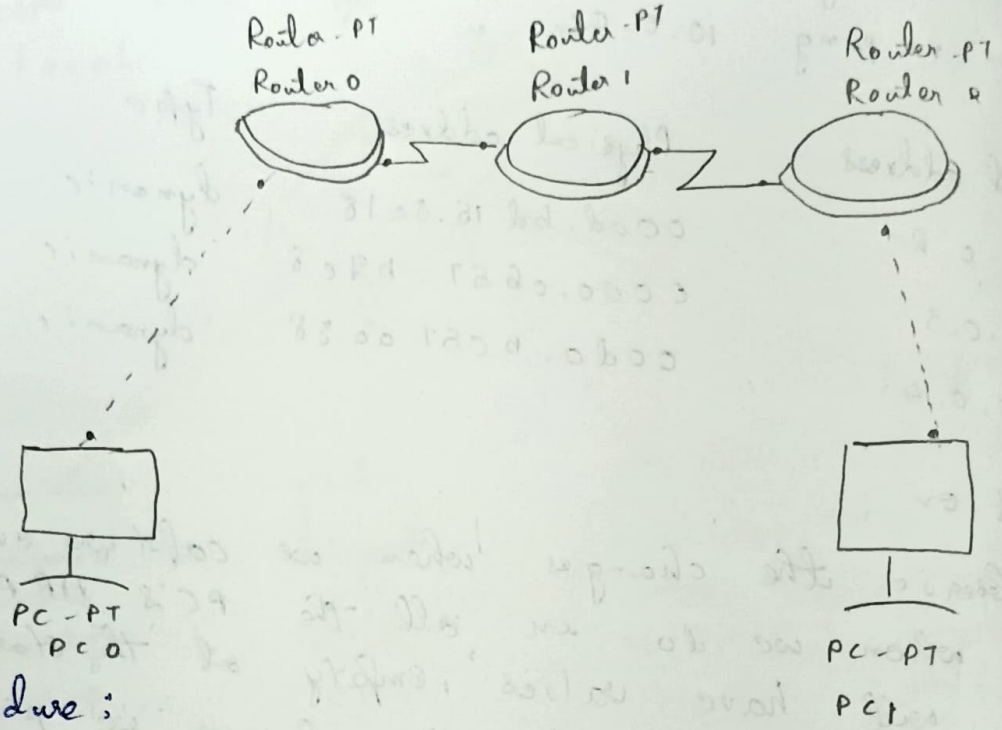
Aim : Demonstrate the TTL / life of a packet

Topology :



Procedure :

→ Create a topology as shown above and config. the PC's and routers as shown above static routing is done here

→ Go to simulation mode.
Send simple PDU from PC0 to PC1

→ Click on capture / forward button to run it from one mode to other.

→ view the inbound and outbound PDU details and on in each step by clicking on PDU

Observation :

