

Lab-1

Tutorial -1

STEPS

1. Drag 2 generic PC's.
2. Connect it using a copper cross wire, make sure it is green indicating that it is working.
3. Set the IP address to 20.20.20.1 and 20.20.20.2.
4. Open command prompt enter ip config /all.

Output:

```
PC>ipconfig /all

FastEthernet0 Connection: (default port)

    Connection-specific DNS Suffix...: 
    Physical Address.....: 00E0.B09E.A7E1
    Link-local IPv6 Address.....: FE80::2E0:B0FF:FE9E:A7E1
    IP Address.....: 20.20.20.1
    Subnet Mask.....: 255.0.0.0
    Default Gateway.....: 0.0.0.0
    DNS Servers.....: 0.0.0.0
    DHCP Servers.....: 0.0.0.0
    DHCPv6 Client DUID.....: 00-01-00-01-55-9B-4E-B0-00-E0-B0-9E-A7-E1
```

Tutorial -2 (Creating a First Network)

STEPS

1. Adding Devices:

- Add a Generic PC and a Generic Server to the workspace.



2. Connecting Devices:

- Initially, use a Copper Straight-through cable, then replace it with a Copper Cross-over cable.
- The red lights indicate a failed connection, while the green lights indicate a successful connection.

3. Testing Power Cycle:

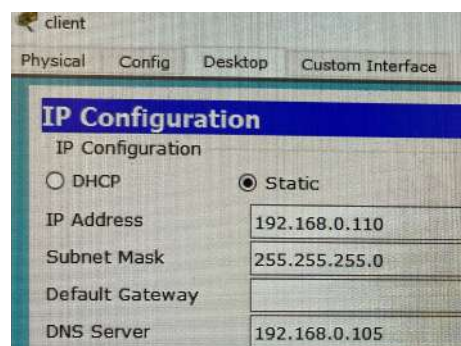
- Turn off and on the devices (PC and Server) to observe how the link lights change (green for "up", red for "down").

4. Exploring Device Information:

- You can get more information in three ways:
 - Mouse over devices for basic information.
 - Click on each device to open the configuration window.

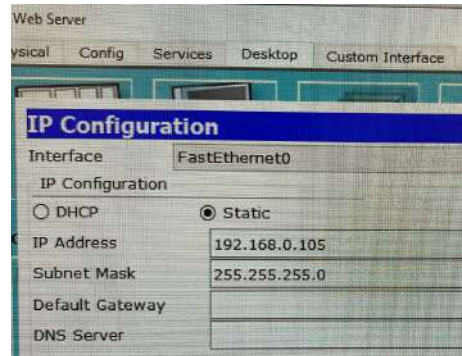
5. Configuring the PC (Client):

- Change the display name to Client.
- Set the DNS server to 192.168.0.105.
- Configure the IP address for the PC's FastEthernet0 interface as 192.168.0.110.
- Ensure the Port Status is "on".



6. Configuring the Server (Web Server):

- Change the display name to Web Server.
- Set the IP address for FastEthernet0 to 192.168.0.105.
- Under the Services Tab, enable the DNS service and configure the domain name www.firstlab.com with the IP address 192.168.0.105.



Tutorial -3 (Sending Simple Test Messages in Realtime Mode)

STEPS

1. Open the Saved File (Previous Tutorial File):

- Open the previously saved file from the last section. Ensure it loads in Realtime Mode, the default mode when opening Packet Tracer projects.

2. Send a Ping Using the Simple PDU Tool:

- Use the Add Simple PDU tool (usually represented by a letter icon or similar) to create a one-time ping from the PC (Client) to the Server (Web Server).
- When the server receives the ping, it will automatically send an echo reply because the IP addresses are configured correctly.
- This ping confirms the connectivity between the devices.

3. View Ping Status:

- Open the User Created Packet Window by clicking the left-facing arrow located in the lower right corner of Packet Tracer.

