

LAB 1

Objectives:

- Find your IP Address (Internet protocol Address).
- Discover System Information.
- Setup LAN (Local Area Network).
 - Gather Network Hardware
 - Setup a LAN Network
 - Setup a local DHCP server

Find Your IP

Find your IP:

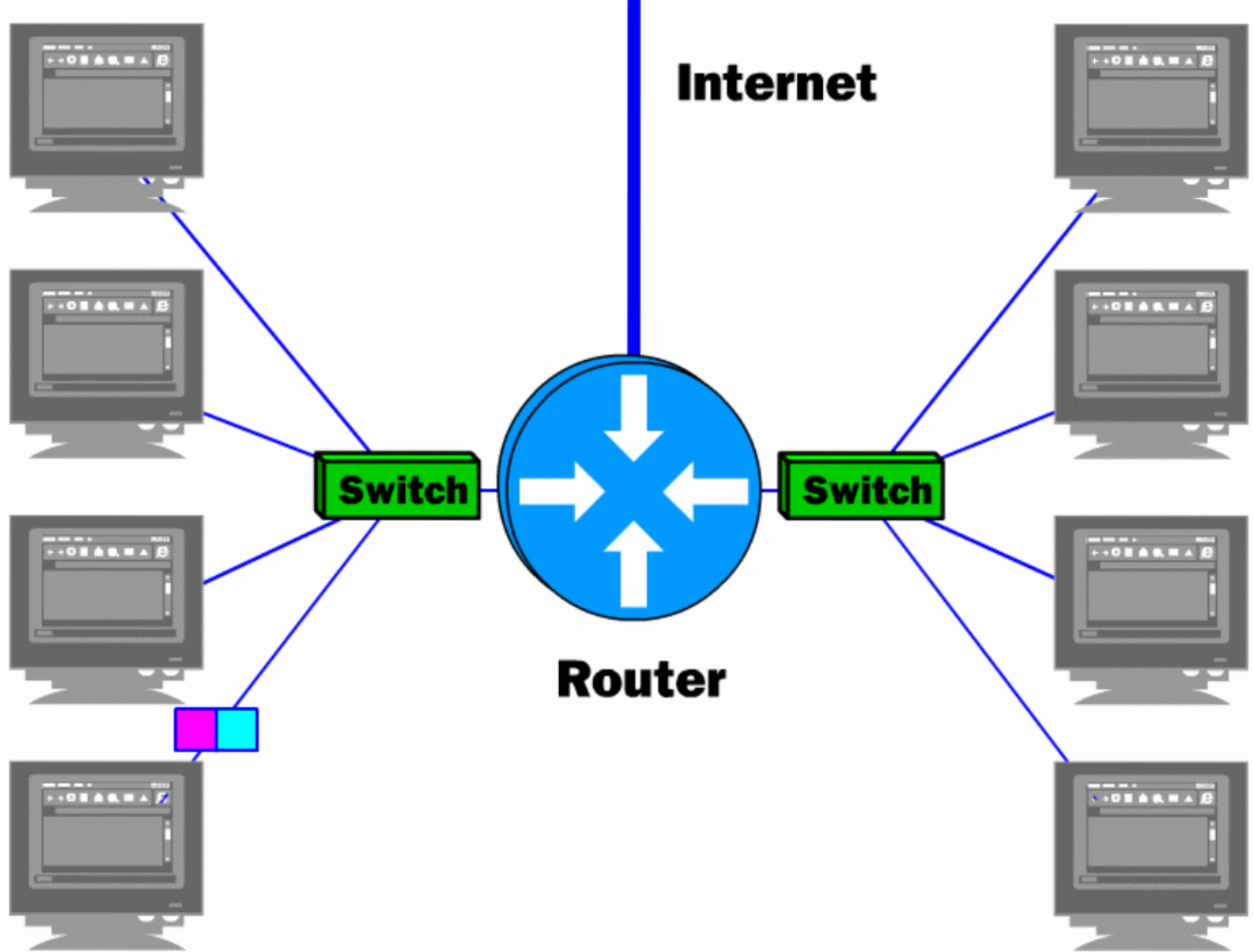
- cmd → ipconfig
- Network and Sharing Center

**Discover System
Info.**

Discover System Information:

- Control Panel → System

Gather Network Hardware

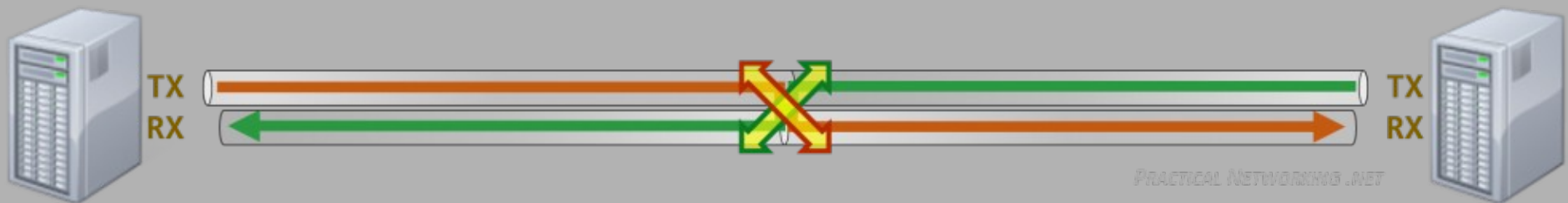
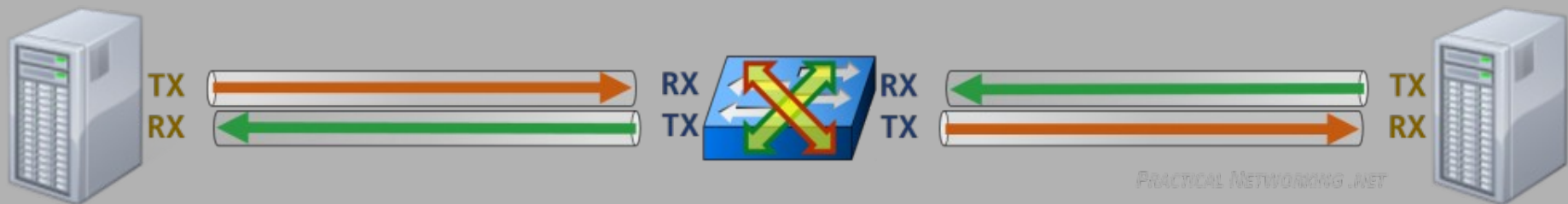


- To setup a network you need :
 1. Router
 2. Switch
 3. Devices
 4. Connections

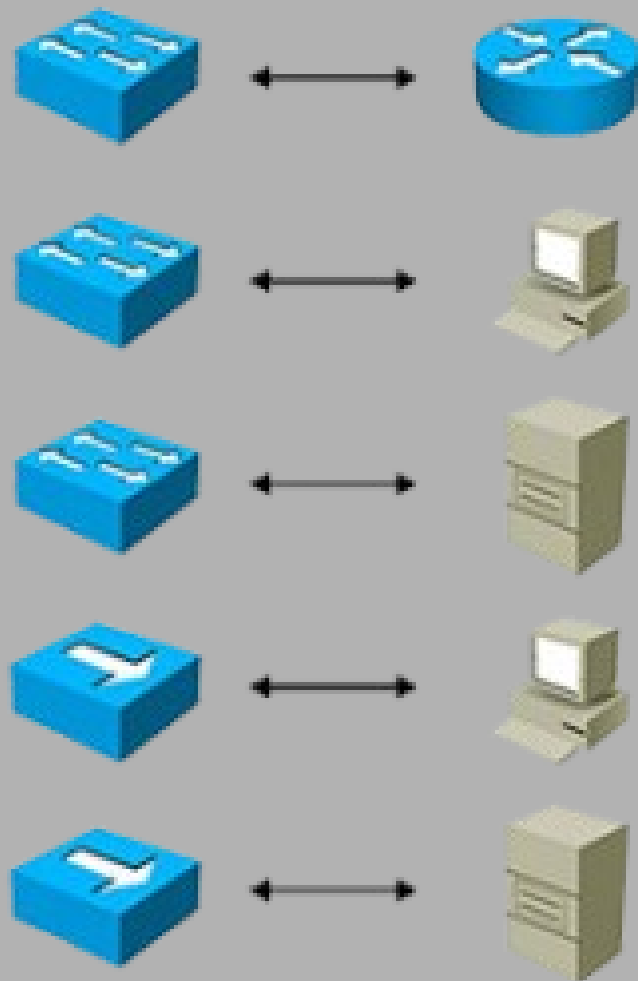
Ethernet Wired Connections

- > Straight-Through Wired Cables :
 - connect a host to client
computers, printers and other network client devices to the router or switch
- > Crossover Wired Cables :
 - connect two hosts directly
connecting a computer directly to another computer,
connecting a switch directly to another switch, or connecting a router to a router
 - TX and RX lines are crossed

