Objective:

LAB REPORT ON ROUTER DHCP CONFIGURATION.

Components used:

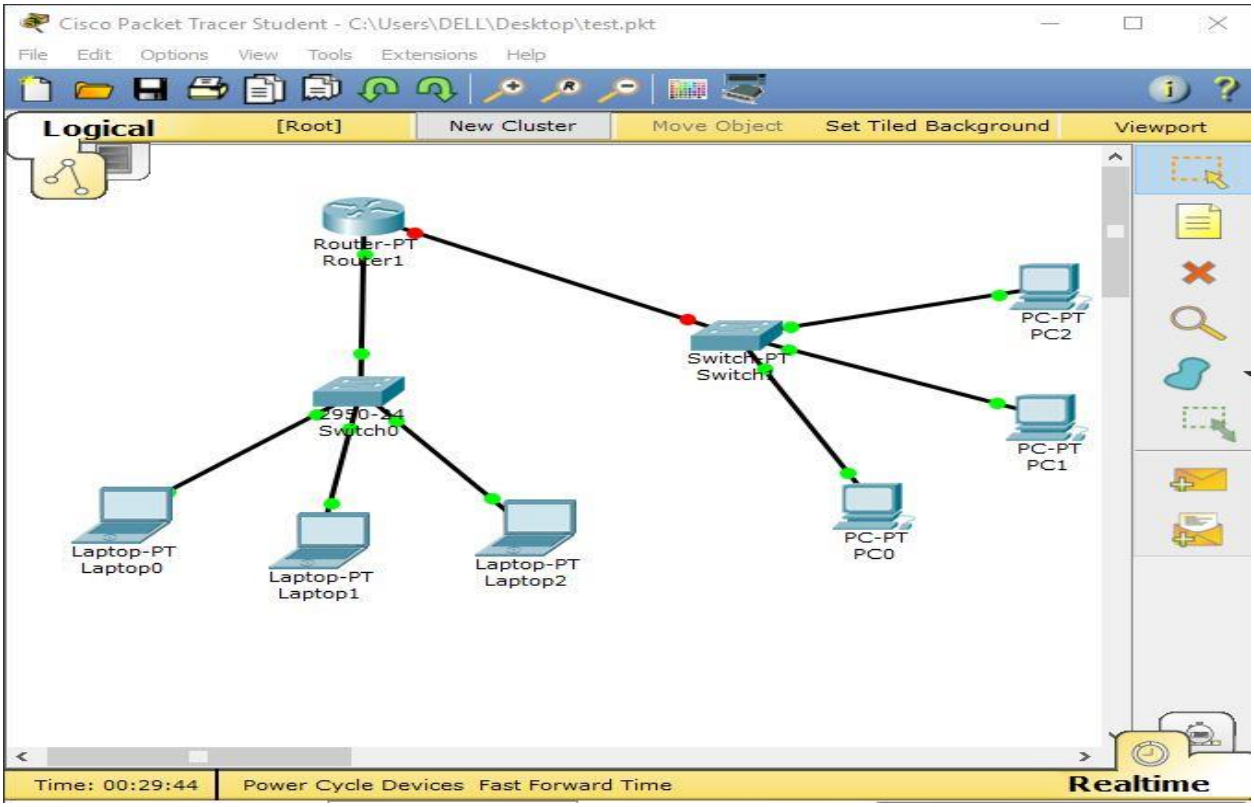
The components used for this lab are: a Cisco packet tracer software that includes switch, straight cable, end devices, and a router.

