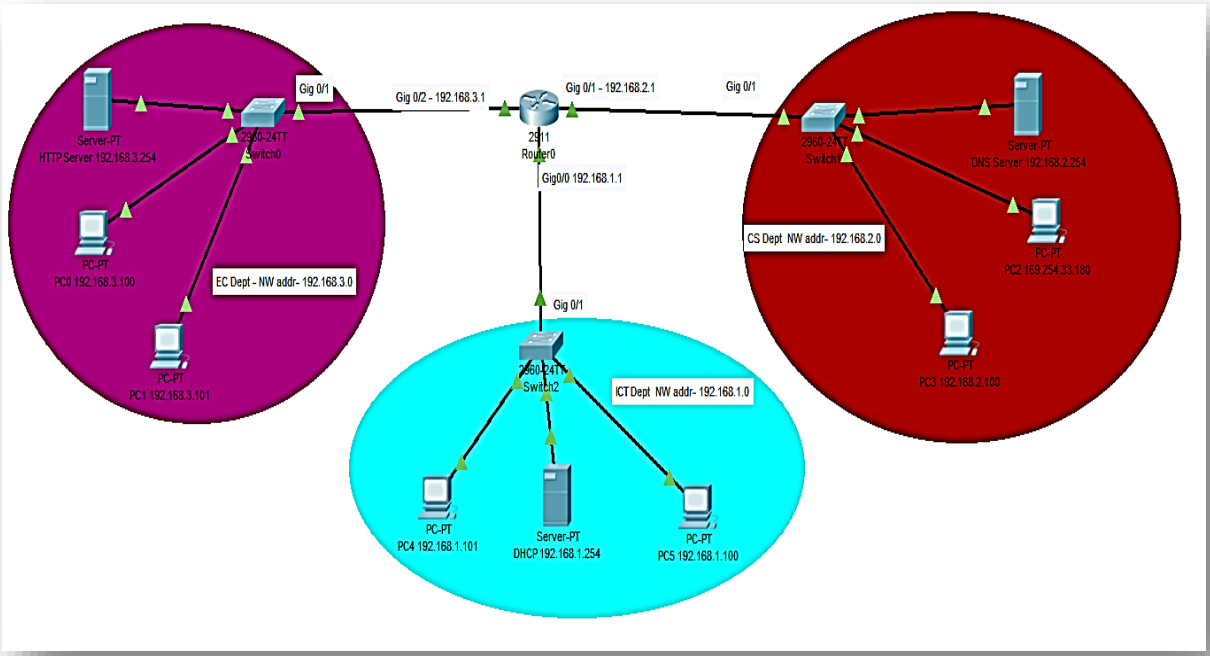
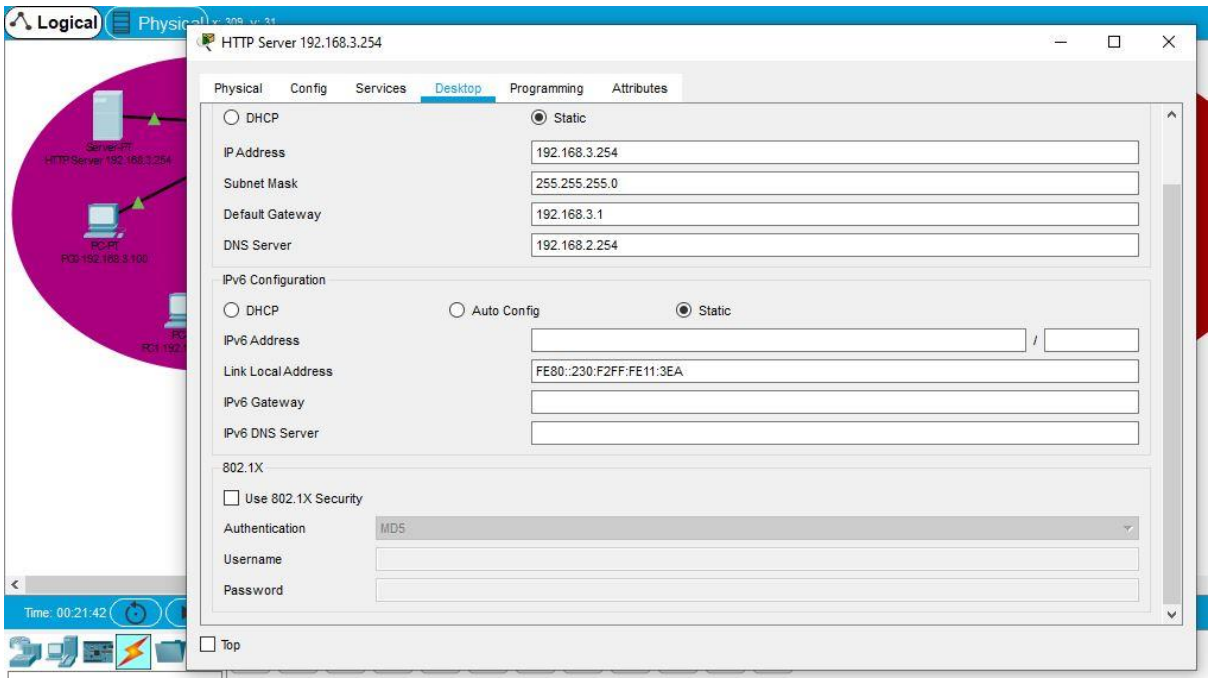
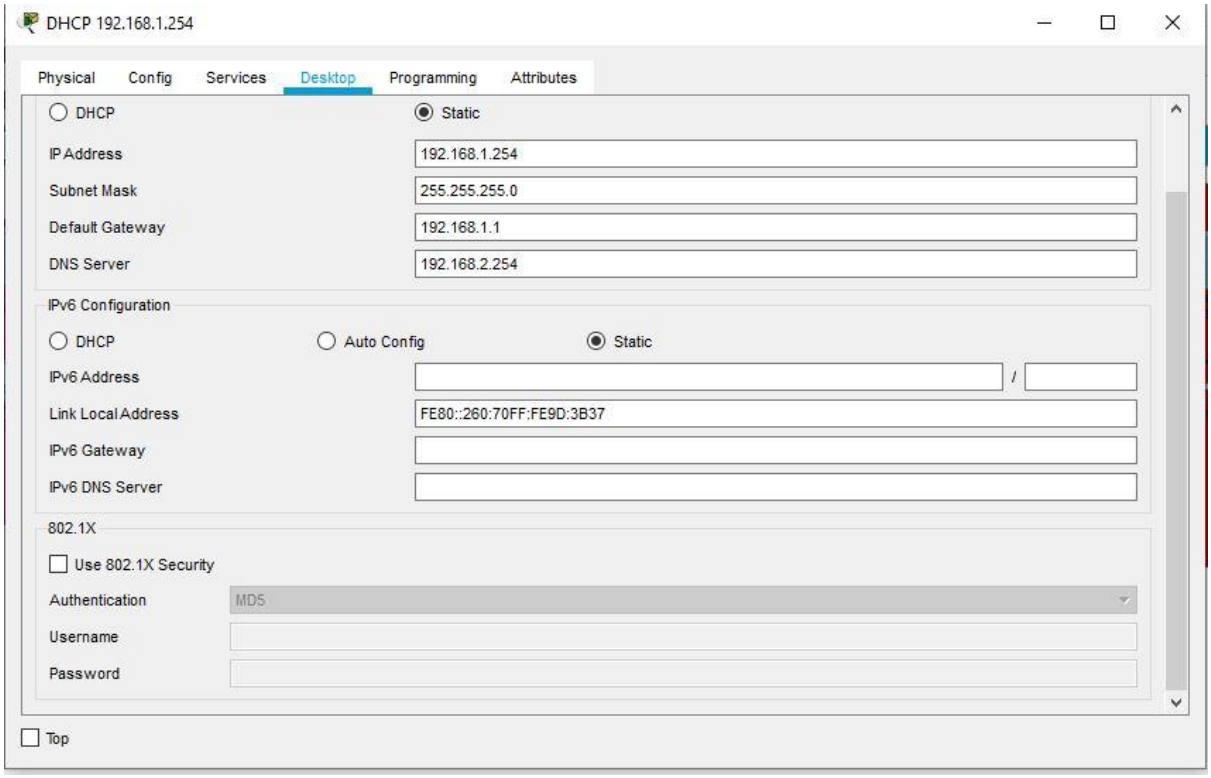
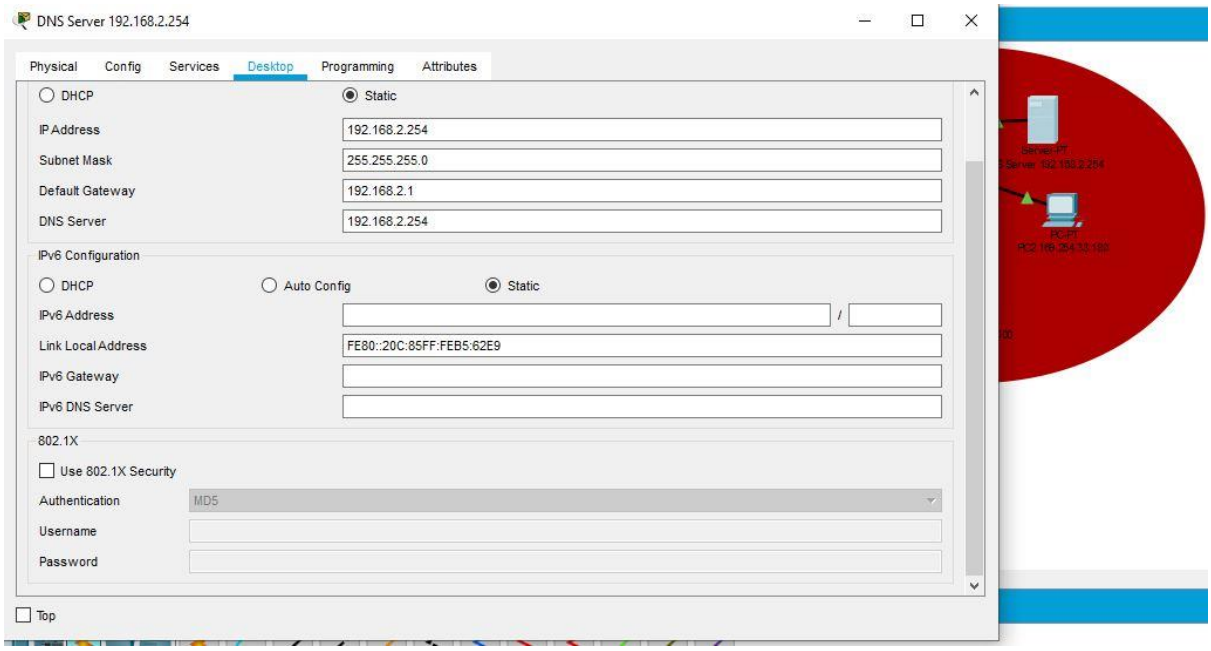
Scenario 12: A collage comprises of three branches (EC, CS, ICT) having their own local Area Network connected by a router. EC Department having a Web Server hosting the college website, CS Department is having a DNS Server used to resolve the URL to IP address and ICT Department is having a DHCP Server perform automatic IP address assignment from the configured pool of IP address.