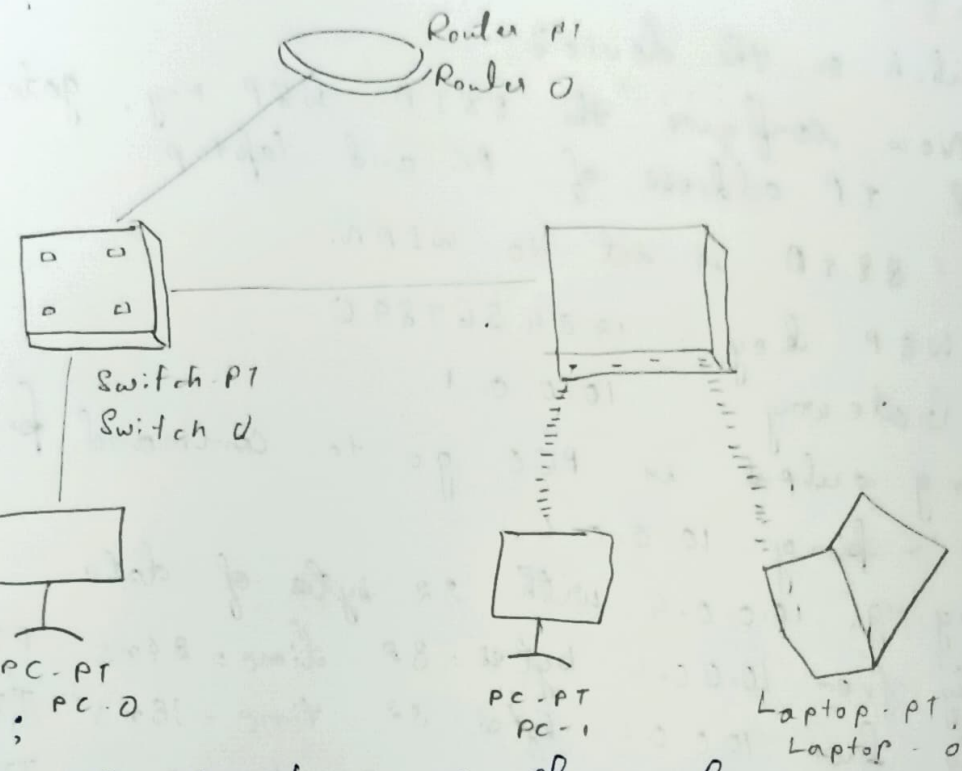
→ The TTL is reduced by one when the packet crosses every router.

→ If TTL becomes 0, packet will be droped

Lab - 08 [ii]

Aim : To construct a WLAN and make the nodes communicate wirelessly

Topology :



Procedure ;

→ Create the topology as shown above.

→ Configure the PC's as normally we do configure PC 3

IP address : 0.0.0.2

→ Configure router 0

Set the IP address as 10.0.0.1 for fa 0/0

→ Configure the Access point - PT in config of port 1

→ SSID - WLAN

Select WEP and give any 10-digit number as password 1234567890

→ To configure pc 4 and laptop with wireless standard

Switch off the device

* Drag the existing PT-MOST-NM-1AM to to place it on its mentioned name
* Drag the WMP300N wireless interface to em port
Switch on the device
* Now configure the SSID, WEP key, gateway and IP address of PC and laptop.

The SSID is set to WLAN.

WEP key : 1234567890

Gateway : 10.0.0.1

ping output in PC0 go to command prompt

PC > ping 10.0.0.4

pinging 10.0.0.4 with 32 bytes of data

Reply from 10.0.0.4 bytes: 32 time = 24ms TTL = 1
Reply from 10.0.0.4 bytes: 32 time = 15ms TTL = 1
Reply from 10.0.0.4 bytes: 32 time = 5ms TTL = 1
Reply from 10.0.0.4 bytes: 32 time = 12ms TTL = 1

- Ping statistics for 10.0.0.4
packets sent = 4, Received = 4 Lost 0
- Approximate round trip time in ms
min = 5ms max = 24ms Average = 15

- Observation: We can ping each and every de do the other device. So we can observe th wiress connection is done successfully.
→ when connection is established there is w can observe stripped lines connecting acce points and end devices.

Lab 08 [i;]

Aim: To understand the operation of TELNET by accessing the router in server room from o pc

Topology:

Router PT
Router 0

Pc-PT
PC0

Procedure:

→ Create the topology as shown above.
→ Connect the devices using copper cross-one
→ Configure the PC
IP address : 10.0.0.2
Gateway : 10.0.0.1
→ Go to CLI mode in Router 0

Router > en
Router # config t
Router (config) # hostname r1
r1 (config) # enable secret pass 1.
r1 (config) # interface fa 0/0
r1 (config) # ip address 10.0.0.1 255.0.0.0
r1 (config-if) # no shut
r1 (config-if) # line vty 0 5
r1 (config-if) # login.