Methodology:

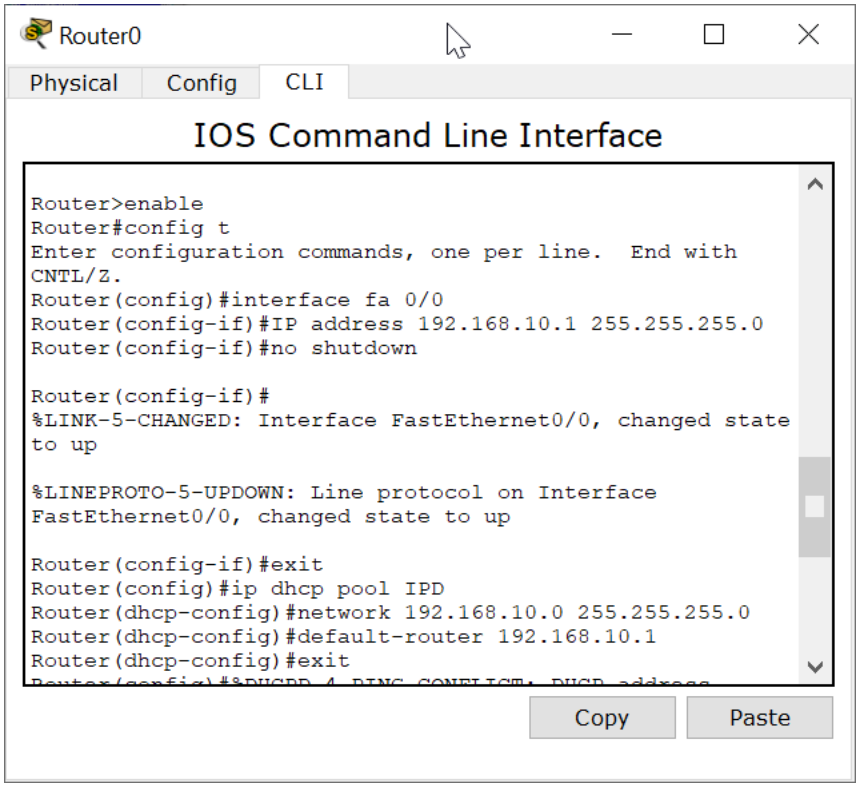
1. First, Cisco packet tracer was opened.
2. Then a generic router was dragged to the white screen followed by two switches.
3. Then three end devices were brought to connect to each of the switch.
4. Then router, switch and the end devices were connected using suitable cables.
5. Then the CLI mode of the router was opened.
6. Then, following steps were followed to set the IP address 192.168.10.1 to the router :
    a. Router>enable (makes router active)
    b. Router# config t(makes terminal active or starts to configure)
    c. Router(config)#interface fa0/0(connects fast ethernet line named 0/0)
    d. Router(config-if)#IP address 192.168.10.1 255.255.255.0(gives IP address and subnet mask to the router connecter to the port 0/0)
    e. Router(config-if)#no shutdown (saves the content)
    f. Router(config-if)#exit (come out from the fast ethernet 0/0)
    g. Router(config)#ip dhcp pool IPD
    h. Router(dhcp-config)#network 192.168.10.0 255.255.255.0
    i. Router(dhcp-config)#default-router 192.168.10.1
7. Again, following steps were followed to set the IP address 169.100.10.1 to the router :
    a. Router>enable (makes router active)
    b. Router# config t (makes the terminal active or start to configure)
    c. Router(config)#interface fa1/0 (connects fast ethernet line named 1/0)

