

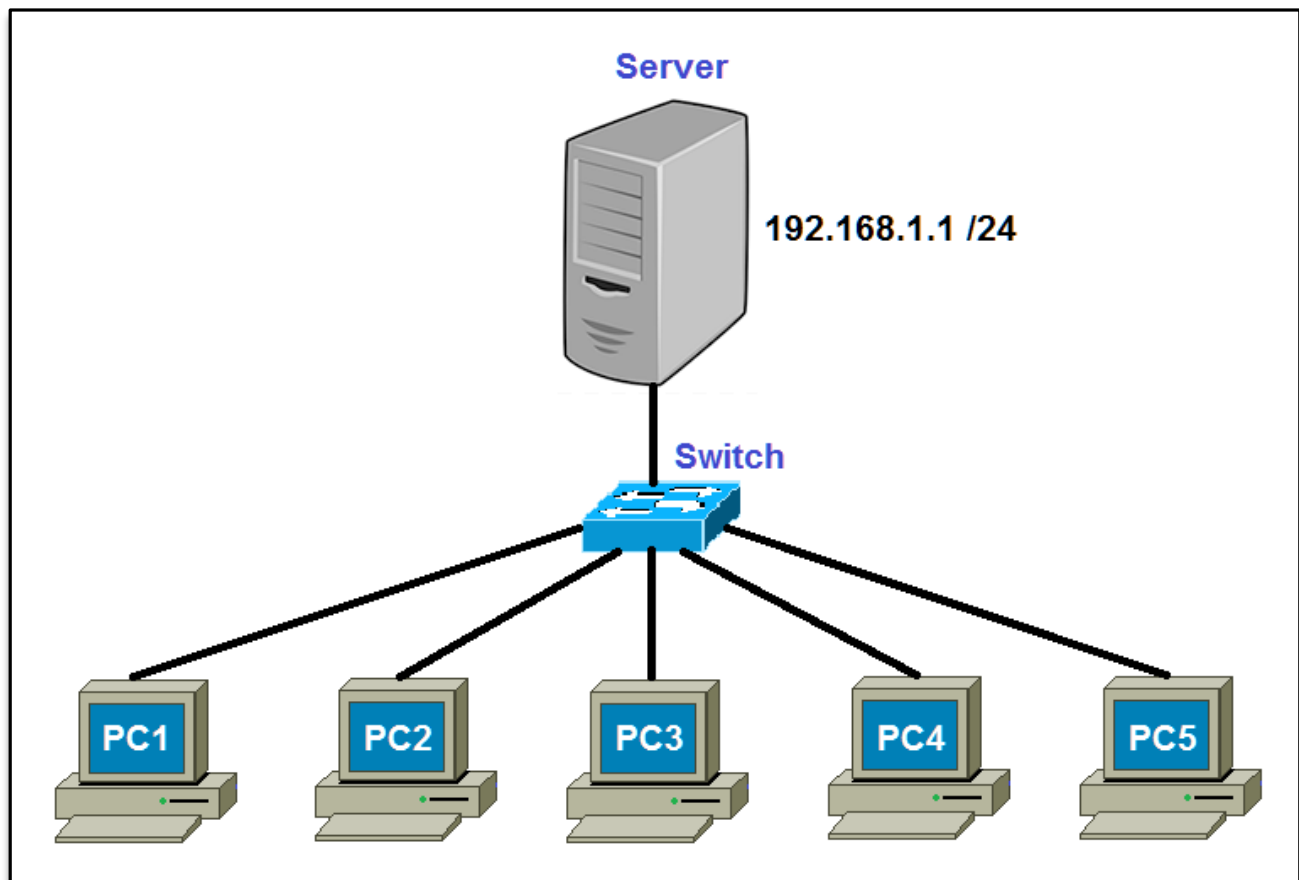
## Packet Tracer Mini-Lab 09: Supplement

### Setting Up DHCP Server and Basic DNS in Packet Tracer

**CAVEAT:** THE LABS IN CC2-180 MAY NOT WORK ENTIRELY AS PLANNED. WE WILL BE UTILIZING BOTH A SERVER 2012 R2 HOST PC AND VIRTUAL MACHINES (VMs) ON THE HOST PC, IN WHICH CASE THERE MAY BE UNFORESEEN ISSUES. AS SUCH WE WILL LIKELY GET SOME UNEXPECTED 'REAL WORLD' TROUBLESHOOTING PRACTICE AND MAY EVEN HAVE TO "WING IT"

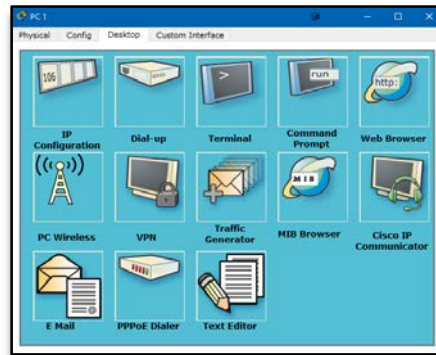
### Mini-Lab 09 Objective

The lab provides further practice in a simulated environment using Cisco's Packet Tracer application.