r1 (config-line) # password p0
r1 (config-line) # exit

ping output in PC 0

We can successfully ping 10.0.0.1 from PC0

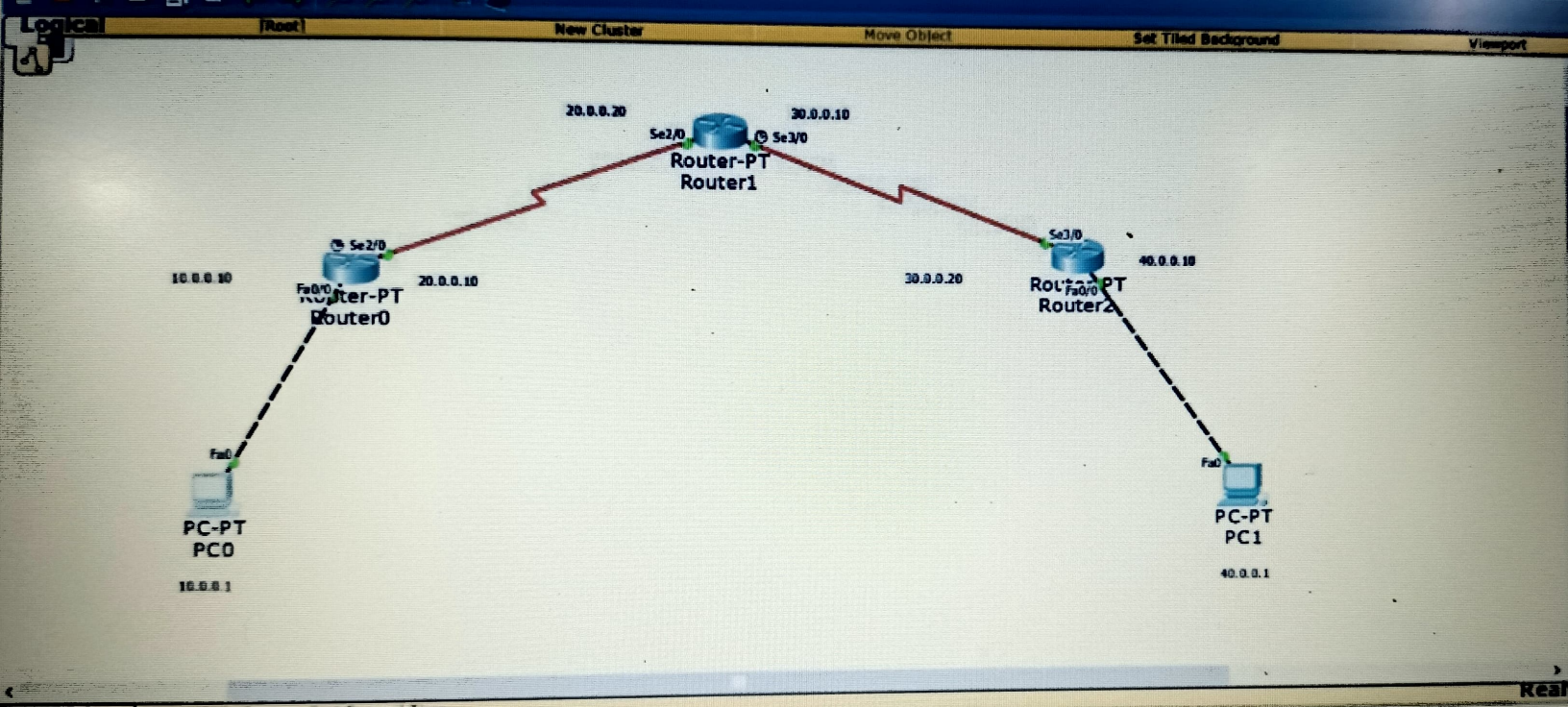
PC > telnet 10.0.0.1
Trying 10.0.0.1 Open
User Access Verification
Password:

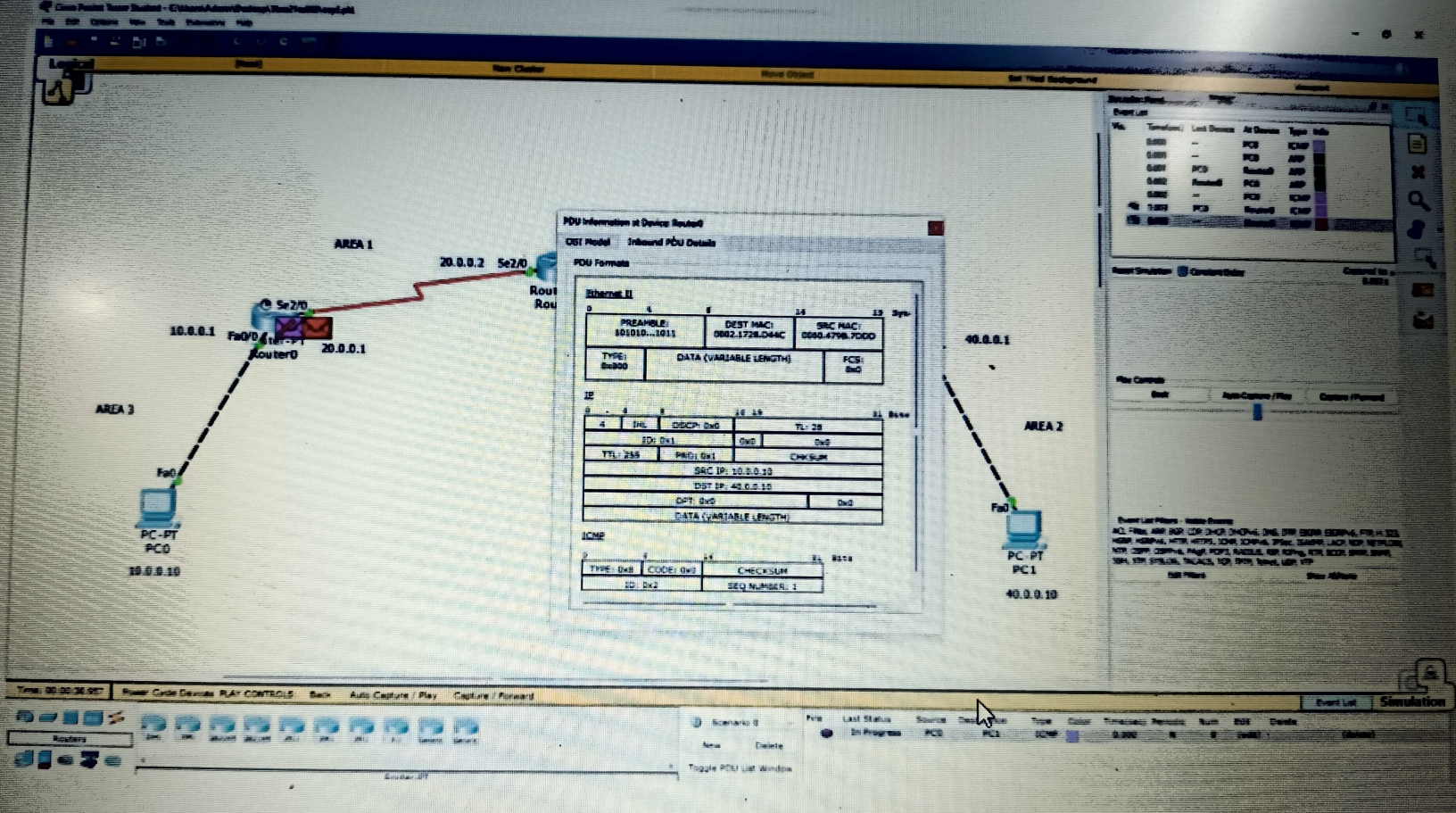
r1 > On
Password: p1
r1 # show ip route
C 10.0.0.0/8 is directly connected. Fa 0/0