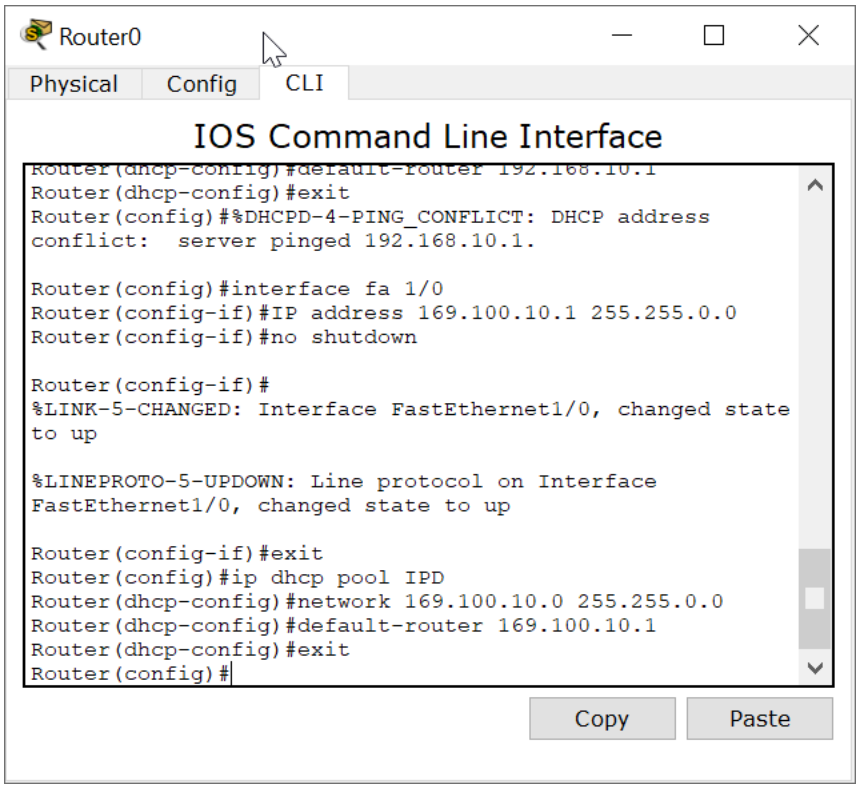
d. Router(config-if)#IP address 169.100.10.1 255.255.0.0 (gives IP address and subnet mask to the router connecter to the port 1/0)
e. Router(config-if)#no shutdown (saves the content)
f. Router(config-if)#exit (comes out from the fast ethernet 1/0)
g. Router(config)#ip dhcp pool IPD
h. Router(dhcp-config)#network 169.100.10.0 255.255.0.0
i. Router(dhcp-config)#default-router 169.100.10.1

