# Practical Network Third Class L.4 Mohanad Ali

Cut the cable into suitable length and repeat the below steps for the other side. Please be sure what kind of the cable you are wiring.



### Ethernet Cable

- The name, Ethernet Cable, always refers to the following category:
  - Category 5
  - Category 5e
  - Category 6
  - Or more than those categories.



### Ethernet Cable

#### It is composed of 4-pair twist wirings.

- Orange
- Green
- Blue
- Brown





- Prepare the materials and tools.
  - Cable & RJ-45 plugs
  - Scissors
  - Crimping tool



Strip off suitable length of the cable sheath.

- About 2–2.5 cm
- You can mark the position first.



Align the colored wires according to the specific order.





- Straight Through
  - All order of the wirings is the same as the other side.



#### Trim all the wires to the same length.





#### Insert the wires into the RJ45 plug.



Crimp the RJ45 plug with the crimping tool.



Verify the order of the wires is correct and all the wires are correctly making good contact with the metal contacts in the RJ45 plug.

Incorrect

Correct





#### How to configure a static internet protocol(IP) address on a computer

All computers, just like houses, need to have an address on both the local network, and on the internet. Most operating systems come with a service to automatically assign this. But sometimes we want to specify the address of a specific computer, or troubleshoot a connection. Start with Steps below for specific instructions on how to configure a static IP address.

#### EXAMPLE IP ADDRESS







wiki How to Configure a Static Internet Protocol (IP) Address on a Computer



#### Select Internet protocol version 4(TCP/IPv4). Next select Use the following IP address.

Wireless Network Connection Properties	gnose this connection »		5-	• 🗇	
letworking Sharing	vork Connection C41CA				
Connect using:	897 Wireless Network				
Rheros AR5897 Wireless Network Adapter					
Configure	Ξ III				
This connection uses the following items:					
🗹 🖳 Client for Microsoft Networks					
Avast! Firewall NDIS Filter Driver					
Gle and Pinter Shaing for Microsoft Naturdes					
☑ ▲ Internet Protocol Version 6 (TCP/IPv6)					
Internet Protocol Version 4 (TCP/IPv4)					
Internet Protocol Version 4 (TCP/IPv4)     Link-Layer Topology Discovery Mapper I/O Driver					
Internet Protocol Version 4 (TCP/IPv4)     Link-Layer Topology Discovery Mapper I/O Driver     Link-Layer Topology Discovery Responder					
Internet Protocol Version 4 (TCP/IPv4)     Link-Layer Topology Discovery Mapper I/O Driver     Link-Layer Topology Discovery Responder      Install     Uninstall     Properties					
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working Sharing		Vork Connection C41CA 397. Wireless Network			
Internet Protocol Version 4 (TCP/	Pv4) Properties	2 22			
General Alternate Configuration	1				
You can get IP settings assigned	automatically if your network	summerts			
this capability. Otherwise, you no	eed to ask your network admir	nistrator			
tor the sopropriste 10 cettone					
ion are appropriate in seturigs.					
Obtain an IP address autom	atically				
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#### **Testing TCP/IP connectivity with PING**

Align the colored wires according to the specific order. Ping is a utility included with all current versions of windows and can be used to test the connectivity between computers on the LAN, and the Internet. It does so by sending tiny packets (called ECHO\_REQUEST) packets to the target machine, who will reply back with ECHO\_REPLY packets, so that the pinging machine can determine the "distance" (in time)to the target machine. For exact technical details/ settings of the Ping utility please refer to **Microsoft documentation** 

From the Cmd line type:

 $C:\setminus ping x.x.x.x - t$ 

If the ping is successful then you have established that TCP/IP communication is working correctly between the two machines. You should see:

Reply from x.x.x.x: bytes=32 time<10ms TTL=128 Reply from x.x.x.x: bytes=32 time<10ms TTL=128 Reply from x.x.x.x: bytes=32 time<10ms TTL=128 Reply from x.x.x.x: bytes=32 time<10ms TTL=128

#### Failed ping tests

- If a ping test fails, you see error warnings similar to one of the following instead of the ping test results shown above:
- Request timed out
- Destination host unreachable
- Transmit failed, error code #

## Reference

Wikipedia

http://en.wikipedia.org/wiki/Category\_5\_cable

Cat5e Cable

http://www.cat5ecable.co.uk/

How to wire Ethernet Cables

http://www.ertyu.org/steven\_nikkel/ethernetcables.html