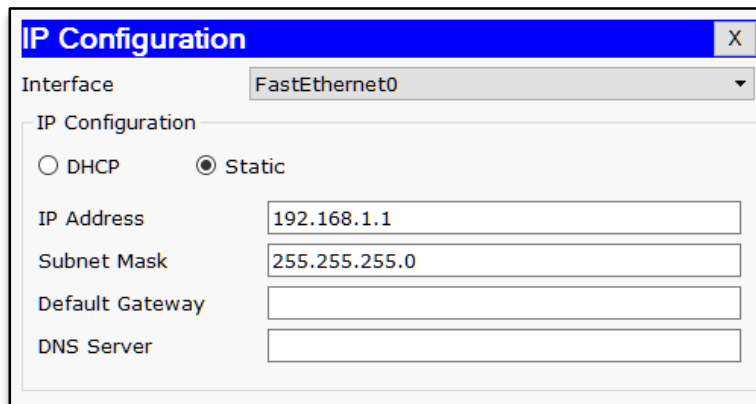


1. Create one small **network** using **1 Server**, **5 PC** hosts and **1 Switch**, connected with **6 copper straight-through** cables.

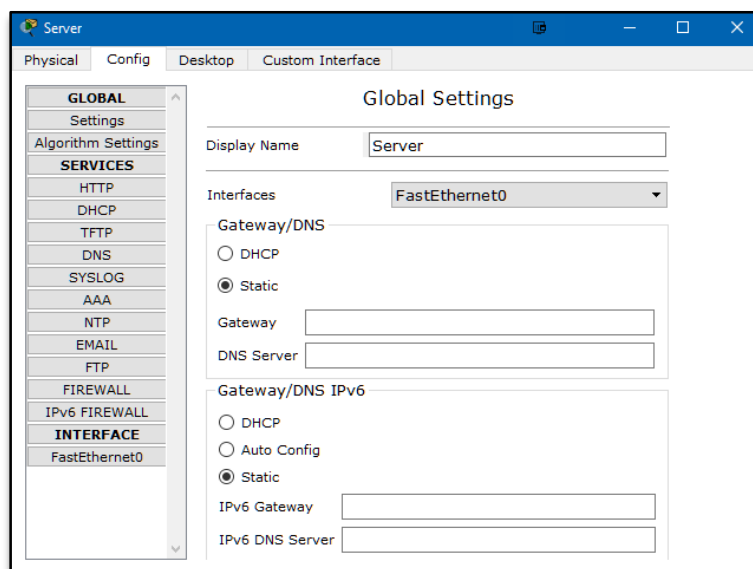
- Click on **Server** and select the **Desktop** tab.



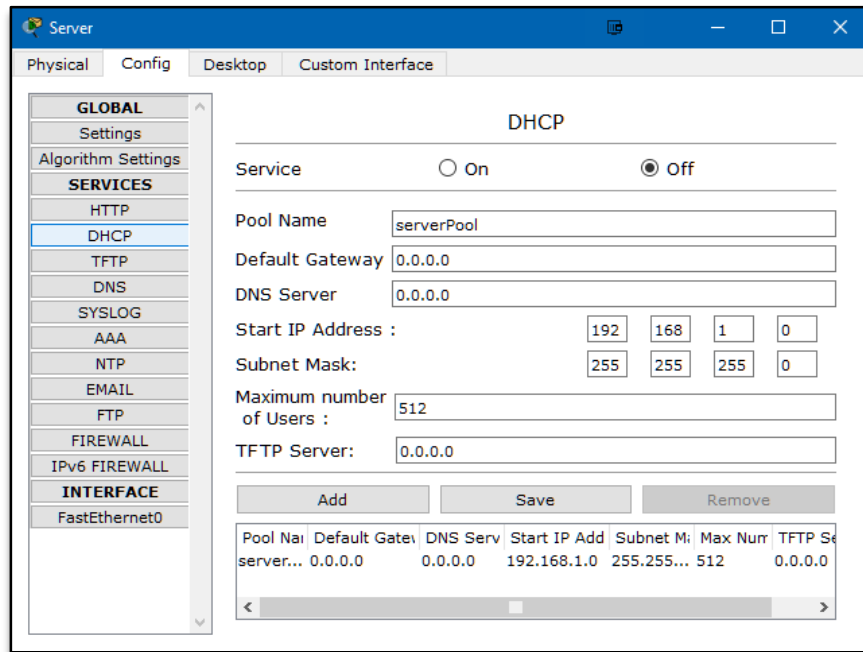
- Select **IP Configuration**, and enter the following address information:

A screenshot of the 'IP Configuration' window. The window title is 'IP Configuration' with a close button 'X'. The 'Interface' dropdown menu is set to 'FastEthernet0'. Under 'IP Configuration', the 'Static' radio button is selected. The 'IP Address' field contains '192.168.1.1', the 'Subnet Mask' field contains '255.255.255.0', and the 'Default Gateway' and 'DNS Server' fields are empty.

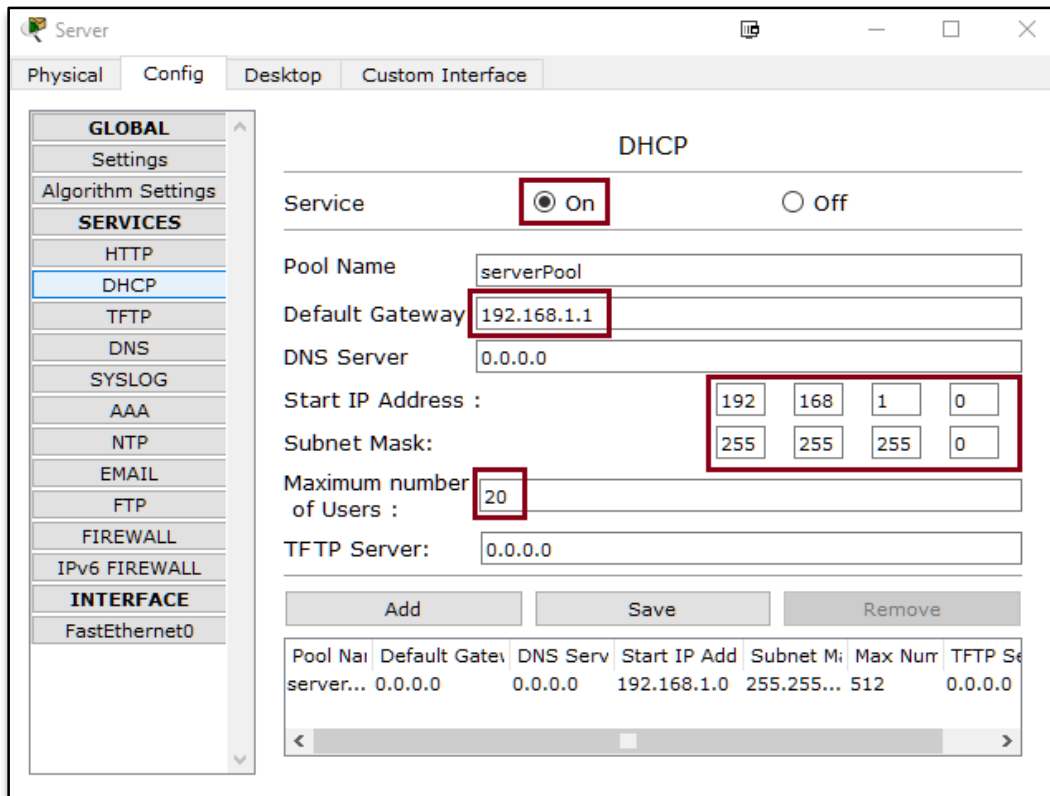
- Close the **IP Configuration** window, and select the **Config** tab.

A screenshot of the 'Server' configuration window. The window title is 'Server' and it has tabs for 'Physical', 'Config', 'Desktop', and 'Custom Interface'. The 'Config' tab is active. On the left is a sidebar with a tree view containing 'GLOBAL Settings', 'Algorithm Settings', 'SERVICES' (HTTP, DHCP, TFTP, DNS, SYSLOG, AAA, NTP, EMAIL, FTP), 'FIREWALL', 'IPv6 FIREWALL', and 'INTERFACE' (FastEthernet0). The main area is titled 'Global Settings' and shows 'Display Name' as 'Server'. Under 'Interfaces', 'FastEthernet0' is selected. The 'Gateway/DNS' section has 'Static' selected, with empty fields for 'Gateway' and 'DNS Server'. The 'Gateway/DNS IPv6' section has 'Static' selected, with empty fields for 'IPv6 Gateway' and 'IPv6 DNS Server'.