- This window shows details of the ping, such as its status and whether the ping was successful.

```

SERVER>ping 192.168.0.105

Pinging 192.168.0.105 with 32 bytes of data:

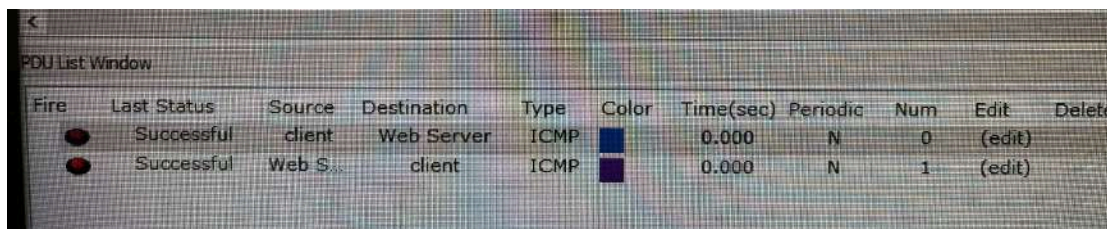
Reply from 192.168.0.105: bytes=32 time=5ms TTL=128
Reply from 192.168.0.105: bytes=32 time=9ms TTL=128
Reply from 192.168.0.105: bytes=32 time=2ms TTL=128
Reply from 192.168.0.105: bytes=32 time=8ms TTL=128

Ping statistics for 192.168.0.105:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 2ms, Maximum = 9ms, Average = 6ms

```

4. Toggle the PDU List Window:

- Click the PDU List Window (you can toggle this window to enlarge it). This gives a larger display and further details of the sent messages.



The screenshot shows a window titled "PDU List Window" containing a table of network packets. The table has columns for Fire, Last Status, Source, Destination, Type, Color, Time(sec), Periodic, Num, Edit, and Delete. Two rows are visible, both with a status of "Successful" and Type of "ICMP".

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Periodic	Num	Edit	Delete
	Successful	client	Web Server	ICMP		0.000	N	0	(edit)	
	Successful	Web S...	client	ICMP		0.000	N	1	(edit)	

5. Save the First Scenario:

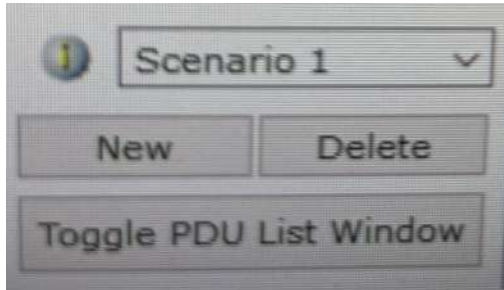
- In the PDU List Window, label this first set of actions as Scenario 0.
- Add a descriptive note using the "i" note tool, explaining that this scenario represents a successful basic ping test from the PC to the server.

6. Create a New Scenario:

- Click on the New button to create a new scenario. Initially, this scenario will be blank.
- Use the Simple PDU tool again:
 1. Send a packet from the PC to the Server.
 2. Send a packet from the Server to the PC.
- Add a descriptive "i" note to Scenario 1, explaining that this scenario involves bidirectional packet exchange between the PC and the server.

7. Alternate Between Scenarios:

- You can now switch between Scenario 0 (the initial ping test) and Scenario 1 (the bidirectional packet exchange).
- Test and observe how the packets behave in each scenario.



8. Remove Scenario 0:

- To remove Scenario 0, click the Delete button while Scenario 0 is selected.
- Now, only Scenario 1 should remain visible.

9. Delete PDUs in Scenario 1:

- Go to the User Created Packet Window in Scenario 1.
- In the last column, double-click each entry to delete the PDUs one by one.
- Once all PDUs are removed, you can also delete Scenario 1 entirely.

10. Return to the Default Scenario 0:

- After deleting Scenario 1, the system will automatically revert to Scenario 0, the default state.
- At this point, your network is reset to the initial state, and all custom scenarios are removed.