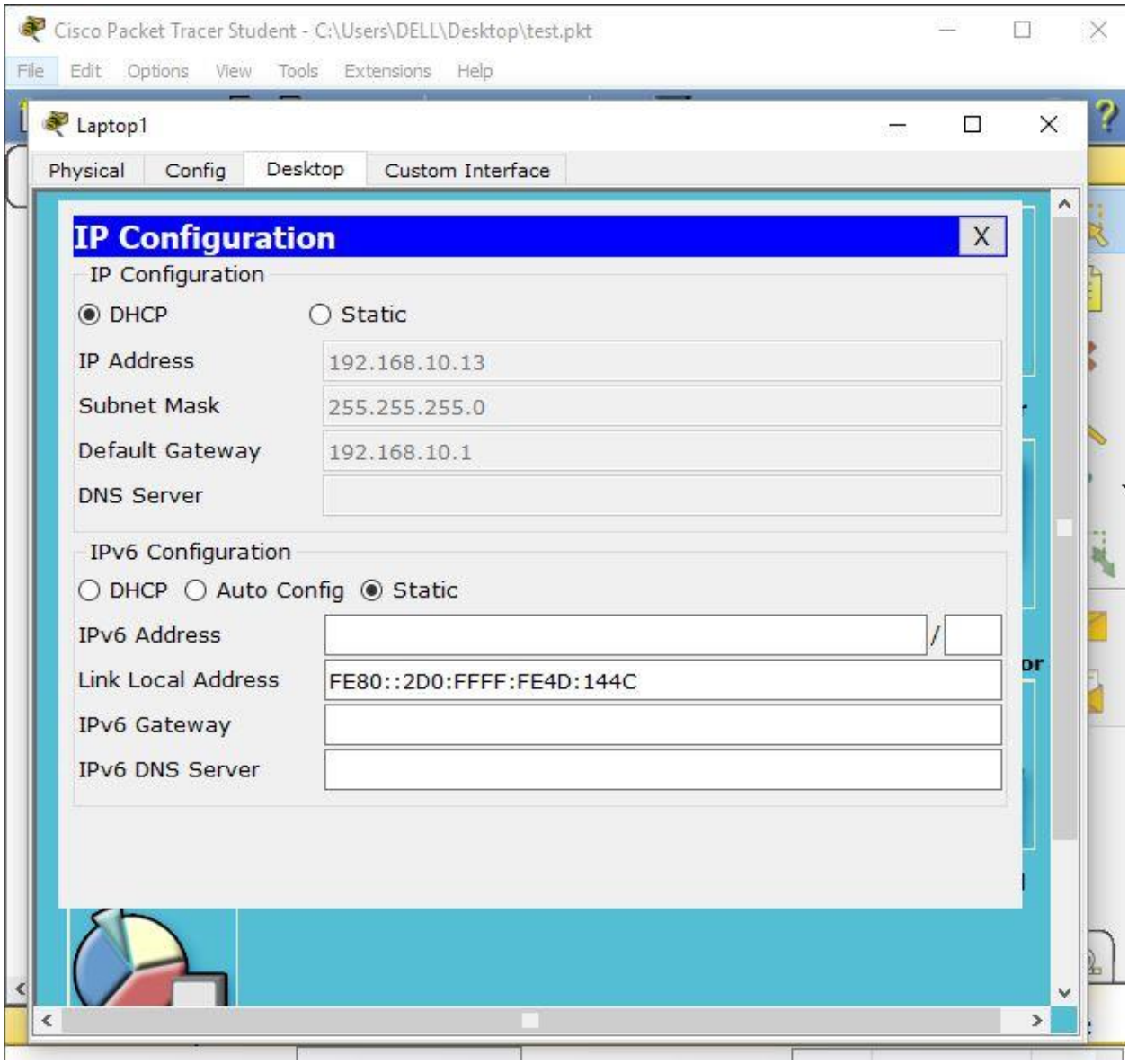
8. Then we select the end device and go to the desktop and choose 'IP configuration'. IP configuration was set to DHCP from 'static'. Then an automated IP address was set to the respective end device according to the IP address set on its gateway.
9. above-mentioned process is repeated to all the end devices.
10. Then message was sent to different end devices to check if the connection was working or not.

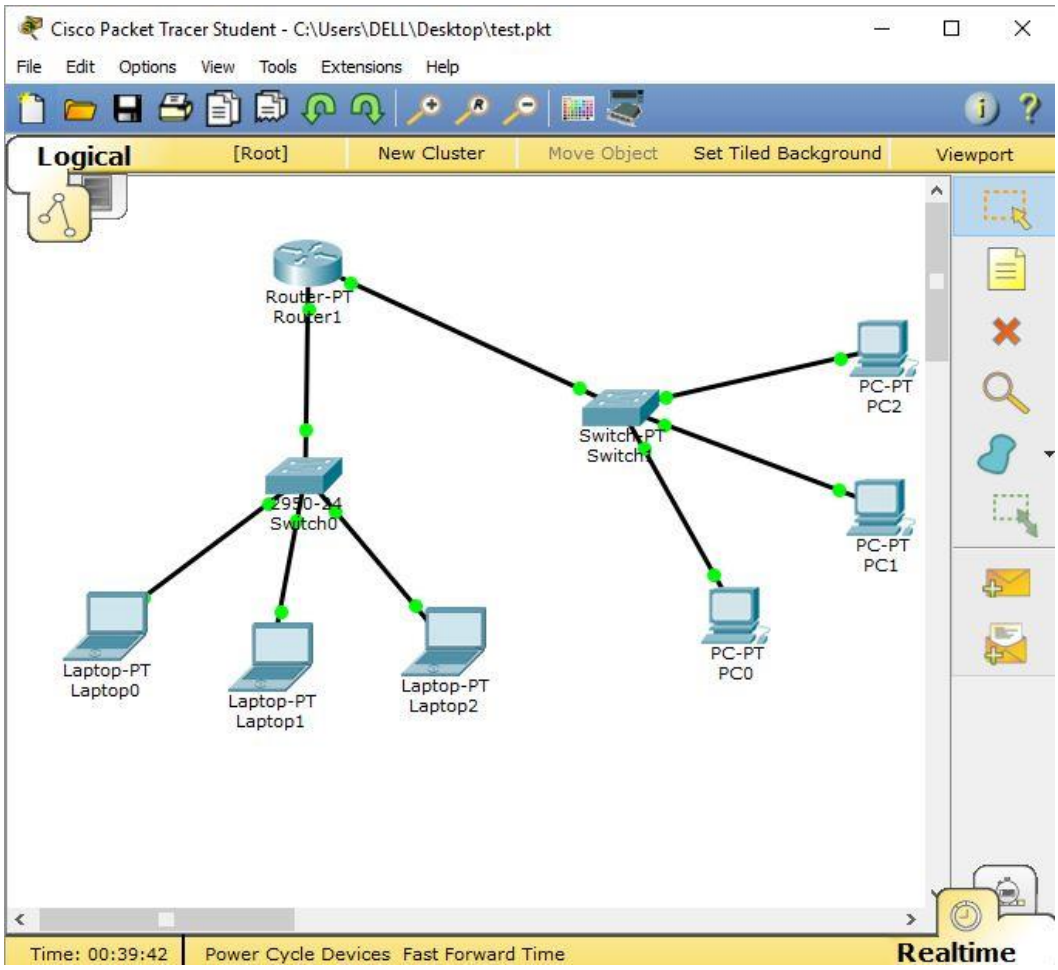


The screenshots of above-mentioned steps are given below:


Router0
Physical
Config
CLI
IOS Command Line Interface
Router>enable
Router#config t
Enter configuration commands, one per line. End with
CNTL/Z.
Router(config)#interface fa 0/0
Router(config-if)#IP address 192.168.10.1 255.255.255.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet0/0, changed state
to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet0/0, changed state to up
Router(config-if)#exit
Router(config)#ip dhcp pool IPD
Router(dhcp-config)#network 192.168.10.0 255.255.255.0
Router(dhcp-config)#default-router 192.168.10.1
Router(dhcp-config)#exit
Copy
Paste


Router0
Physical
Config
CLI
IOS Command Line Interface
Router(dhcp-config)#default-router 192.168.10.1
Router(dhcp-config)#exit
Router(config)#%DHCPD-4-PING_CONFLICT: DHCP address
conflict: server pinged 192.168.10.1.
Router(config)#interface fa 1/0
Router(config-if)#IP address 169.100.10.1 255.255.0.0
Router(config-if)#no shutdown
Router(config-if)#
%LINK-5-CHANGED: Interface FastEthernet1/0, changed state
to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface
FastEthernet1/0, changed state to up
Router(config-if)#exit
Router(config)#ip dhcp pool IPD
Router(dhcp-config)#network 169.100.10.0 255.255.0.0
Router(dhcp-config)#default-router 169.100.10.1
Router(dhcp-config)#exit
Router(config)#
Copy
Paste


Cisco Packet Tracer Student - C:\Users\DELL\Desktop\test.pkt
File Edit Options View Tools Extensions Help
Laptop1
Physical Config Desktop Custom Interface
IP Configuration
X
IP Configuration
DHCP
Static
IP Address
192.168.10.13
Subnet Mask
255.255.255.0
Default Gateway
192.168.10.1
DNS Server
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::2D0:FFFF:FE4D:144C
IPv6 Gateway
IPv6 DNS Server



Problems encountered

During the CLI mode, the spellings for each command must be correct, else the desired output may vary. The user must change the IP configuration of each end devices to DHCP.

Approaches to solve the problems

To ensure that the IP configuration was on ‘DHCP’; configuration was chosen to static only to reselect DHCP.

Conclusion

This lab was helpful for me as it helped me to learn, how we can connect various end devices without assigning IP addresses to each end devices manually. Also, this lab has brighten up some concept regarding to Static and dynamic.