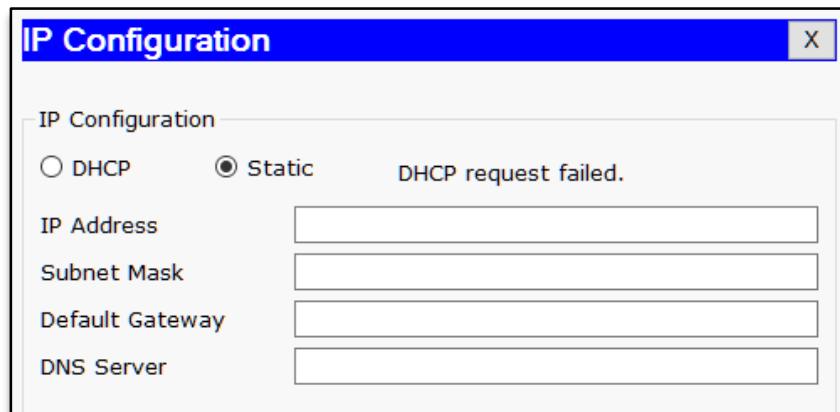
5. Under **SERVICES**, select **DHCP**.



6. Enter the following:



7. Close the **Server** window, and select **PC1**, then go to **Desktop** and select **IP Configuration**.



**IP Configuration** [X]

IP Configuration

DHCP     Static    DHCP request failed.

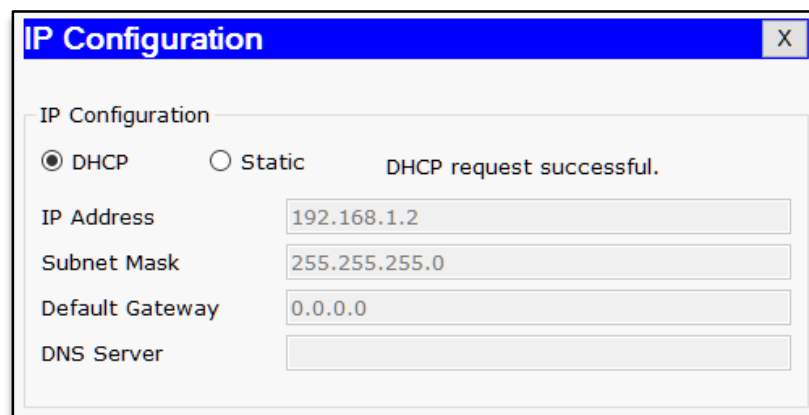
IP Address

Subnet Mask

Default Gateway

DNS Server

8. Under **IP Configuration**, change from **Static** to **DHCP**; the **DHCP server** will successfully assign an IP address to **PC1**.



**IP Configuration** [X]

IP Configuration

DHCP     Static    DHCP request successful.

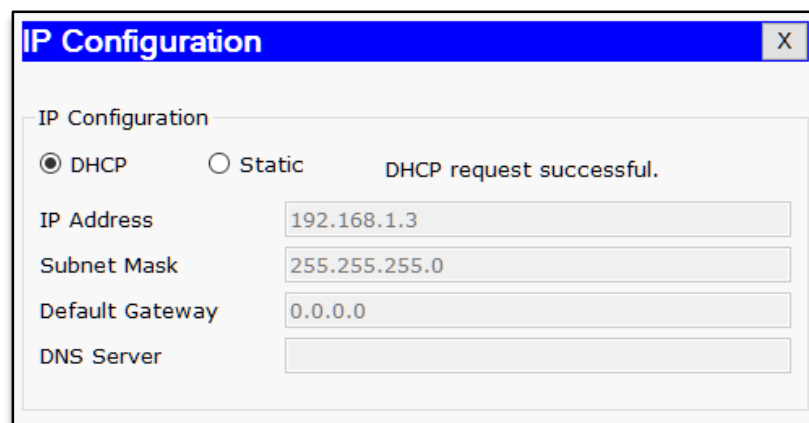
IP Address

Subnet Mask

Default Gateway

DNS Server

9. Repeat the process for **PC2**.



**IP Configuration** [X]

IP Configuration

DHCP     Static    DHCP request successful.

