

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:

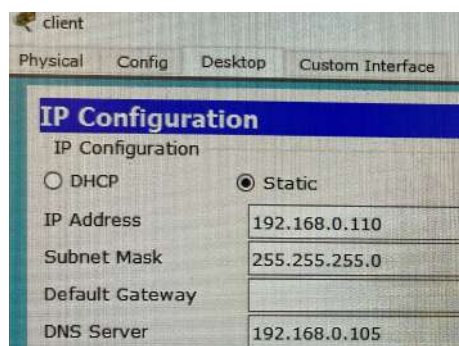
- Turn off and on the devices (PC and Server) to observe how the link lights change (green for "up", red for "down").

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.

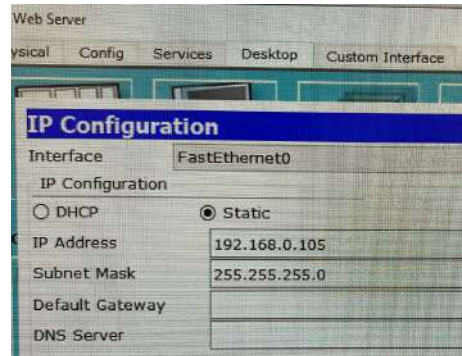
5. Configuring the PC (Client):

- 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:

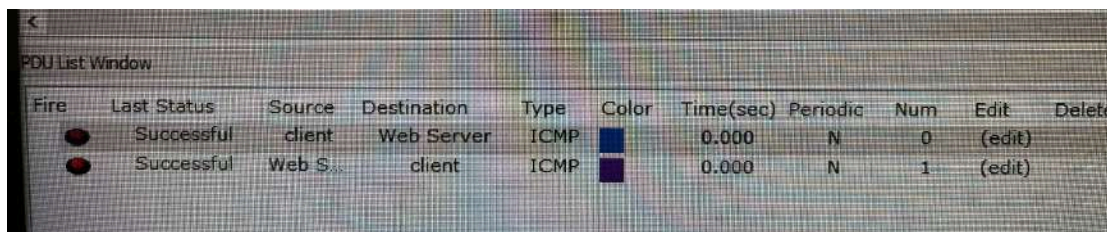
Reply from 192.168.0.105: bytes=32 time=5ms TTL=128
Reply from 192.168.0.105: bytes=32 time=9ms TTL=128
Reply from 192.168.0.105: bytes=32 time=2ms TTL=128
Reply from 192.168.0.105: bytes=32 time=8ms TTL=128

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" with 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 representing successful ICMP pings.

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:

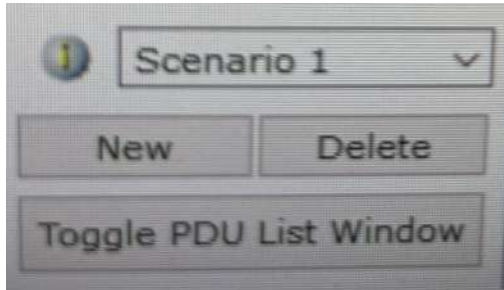
- In the PDU List Window, label this first set of actions as Scenario 0.
- Add a descriptive note using the "i" note tool, explaining that this scenario represents a successful basic ping test from the PC to the server.

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.

LAB-1

Create a topology & simulate sending a simple PDU from source to destination using hub & switch as connecting devices & demonstrate ping message.

PC-PT

PC-PT

PC0

PC1

20.20.20.1

20.20.20.2

PC0

PC1

ip configuration

ip configuration

Command prompt

ip config

ip config

ip config /all

ip config /all

ping 20.20.20.1

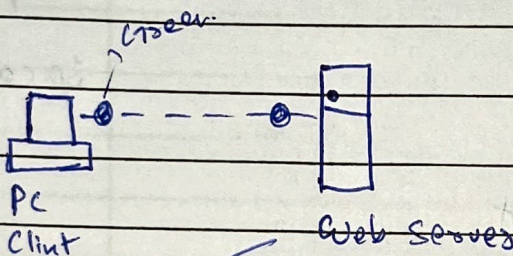
ping 20.20.20.2

Creating first NetworkSteps

1. add devices : Generic PC & Generic Server
2. Connect devices and see whether lights are green (OK) or red using copper cross-over and copper Straight-through cable.
3. Configure PC → change name to client
change IP address 192.168.0.110
change DNS Server 192.168.0.105
4. Configure Server → change name to web server.
set IP address to 192.168.0.105

2) Sending Simple test Message in Realtime Mode

1. Open the previous file
2. Add Simple PDU to send ping to the server
3. Toggle the PDU List Window to view the message.
4. Label the scenario.
5. Create a new scenario.
6. Manage Scenarios (Delete)



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