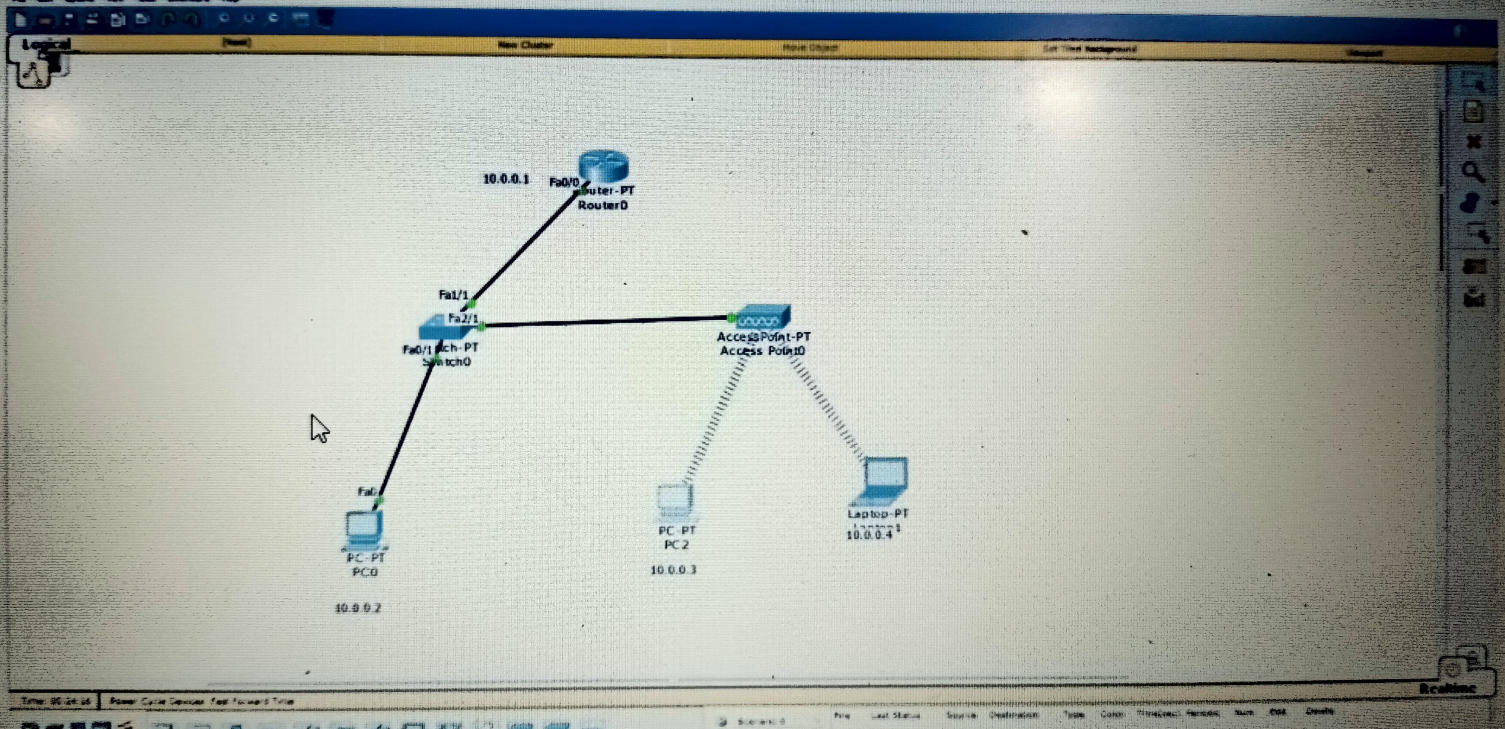
Observations:

→ We can observe that the admin in PC is a run commands as run in router CLI and the result from the PC

→ So with the help of TELNET, we can acc the router in server room from a PC.