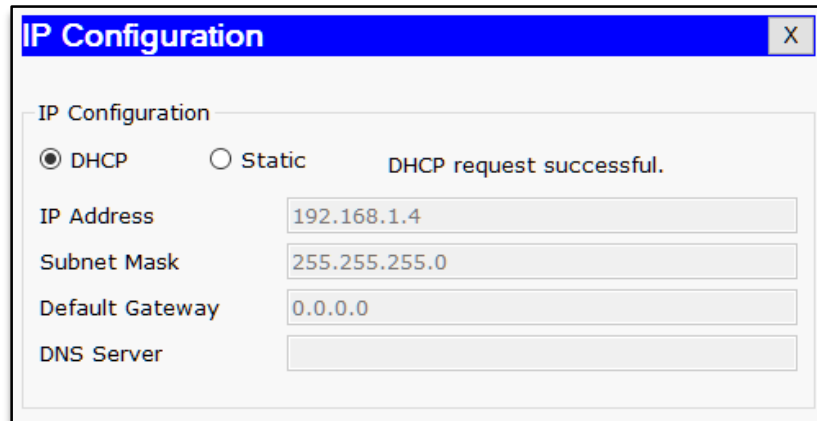
IP Address

Subnet Mask

Default Gateway

DNS Server

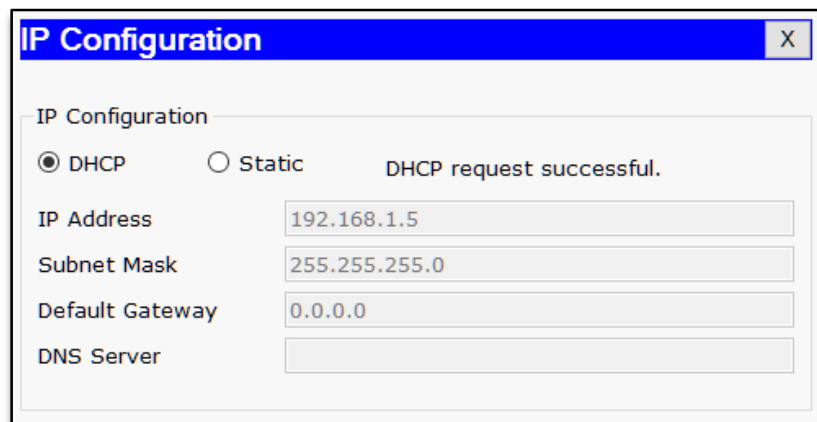
10. Repeat the process for **PC3**.



The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. The window contains the following information:

- IP Configuration:  DHCP  Static DHCP request successful.
- IP Address: 192.168.1.4
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: (empty field)

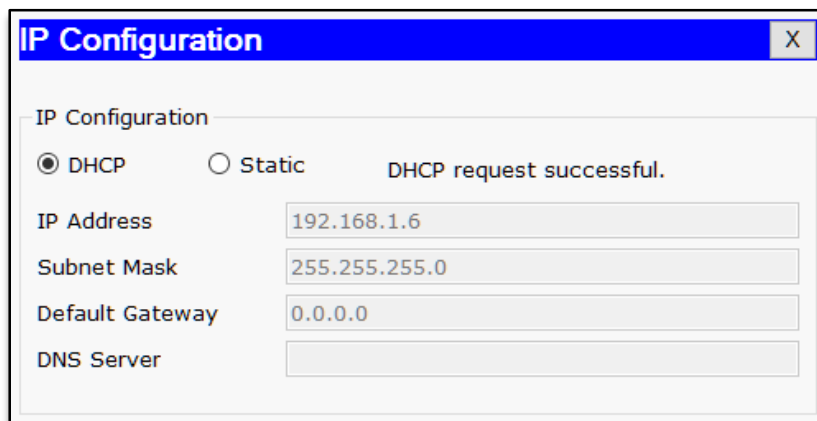
11. Repeat the process for **PC4**.



The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. The window contains the following information:

- IP Configuration:  DHCP  Static DHCP request successful.
- IP Address: 192.168.1.5
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: (empty field)

12. Repeat the process for **PC5**.



The screenshot shows a window titled "IP Configuration" with a close button (X) in the top right corner. The window contains the following information:

- IP Configuration:  DHCP  Static DHCP request successful.
- IP Address: 192.168.1.6
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: (empty field)