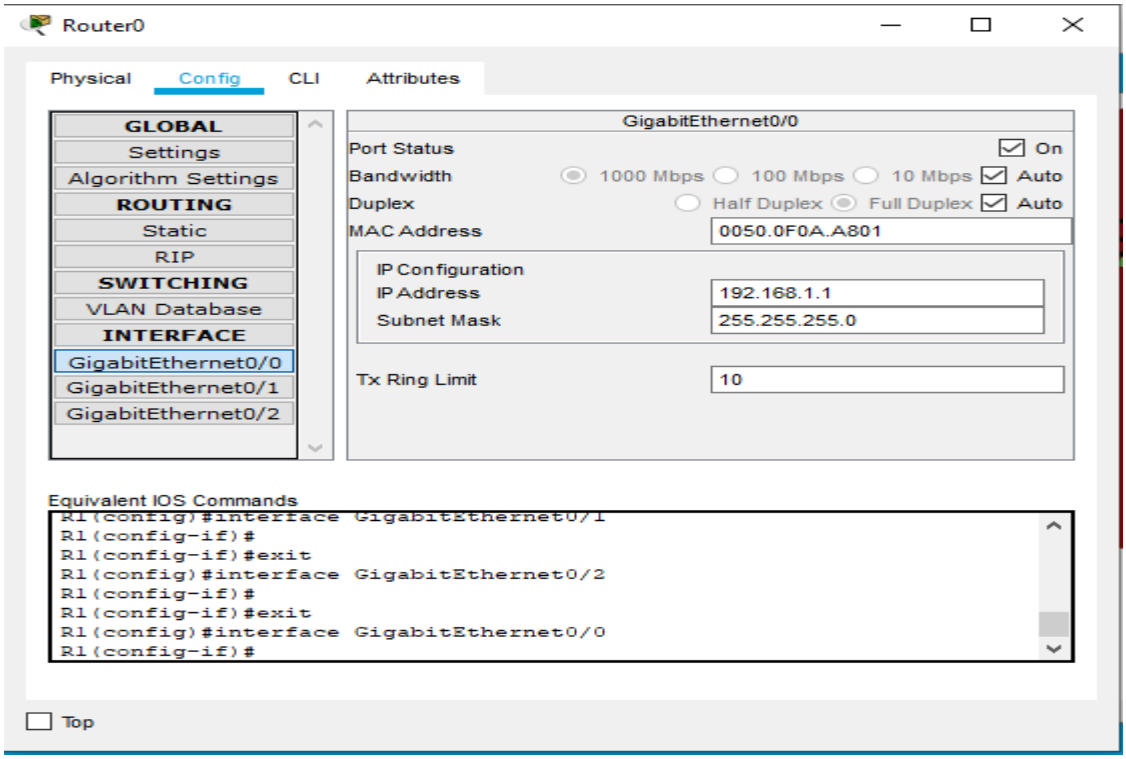
- Note: Allocate the specified IP addresses to DHCP, DNS, Web serves as shown in the diagram below



