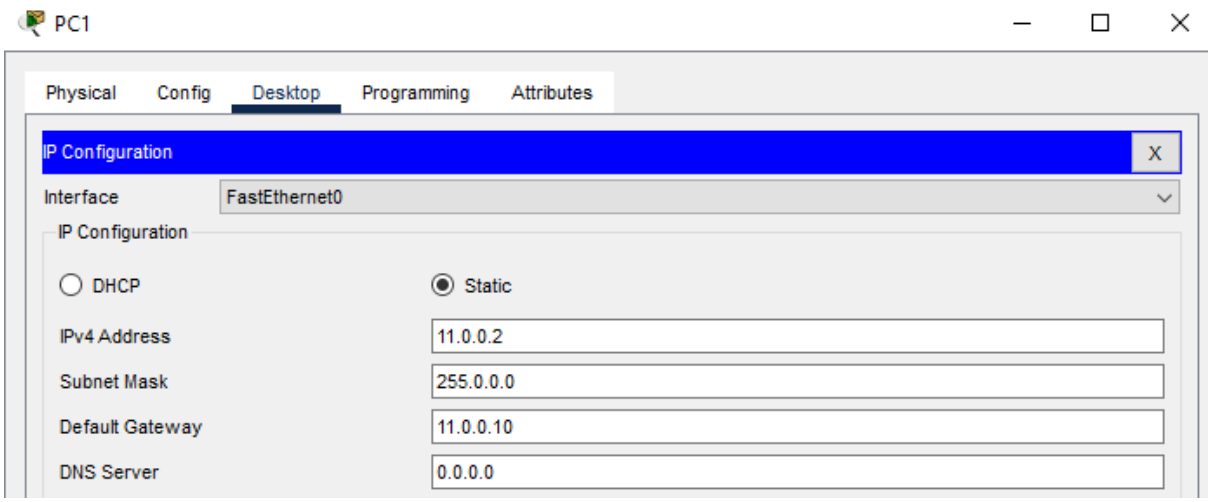
SUPPORT: 31.0.0.0

DESIGN:41.0.0.0

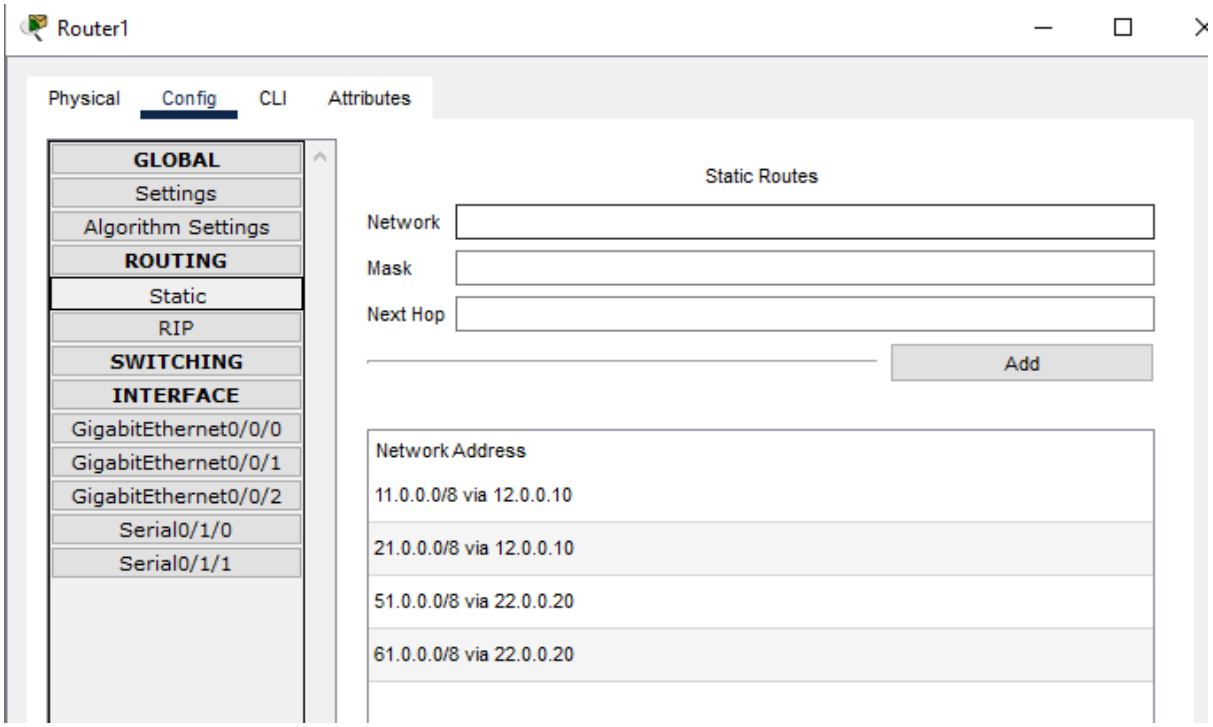
DEVELOPMENT: 51.0.0.0

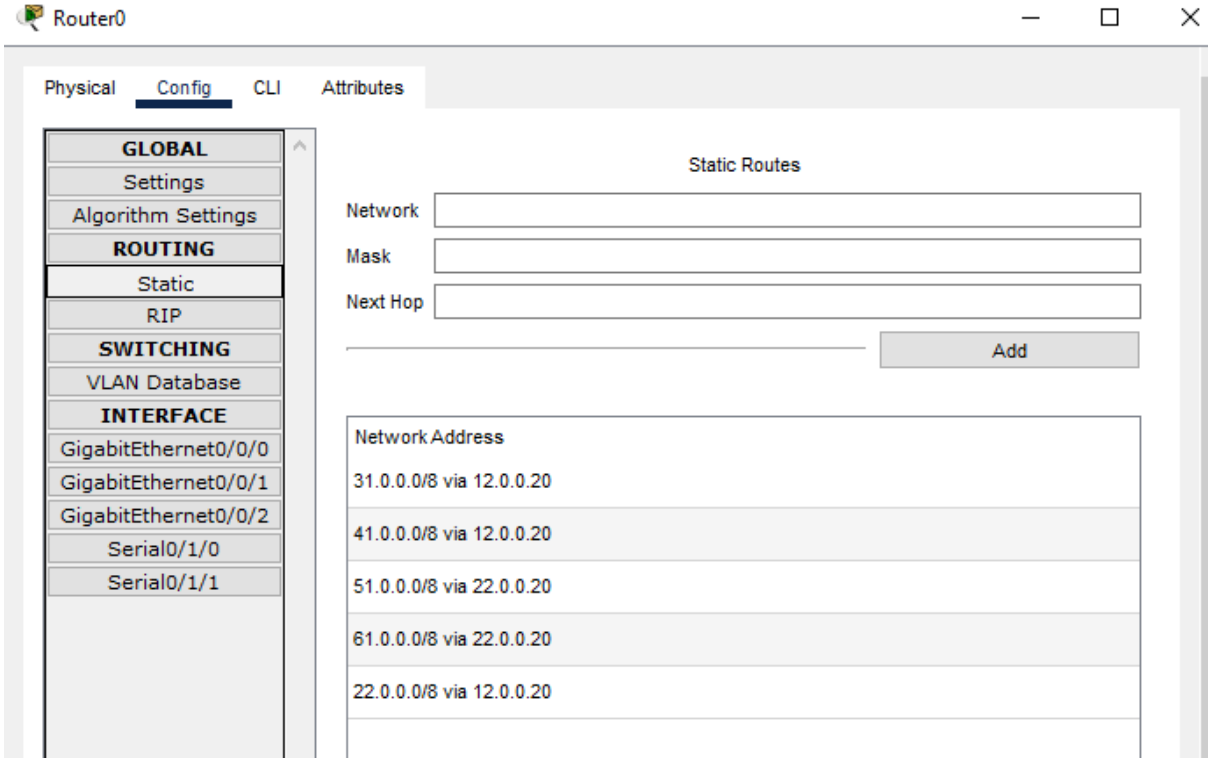
TESTING: 61.0.0.0

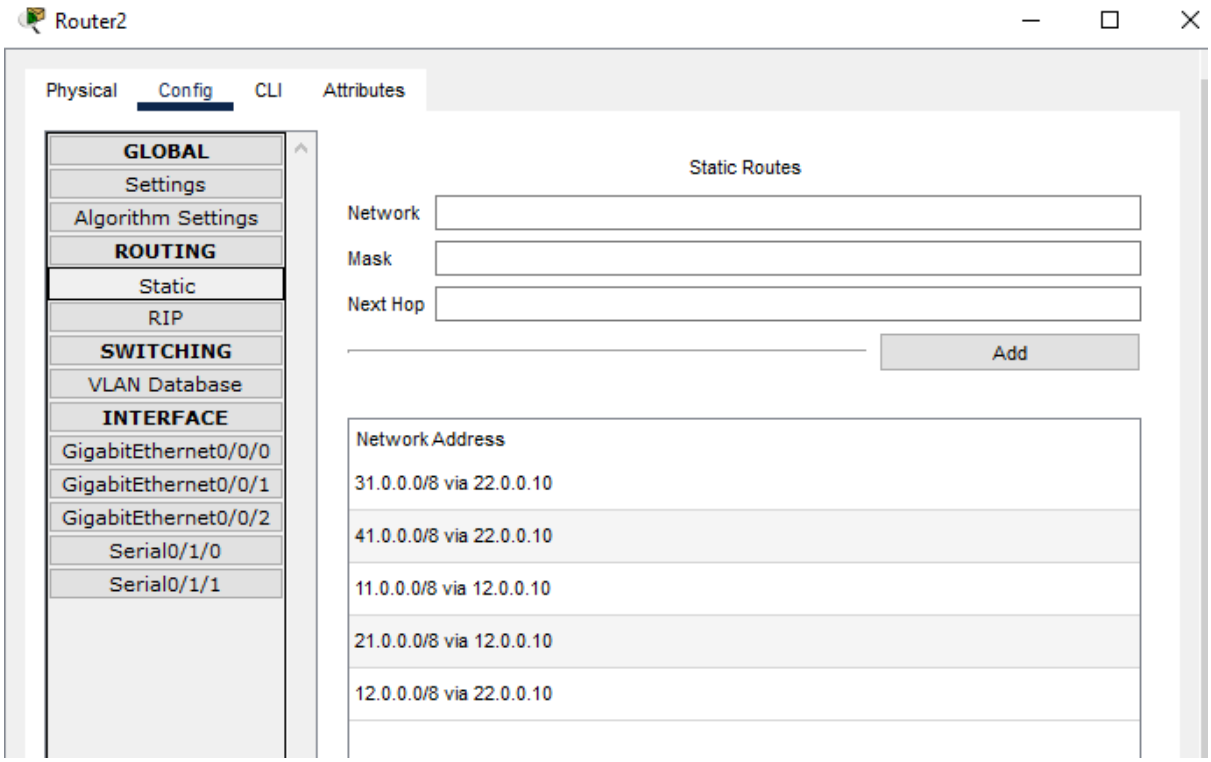
2. Setup all the PC's IP configurations



3.Setup all routing configurations.


Router1
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Static Routes
Network
Mask
Next Hop
Add
Network Address
11.0.0.0/8 via 12.0.0.10
21.0.0.0/8 via 12.0.0.10
51.0.0.0/8 via 22.0.0.20
61.0.0.0/8 via 22.0.0.20


Router0
Physical
Config
CLI
Attributes
GLOBAL
Settings
Algorithm Settings
ROUTING
Static
RIP
SWITCHING
VLAN Database
INTERFACE
GigabitEthernet0/0/0
GigabitEthernet0/0/1
GigabitEthernet0/0/2
Serial0/1/0
Serial0/1/1
Static Routes
Network
Mask
Next Hop
Add
Network Address
31.0.0.0/8 via 12.0.0.20
41.0.0.0/8 via 12.0.0.20
51.0.0.0/8 via 22.0.0.20
61.0.0.0/8 via 22.0.0.20
22.0.0.0/8 via 12.0.0.20