13. Test the configuration by **pinging** the other **PCs** from any other **PC**.

```
Command Prompt
Pinging 192.168.1.3 with 32 bytes of data:

Reply from 192.168.1.3: bytes=32 time=0ms TTL=128
Reply from 192.168.1.3: bytes=32 time=1ms TTL=128
Reply from 192.168.1.3: bytes=32 time=0ms TTL=128
Reply from 192.168.1.3: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms

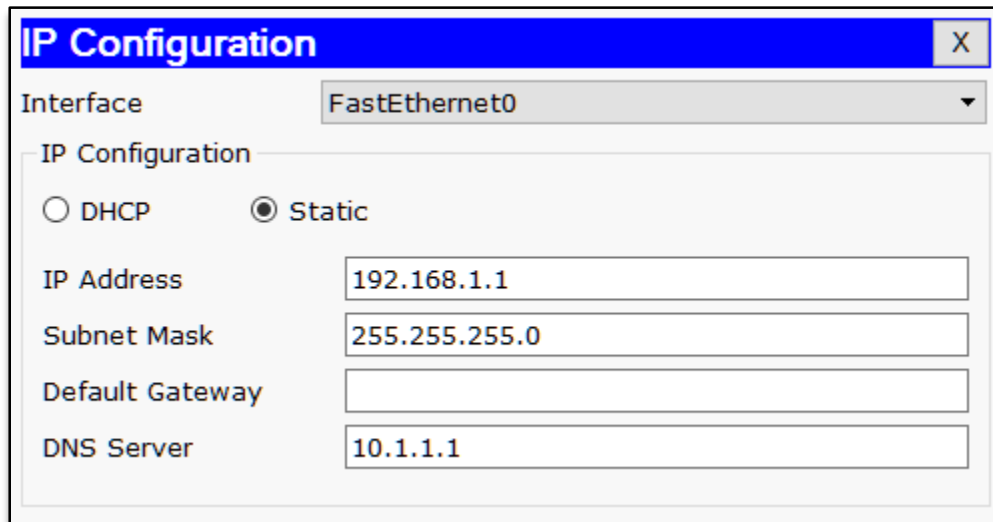
PC>ping 192.168.1.6

Pinging 192.168.1.6 with 32 bytes of data:

Reply from 192.168.1.6: bytes=32 time=1ms TTL=128
Reply from 192.168.1.6: bytes=32 time=0ms TTL=128
Reply from 192.168.1.6: bytes=32 time=0ms TTL=128
Reply from 192.168.1.6: bytes=32 time=0ms TTL=128

Ping statistics for 192.168.1.6:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 1ms, Average = 0ms
```

14. Now, we could go back to the **Server** and assign a **DNS Server** address. Select **Server**, then **Desktop** tab, then **IP Configuration**, and give the **DNS Server** the address of **10.1.1.1**.



IP Configuration

Interface: FastEthernet0

IP Configuration

DHCP  Static

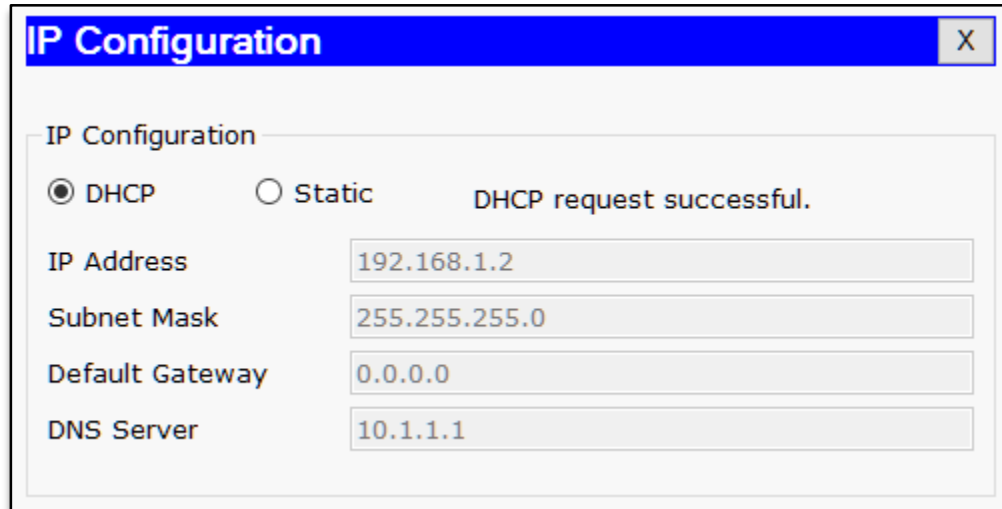
IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Default Gateway:

DNS Server: 10.1.1.1

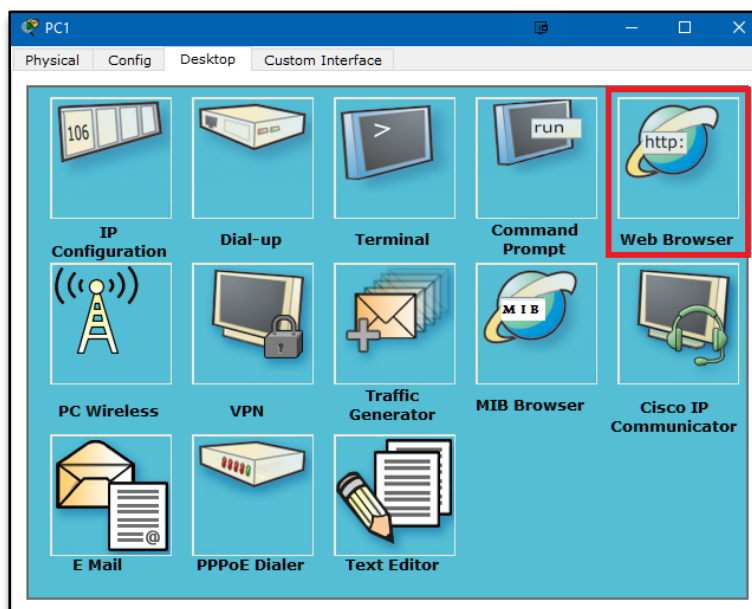
15. Now go to **PC1**, select **Desktop**, then **IP Configuration**, and deselect **DHCP** by selecting **Static** again, then reselect **DHCP**. You will see that the DNS Server address of **10.1.1.1** is now assigned to **PC1**'s **IP Configuration**.



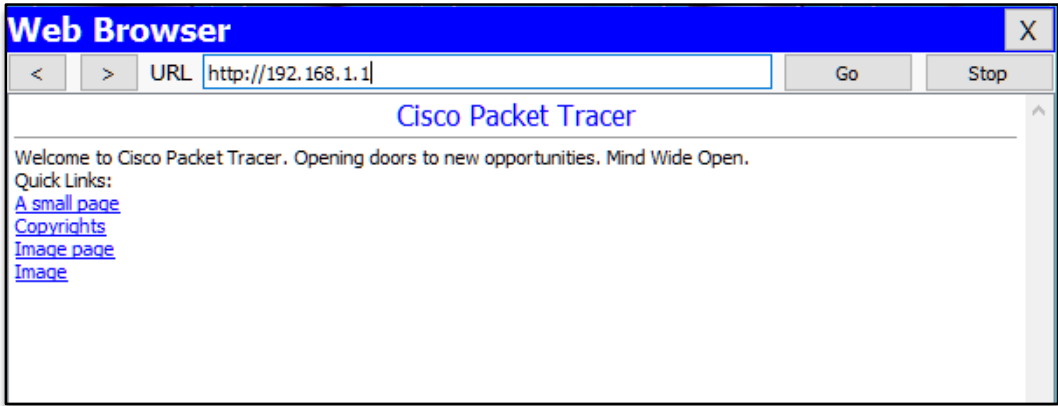
16. Repeat this same procedure for **PC2**, **PC3**, **PC4**, and **PC5**.

We can also open the **website** of the **Server** from any **PC** by going to the **Web Browser** and entering the **IP address** of the **Server** (**192.168.1.1**).