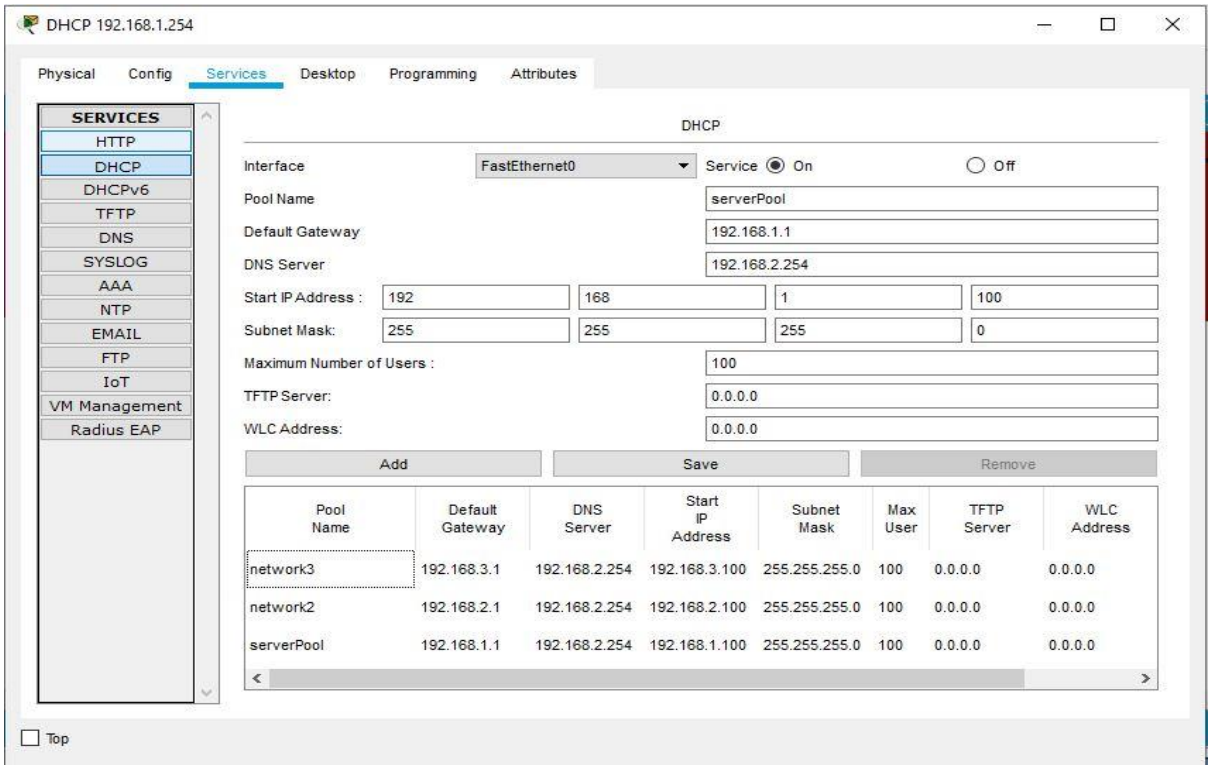

DHCP 192.168.1.254
Physical
Config
Services
Desktop
Programming
Attributes
DHCP
Static
IP Address
192.168.1.254
Subnet Mask
255.255.255.0
Default Gateway
192.168.1.1
DNS Server
192.168.2.254
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::260:70FF:FE9D:3B37
IPv6 Gateway
IPv6 DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top


DNS Server 192.168.2.254
Physical
Config
Services
Desktop
Programming
Attributes
DHCP
Static
IP Address
192.168.2.254
Subnet Mask
255.255.255.0
Default Gateway
192.168.2.1
DNS Server
192.168.2.254
IPv6 Configuration
DHCP
Auto Config
Static
IPv6 Address
Link Local Address
FE80::20C:85FF:FEB5:62E9
IPv6 Gateway
IPv6 DNS Server
802.1X
Use 802.1X Security
Authentication
MD5
Username
Password
Top

- Do the following configuration on router.



- Enabling DHCP Service on DHCP server to allocate IP address to systems on different network for an organization