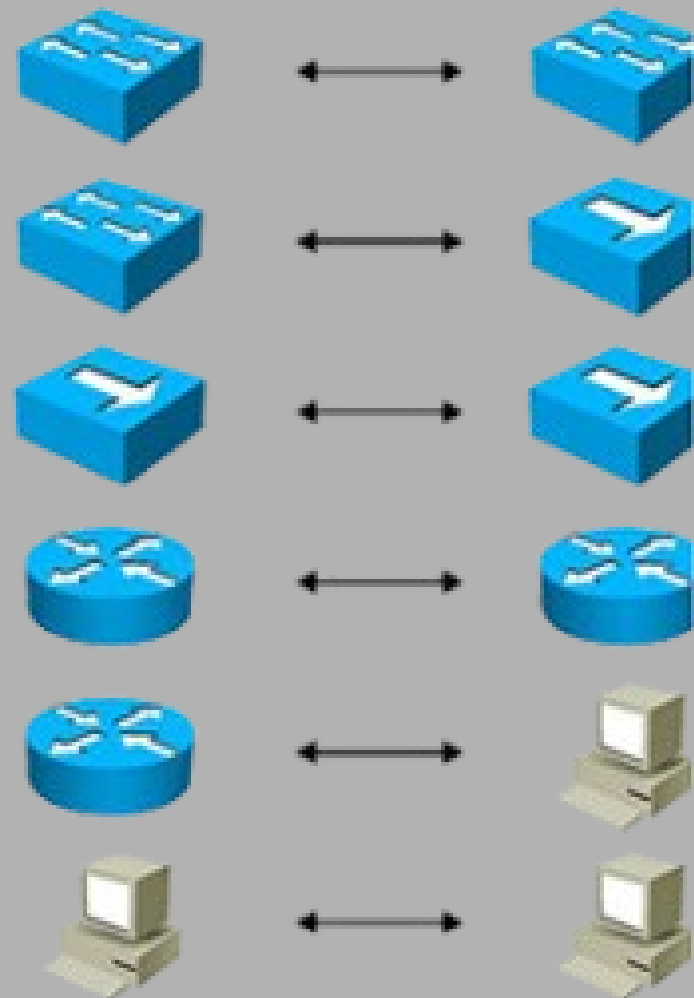
NOTE: Ethernet cables cannot reliably transfer data at lengths larger than 100m



Straight-Through Cable

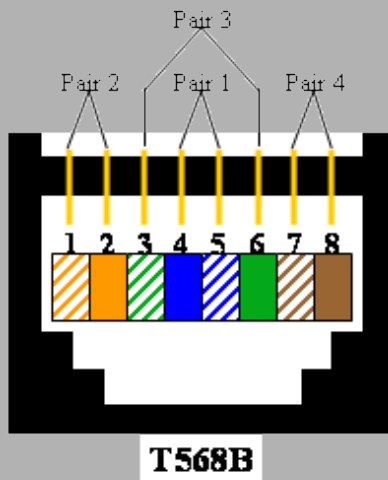


Crossover Cable

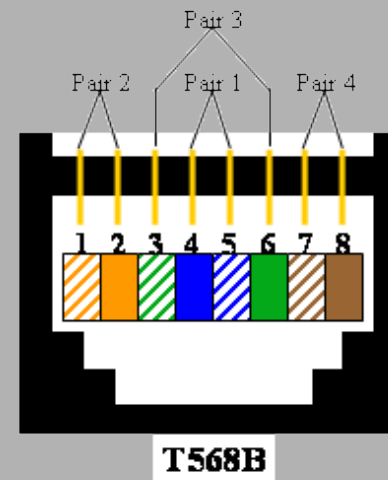
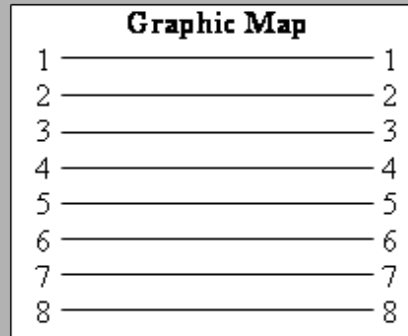