17. Select **PC1**, then **Desktop** tab, and select **Web Browser**.

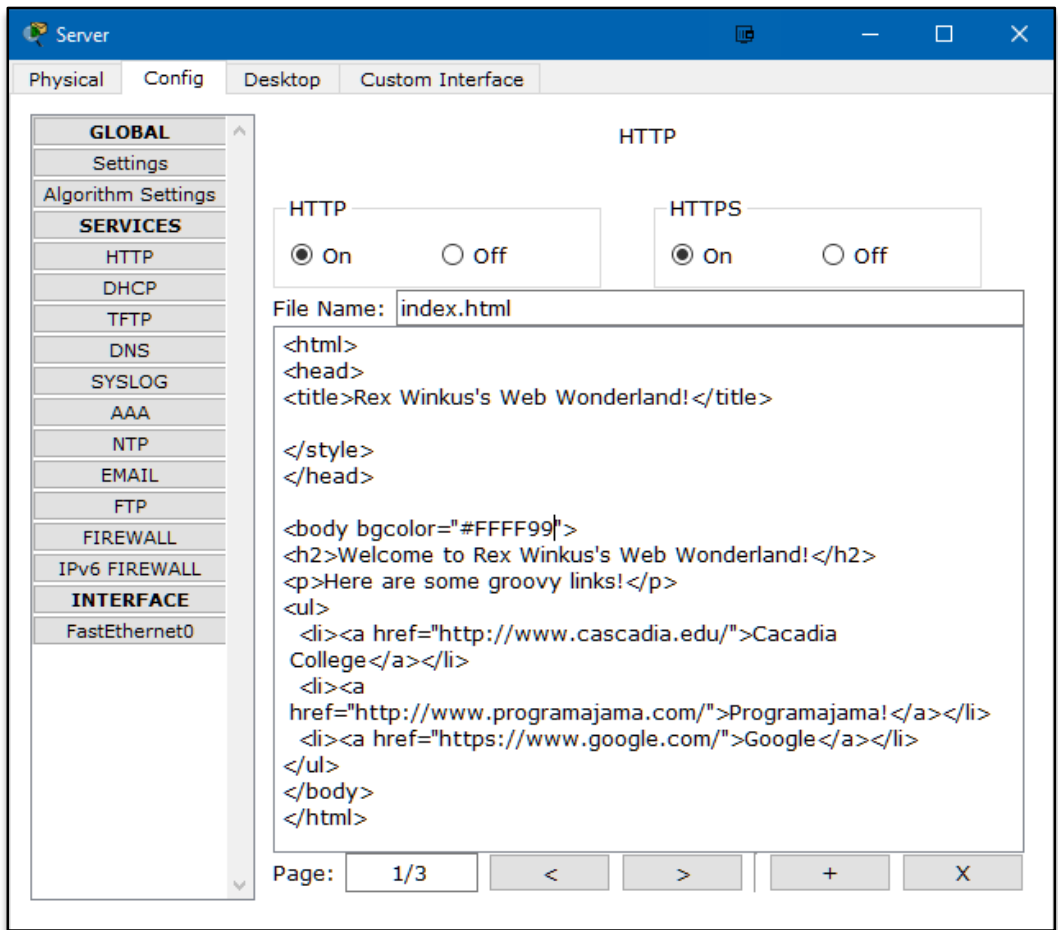


18. Type in **192.168.1.1** in the **URL** address box to bring up the **Server's** web page.



**JUST FOR FUN:** If you'd like, you can change the **Server's** web page using standard **HTML** (no CSS).

19. Open the **Server**, select the **Config** tab, then under **SERVICES** select **HTTP**.

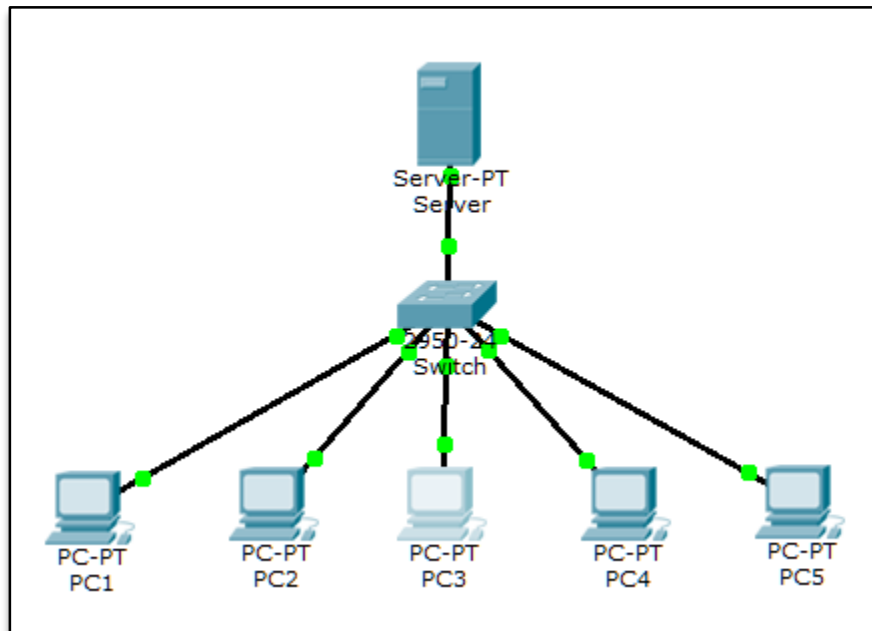




20. Go to any of the **PCs** and open the **Web Browser** using **192.168.1.1** for the **URL** again.



*NOTE: The 'external' links won't work yet because we haven't set up a gateway to the Internet. We may save that for another Mini-Lab!*



**END OF MINI-LAB 09**