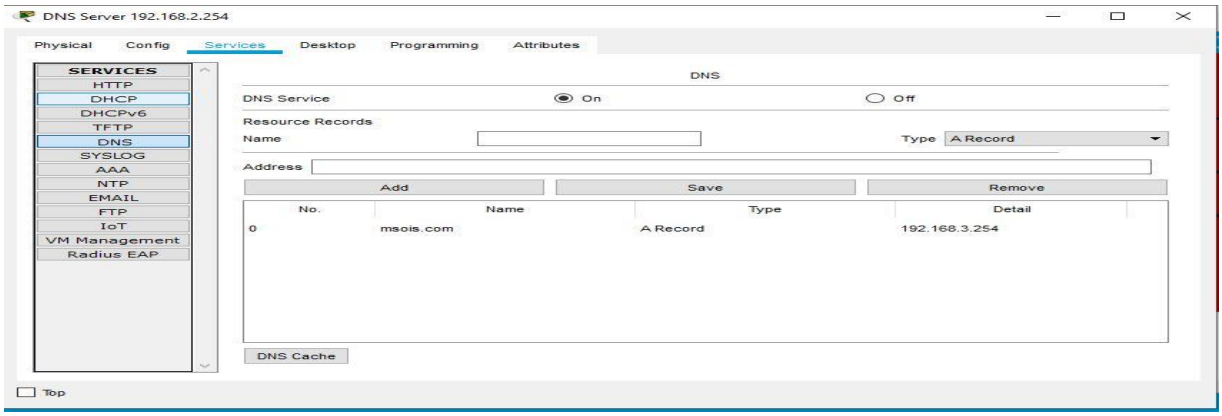
Go to Router CLI and do the Following:

- Router DHCP port forwarding (helper)

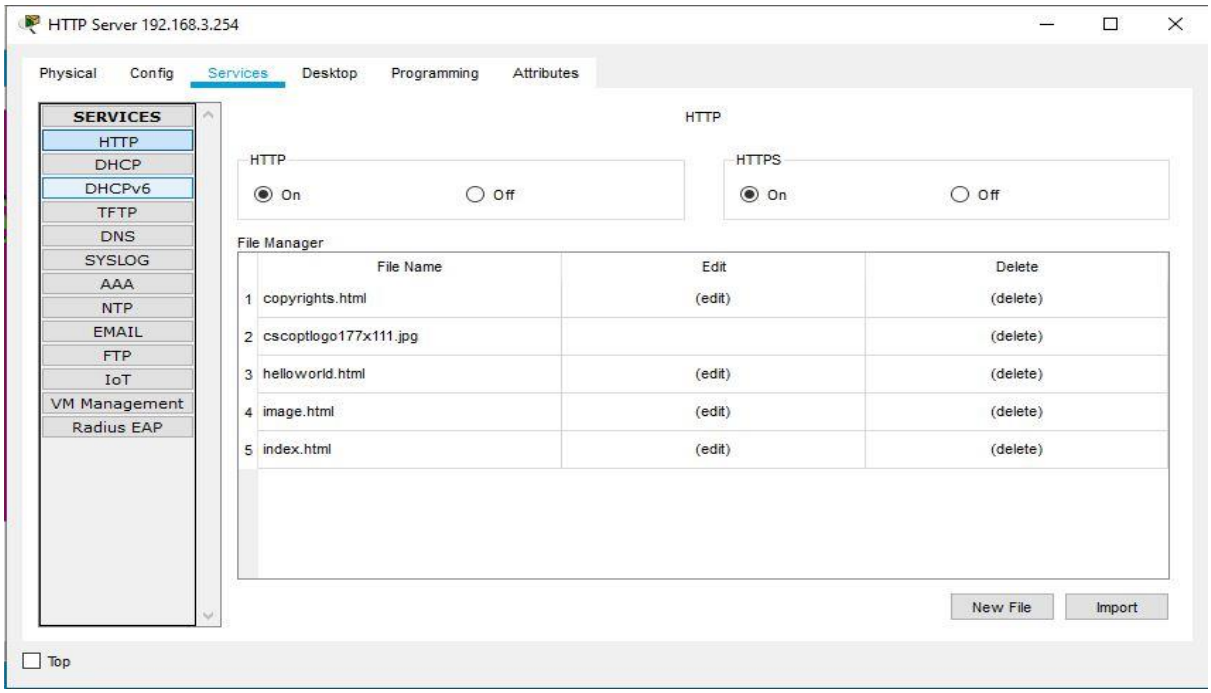
```
en
conf t
interface gigabitEthernet 0/1
ip helper-address 192.168.1.254
exit

interface gigabitEthernet 0/2
ip helper-address 192.168.1.254
exit
```

