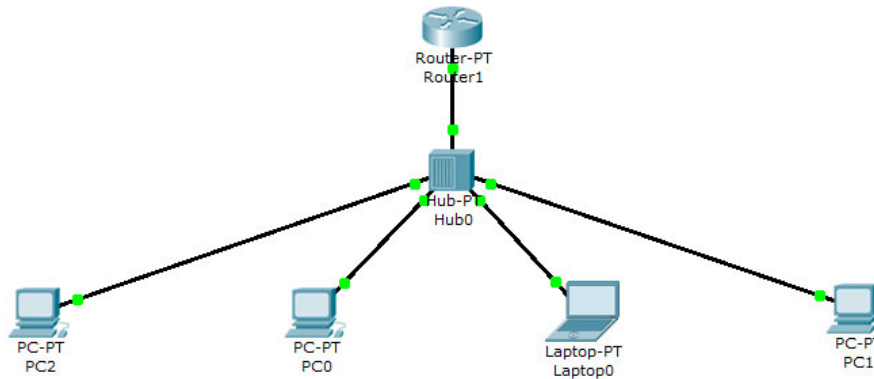


Practical-6

Aim : Configure DHCP and DNS Server in CISCO packet tracer.

Step 1: Create Network using 4 PCs , a HUB and a Router. First configure the DHCP service on the router, so we will first enable the two interfaces and place their respective IP addresses with their Subnet Mask.



```

Router>en
Router#config
Configuring from terminal, memory, or network [terminal]? terminal
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#hostname r1
r1(config)#int f0/0
r1(config-if)#ip add 192.168.1.1 255.255.255.0
r1(config-if)#no shut

%LINK-5-CHANGED: Interface FastEthernet0/0, changed state to up

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

r1(config-if)#^Z
r1#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Step 2: Now you will proceed to enable a logical interface inside the router, this type of interfaces are very useful since these are always on if the router is on too. But it is good practice to always make sure that the logical interface is turned on. To configure the DHCP you must know which network address we want to provide, which is the Subnet Mask and which is the Default Gateway on the network. As optional we can also exclude certain IP addresses to reserve them or simply because we do not want to use them and we can also configure a DNS service where we will place an address that we want, it is worth repeating that these last two configurations are optional since the DHCP service can Work perfectly well without these.

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```

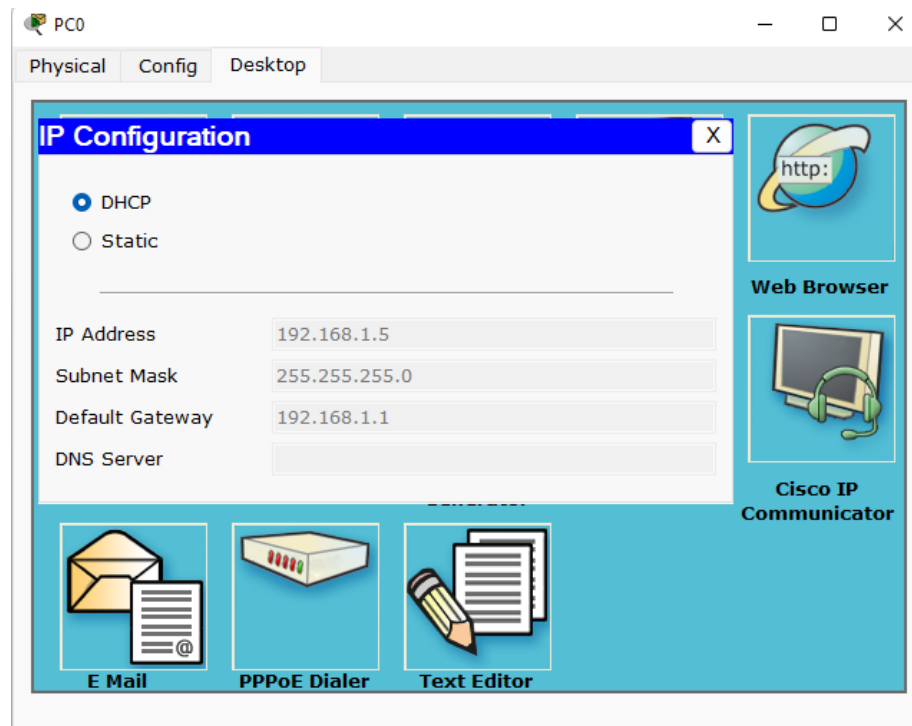
r1#sh ip int br
Interface                IP-Address      OK? Method Status              Protocol

FastEthernet0/0          192.168.1.1     YES manual up                    up
FastEthernet1/0          unassigned      YES unset   administratively down down
Serial2/0                unassigned      YES unset   administratively down down
Serial3/0                unassigned      YES unset   administratively down down
FastEthernet4/0          unassigned      YES unset   administratively down down
FastEthernet5/0          unassigned      YES unset   administratively down down
r1#wr
Building configuration...
[OK]
r1#config t
Enter configuration commands, one per line. End with CNTL/Z.
r1(config)#ip dhcp pool abc
r1(dhcp-config)#default-router 192.168.1.1
r1(dhcp-config)#network 192.168.1.0 255.255.255.0
r1(dhcp-config)#^Z
r1#
%SYS-5-CONFIG_I: Configured from console by console

r1#wr
Building configuration...
[OK]
r1#

```

Step 4: In this step, select the server by selecting and clicking the Desktop option, then selecting IP Configuration to place an IP address together with the Subnet Mask and its default Gateway that matches the physical interface of the Router that is connected.



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Step 5: Finally on a laptop select the option of Desktop and IP Configuration, then select the DHCP option to receive the IP address automatically on the terminal.

```
Command Prompt X

Packet Tracer PC Command Line 1.0
PC>ping 192.168.1.2

Pinging 192.168.1.2 with 32 bytes of data:

Reply from 192.168.1.2: bytes=32 time=21ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=0ms TTL=128
Reply from 192.168.1.2: bytes=32 time=17ms TTL=128

Ping statistics for 192.168.1.2:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 21ms, Average = 9ms

PC>ping 192.168.1.4

Pinging 192.168.1.4 with 32 bytes of data:

Reply from 192.168.1.4: bytes=32 time=27ms TTL=128
Reply from 192.168.1.4: bytes=32 time=18ms TTL=128
Reply from 192.168.1.4: bytes=32 time=32ms TTL=128
Reply from 192.168.1.4: bytes=32 time=40ms TTL=128
```

```
Command Prompt X

Reply from 192.168.1.4: bytes=32 time=27ms TTL=128
Reply from 192.168.1.4: bytes=32 time=18ms TTL=128
Reply from 192.168.1.4: bytes=32 time=32ms TTL=128
Reply from 192.168.1.4: bytes=32 time=40ms TTL=128

Ping statistics for 192.168.1.4:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 18ms, Maximum = 40ms, Average = 29ms

PC>ping 192.168.1.5

Pinging 192.168.1.5 with 32 bytes of data:

Reply from 192.168.1.5: bytes=32 time=133ms TTL=128
Reply from 192.168.1.5: bytes=32 time=66ms TTL=128
Reply from 192.168.1.5: bytes=32 time=63ms TTL=128
Reply from 192.168.1.5: bytes=32 time=54ms TTL=128

Ping statistics for 192.168.1.5:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 54ms, Maximum = 133ms, Average = 79ms

PC>
```