4. Setup the ACL rules:

```
Router>en
Router#config t
Enter configuration commands, one per line.  End with CNTL/Z.
Router(config)#ip ac ?
  extended  Extended Access List
  standard  Standard Access List
Router(config)#ip ac ?
  extended  Extended Access List
  standard  Standard Access List
Router(config)#ip ac
Router(config)#ip acc
Router(config)#ip access-list sta
Router(config)#ip access-list ?
  extended  Extended Access List
  standard  Standard Access List
Router(config)#ip access-list standard ?
  <1-99>  Standard IP access-list number
  WORD    Access-list name
Router(config)#ip access-list standard 1
Router(config-std-nacl)#deny 61.0.0.0 0.255.255.255
Router(config-std-nacl)#permit host 51.0.0.1
Router(config-std-nacl)#deny 51.0.0.0 0.255.255.255
Router(config-std-nacl)#permit any
Router(config-std-nacl)#exit
```

```
Router(config)#interface GigabitEthernet0/0/0
Router(config-if)#ip access
Router(config-if)#ip access-group 1 out ?
  <cr>
Router(config-if)#ip access-group 1 ?
  in   inbound packets
  out  outbound packets
Router(config-if)#ip access-group 1 out
```

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Failed	PC15	PC7	ICMP		0.000	N	0	(edit)	(delete)
	Successful	PC12	PC7	ICMP		0.000	N	1	(edit)	(delete)

```
Router(config)#ip access-list standard 2
Router(config-std-nacl)#deny 61.0.0.0 0.255.255.255
Router(config-std-nacl)#permit host 31.0.0.1
Router(config-std-nacl)#permit host 31.0.0.2
Router(config-std-nacl)#deny 31.0.0.0 0.255.255.255
Router(config-std-nacl)#permit any
Router(config-std-nacl)#exit
```

```
Router(config-if)#ip access-group 2 out
Router(config-if)#exit
Router(config)#
```

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Failed	PC15	PC10	ICMP		0.000	N	0	(edit)	(delete)
	Successful	PC19	PC9	ICMP		0.000	N	1	(edit)	(delete)
	Failed	PC8	PC10	ICMP		0.000	N	2	(edit)	(delete)