RJ-45 Pinouts

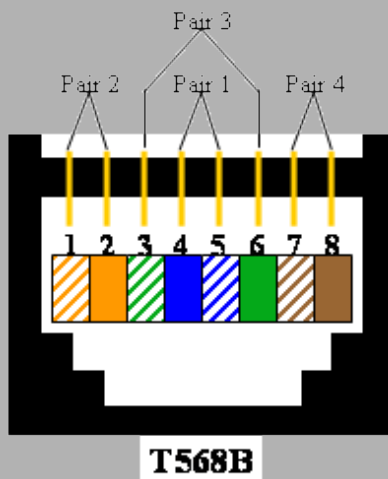
Straight Through Cable



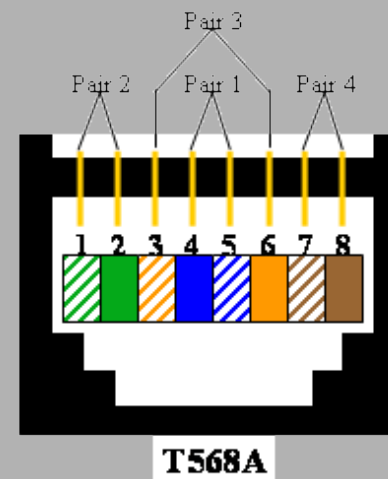
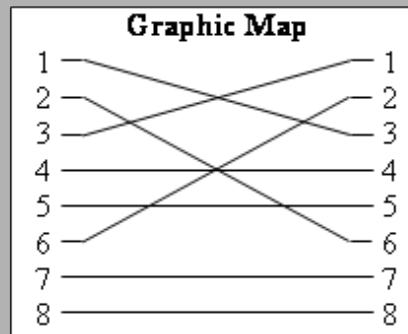
FLUKES							
1	2	3	6	4	5	7	8
1	2	3	6	4	5	7	8



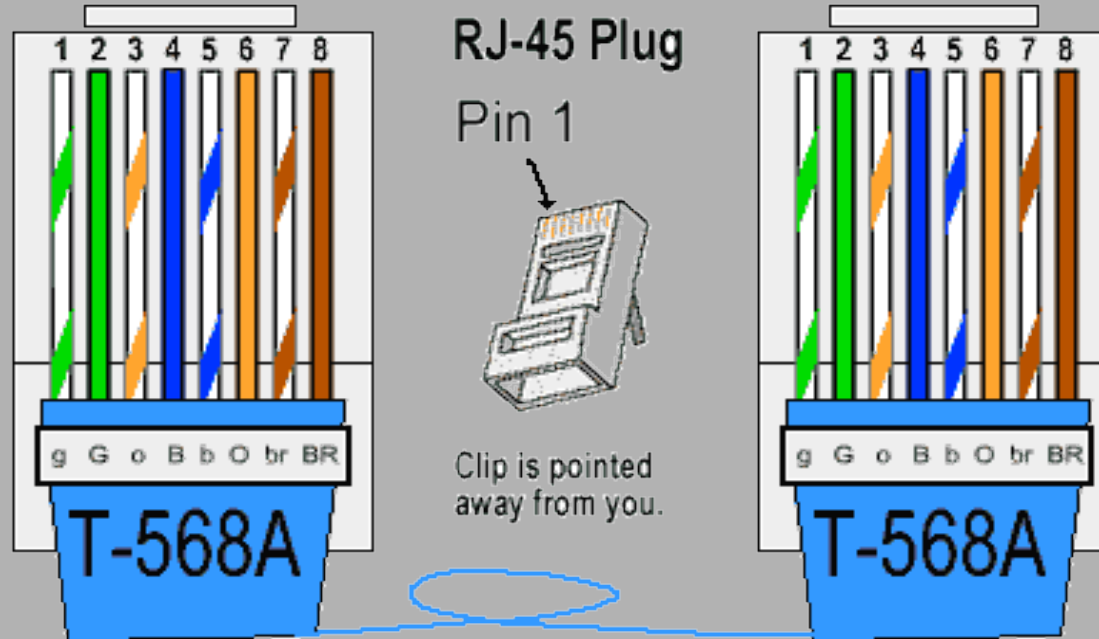
Crossover Cable



FLUKES							
1	2	3	6	4	5	7	8
3	6	1	2	4	5	7	8



Straight-Through Wiring



Setup LAN Network

Setup LAN Network

1. Make sure that all computers with same Workgroup name

- Control Panel → System and Security → System
- workgroup setting → change setting → Computer Name → change

2. Connect to the Network

- Control Panel → Network and Internet → Network and Sharing Center
- connect to network and change the connection status to set a static IP
(EX: 192.168.10.x) OR use a third Party Utility to assign IP automatically

Setup LAN Network:

3. Change sharing options

- Control Panel → Network and Internet → Network and Sharing Center
→ Advanced sharing setting

4. Share Files and Resources

- right clk → Properties → Sharing → Advanced Sharing → share this folder
- right clk → Properties → Sharing → Advanced Sharing → Permissions

5. Access Sharing Resources

- Computer → Network

Setup Local DHCP Server

Setup Local DHCP :

- Setting up one computer as a DHCP (Dynamic Host Configuration Protocol) server will allow all of the connected computers to easily obtain IP
- You can create a DHCP server on one of your computers by installing a third-party utility :
<http://tftpd32.jounin.net/>

NEXT LAB :

- Linux Operating system.
- Network Analyzer.
- Wireshark
- Try to install Wireshark on your
NEW Ubuntu :D !