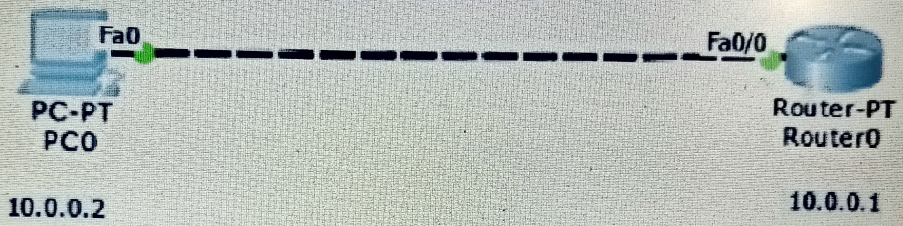

Logical
Root
New Cluster
Move Object
Set Tiled Background
Viewport
20.0.0.20
Se2/0
30.0.0.10
Se3/0
Router-PT
Router1
Se2/0
10.0.0.10
Fa0/0
20.0.0.10
Router-PT
Router0
Se3/0
30.0.0.20
40.0.0.10
Fa0/0
Router-PT
Router2
Fa0
PC-PT
PC0
10.0.0.1
Fa0
PC-PT
PC1
40.0.0.1


AREA 1
20.0.0.2 Se2/0
Se2/0
10.0.0.1
Fa0/0
20.0.0.1
Router0
AREA 3
Fa0
PC-PT
PC0
10.0.0.10
40.0.0.1
AREA 2
Fa0
PC-PT
PC1
40.0.0.10
PDU Information at Device: Router0
OSI Model
Inbound PDU Details
PDU Formats
Ethernet II
PREAMBLE: 10101010...1011
DEST MAC: 0002.1728.044C
SRC MAC: 0090.4798.7D0D
TYPE: 0x800
DATA (VARIABLE LENGTH)
FCS: 0x0
IP
4
IHL
DSCP: 0x0
TL: 28
ID: 0x1
0x0
0x0
TTL: 255
PRO: 0x1
CHECKSUM
SRC IP: 10.0.0.10
DST IP: 40.0.0.10
OPT: 0x0
0x0
DATA (VARIABLE LENGTH)
ICMP
TYPE: 0x8
CODE: 0x0
CHECKSUM
ID: 0x2
SEQ NUMBER: 1


10.0.0.1
Fa0/0
Router-PT
Router0
Fa1/1
Fa2/1
Fa0/1
Switch-PT
Switch0
Access Point-PT
Access Point0
PC-PT
PC0
10.0.0.2
PC-PT
PC2
10.0.0.3
Laptop-PT
10.0.0.4

Command Prompt

```
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Request timed out.
Request timed out.
Request timed out.
Request timed out.

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 0, Lost = 4 (100% loss),

PC>ping 10.0.0.3

Pinging 10.0.0.3 with 32 bytes of data:

Reply from 10.0.0.3: bytes=32 time=21ms TTL=128
Reply from 10.0.0.3: bytes=32 time=7ms TTL=128
Reply from 10.0.0.3: bytes=32 time=9ms TTL=128
Reply from 10.0.0.3: bytes=32 time=10ms TTL=128

Ping statistics for 10.0.0.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 7ms, Maximum = 21ms, Average = 11ms

PC>
```


Fa0
Fa0/0
PC-PT
PC0
10.0.0.2
Router-PT
Router0
10.0.0.1

[illegible] command line.)
PC>ping [illegible]

Pinging [illegible] with 32 bytes of data

Reply from 10.0.0.1: bytes=32 time=1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255
Reply from 10.0.0.1: bytes=32 time<1ms TTL=255

Ping statistics for 10.0.0.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
Approximate round trip times in milli-seconds:
    Minimum = 0ms, Maximum = 1ms, Average = 0ms

PC>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

Password:
% Password: timeout expired!

[Connection to 10.0.0.1 closed by foreign host]
PC>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

Password:
Password:
Password:

[Connection to 10.0.0.1 closed by foreign host]
PC>telnet 10.0.0.1
Trying 10.0.0.1 ...Open

User Access Verification

Password:
r1>enable
Password:
r1#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

C   10.0.0.0/8 is directly connected, FastEthernet0/0
r1#