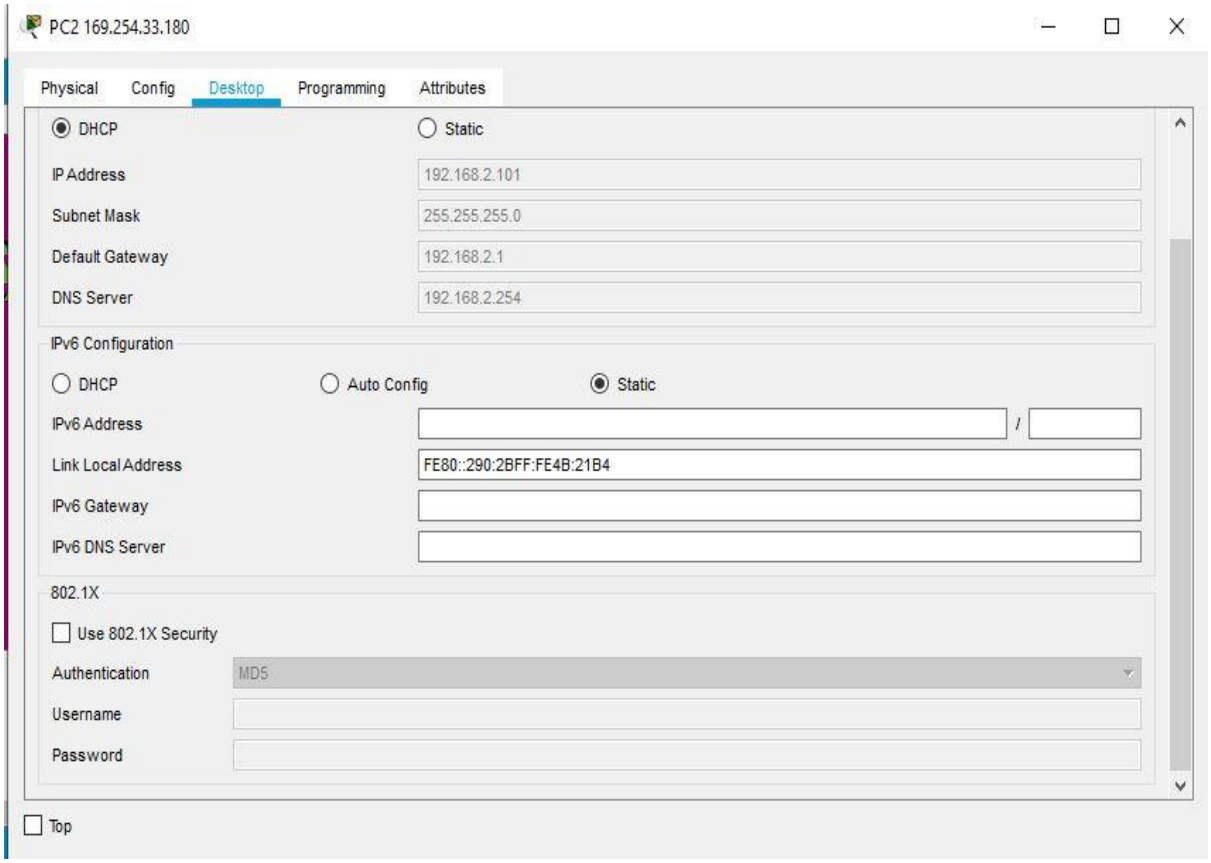
Enabling DNS Service on DNS server to resolve the domain name of web/HTTP server.



Enabling HTTP/HTTPS Service on Web server to deliver web pages to end user



To illustrate working of DHCP server do the following on any PC:



Now IP should be allocated with the configured IP Pool.

To illustrate working of DNS server do the following on any PC: