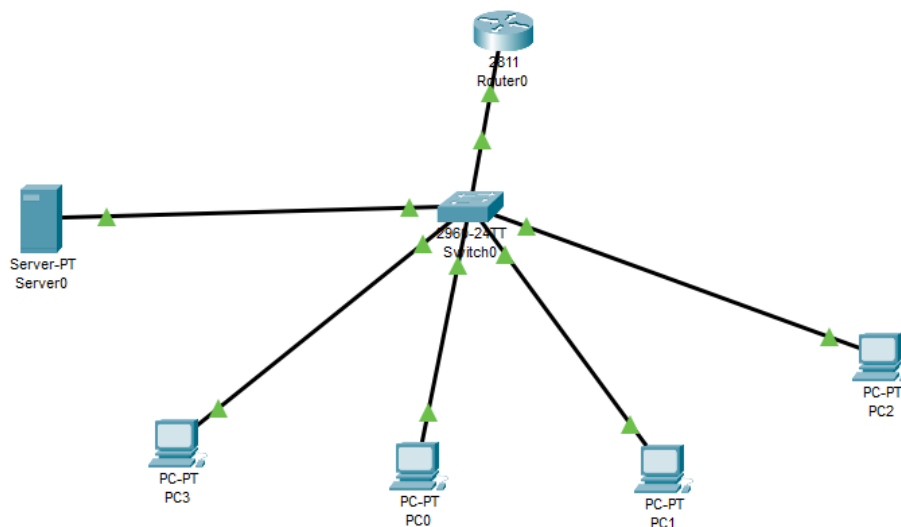


Activity 1 – DHCP

DHCP – Dynamic Host Configuration protocol it helps automatically assign IP address to devices on an IP address



Configure dhcp in router

- 1) Select the router (Router- 2811) and access the Command Line Interface (CLI)*

```
Router0
Physical Config CLI Attributes
IOS Command Line Interface

System Bootstrap, Version 12.1(3r)T2, RELEASE SOFTWARE (fc1)
Copyright (c) 2000 by cisco Systems, Inc.
cisco 2811 (MPC860) processor (revision 0x200) with 60416K/5120K bytes of memory

Readonly ROMMON initialized

program load complete, entry point: 0x8000f000, size: 0xc940
program load complete, entry point: 0x8000f000, size: 0xc940

program load complete, entry point: 0x8000f000, size: 0x3ed1338
Self decompressing the image :
##### [OK]
Smart Init is enabled
smart init is sizing iomem
ID          TYPE          MEMORY_REQ
0003E7      0X00474800  C2811 Mainboard
0X0014B430  Onboard PVRM2 SIMM
0X00264050  Onboard VPM
0X000021B8  Onboard USB
00038E      0X0008BE00  Service Engine AIM
0X002C29F0  public buffer pools
0X00211000  public particle pools

TOTAL:      0X00D85628

If any of the above Memory Requirements are
"UNKNOWN", you may be using an unsupported
configuration or there is a software problem and
system operation may be compromised.
Rounded IOEM up to: 14Mb.
Using 2 percent iomem. [14Mb/512Mb]

Restricted Rights Legend

Use, duplication, or disclosure by the Government is
subject to restrictions as set forth in subparagraph
```

- 2) Enter enable mode by using 'ena.' Once you gain access, proceed to configuration mode by using 'conf'
- 3) Type "interface fastethernet0/0" to access ethernet0/0
- 4) Type "ip address 192.168.1.1 255.255.255.0" to assign on IP address and subnet mask to the interface.
- 5) No shutdown command, then exit

```
Router>ena
Router#config
Configuring from terminal, memory, or network [terminal]?
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#int fa0/0
Router(config-if)#IP add 192.168.1.1 255.255.255.0
Router(config-if)#no sh
Router(config-if)#no shutdown
```

- 6) Type "IP dhcp excluded address 192.168.1.1 192.168.1.6"

```
Router(config-if)#exit
Router(config)#IP dhcp excluded
Router(config)#IP dhcp excluded-address 192.168.1.1 192.168.1.6
```

NOW create the DHCP Pool

- i) select server-PT server0
- ii) select the service
- iii) in service go to DHCP
- iv) Once the DHCP pool is created, go back to the router's CLI.
- v) Go back to configuration mode, and then enter 'IP dhcp pool <pool name>'.

```
Router(config)#IP dhcp pool NIIT
```

Pool Name	Default Gateway	DNS Server	Start IP Address	Subnet Mask	Max User	TFTP Server	WLC Address
NIIT	192.168.1.2	192.168.1.2	192.168.1.1	255.255.255.0	253	0.0.0.0	0.0.0.0
serverPool	0.0.0.0	0.0.0.0	192.168.1.1	255.255.255.0	512	0.0.0.0	0.0.0.0

- vi) you will enter to dhcp-config mode
- vii) net 192.168.1.2 255.255.255.0
- viii) default-router 192.168.1.2
- ix) Dns server 192.168.1.2
- x) and exit

```
Router(dhcp-config)#net 192.168.1.2 255.255.255.0
Router(dhcp-config)#default-r
Router(dhcp-config)#default-router 192.168.1.2
Router(dhcp-config)#dns-s
Router(dhcp-config)#dns-server 192.168.1.2
Router(dhcp-config)#exit
```

For each device (PC, laptop), select them one by one, go to the 'Desktop' tab, choose 'IP Configuration,' and then click on 'DHCP.' Wait for a minute for the automatic assignment of the IP address through DHCP.

The screenshot shows the 'IP Configuration' window for PC0. The 'Desktop' tab is selected. Under 'IP Configuration', the 'Interface' is 'FastEthernet0'. The 'DHCP' radio button is selected, and the status is 'Requesting IP Address'. The 'IPv4 Address', 'Subnet Mask', 'Default Gateway', and 'DNS Server' fields are empty. Under 'IPv6 Configuration', the 'Automatic' radio button is selected, and the 'IPv6 Address' field is empty. The 'Link Local Address' is 'FE80::2E0:F7FF:FE22:C1A8'. The 'Default Gateway' and 'DNS Server' fields are empty. Under '802.1X', the 'Use 802.1X Security' checkbox is unchecked. The 'Authentication' dropdown is set to 'MD5'. The 'Username' and 'Password' fields are empty.

The screenshot shows the 'IP Configuration' window for PC3. The 'Desktop' tab is selected. Under 'IP Configuration', the 'Interface' is 'FastEthernet0'. The 'DHCP' radio button is selected, and the status is 'DHCP request successful.'. The 'IPv4 Address' is '192.168.1.7', the 'Subnet Mask' is '255.255.255.0', the 'Default Gateway' is '192.168.1.2', and the 'DNS Server' is '192.168.1.2'. Under 'IPv6 Configuration', the 'Static' radio button is selected. The 'IPv6 Address' field is empty. The 'Link Local Address' is 'FE80::290:2BFF:FEA2:C144'. The 'Default Gateway' and 'DNS Server' fields are empty. Under '802.1X', the 'Use 802.1X Security' checkbox is unchecked. The 'Authentication' dropdown is set to 'MD5'. The 'Username' and 'Password' fields are empty.