Soal Praktikum *Practicum Case*	BINUS MALANG Institute of Creative Technology
COMP6372 Computer Networks	
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Learning Outcomes
- Explain basic concepts of network

Topic
- Session 03 - Introduction to Packet tracer

Sub Topics
- Introduction cisco equipment
- Customizing devices with module
- Building simple topology
- Exercises

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Cisco Packet Tracer

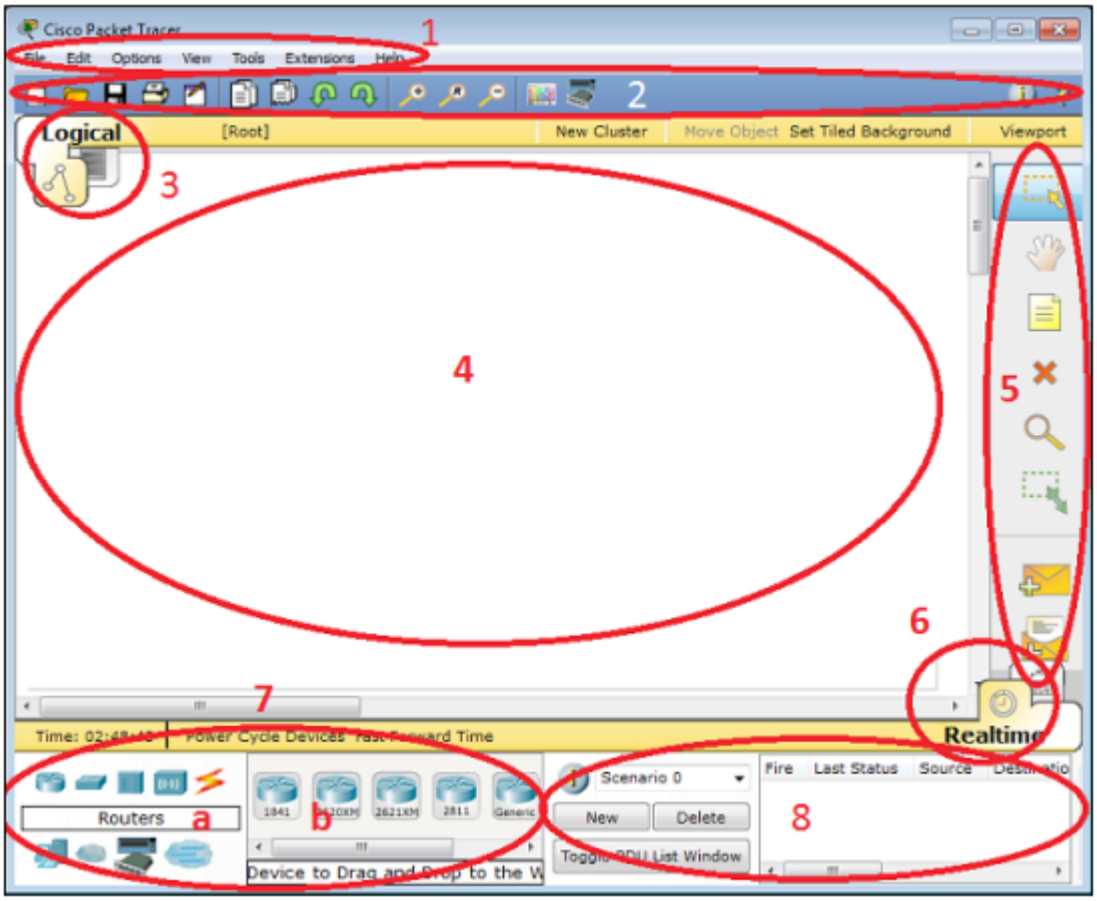
Packet Tracer is a protocol simulator developed by Dennis Frezzo and his team at Cisco Systems. Packet Tracer (PT) is a powerful and dynamic tool that displays the various protocols used in networking, in either Real Time or Simulation mode. This includes layer 2 protocols such as Ethernet and PPP, layer 3 protocols such as IP, ICMP, and ARP, and layer 4 protocols such as TCP and UDP. Routing protocols can also be traced

Protocols supported by Packet Tracer

A simulator, as the name suggests, simulates network devices and its environment, so protocols in Packet Tracer are coded to work and behave in the same way as they would on real hardware. The following table shows the protocols supported by Packet Tracer:

Technology	Protocols
LAN	Ethernet (including CSMA/CD*), 802.11 a/b/g/n wireless*, and PPPOE
Switching	VLANs, 802.1q, trunking, VTP, DTP, STP*, RSTP*, multilayer switching*, EtherChannel, LACP, and PagP
TCP/IP	HTTP, HTTPS, DHCP, DHCPv6, Telnet, SSH, TFTP, DNS, TCP*, UDP, IPv4*, IPv6*, ICMP, ICMPv6, ARP, IPv6 ND, FTP, SMTP, POP3, and VOIP(H.323)
Routing	Static, default, RIPv1, RIPv2, EIGRP, single area OSPF, multiarea OSPF, BGP, inter-VLAN routing, and redistribution
WAN	HDLC, SLARP, PPP*, and Frame Relay*
Security	IPsec, GRE, ISAKMP, NTP, AAA, RADIUS, TACACS, SNMP, SSH, Syslog, CBAC, Zone-Based Policy Firewall, and IPS
QoS	Layer 2 QoS, Layer 3 DiffServ QoS, FIFO Hardware queues, Priority Queuing, Custom Queuing, Weighted Fair Queuing, MQC, and NBAR*
Miscellaneous	ACLs (standard, extended, and named), CDP, NAT (static, dynamic, inside/ outside, and overload), and NATv6

Interface overview



The components of the Packet Tracer interface are as follows:

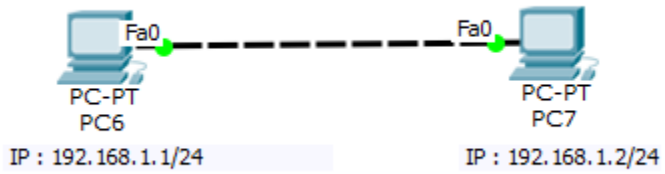
- **Area 1**: **Menu bar** – This is a common menu found in all software applications; it is used to open, save, print, change preferences, and so on.
- **Area 2**: **Main toolbar** – This bar provides shortcut icons to menu options that are commonly accessed, such as open, save, zoom, undo, and redo, and on the right-hand side is an icon for entering network information for the current network.
- **Area 3**: **Logical/Physical workspace tabs** – These tabs allow you to toggle between the Logical and Physical work areas.
- **Area 4**: **Workspace** – This is the area where topologies are created and simulations are displayed.
- **Area 5: Common tools bar** – This toolbar provides controls for manipulating topologies, such as select, move layout, place note, delete, inspect, resize shape, and add simple/complex PDU.

- **Area 6**: **Realtime/Simulation tabs** – These tabs are used to toggle between the real and simulation modes. Buttons are also provided to control the time, and to capture the packets.
- **Area 7: Network component box** – This component contains all of the network and end devices available with Packet Tracer, and is further divided into two areas:
    - **Area 7a**: Device-type selection box – This area contains device categories
    - **Area 7b**: Device-specific selection box – When a device category is selected, this selection box displays the different device models within that category
- **Area 8: User-created packet box** – Users can create highly-customized packets to test their topology from this area, and the results are displayed as a list.

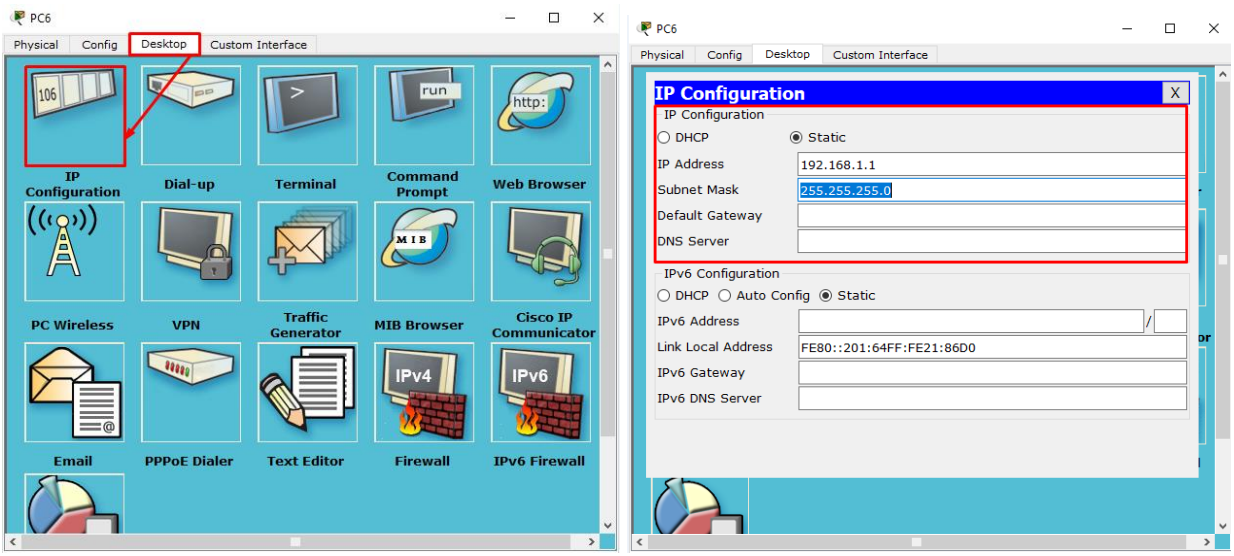
Create simple connection

Now that you're familiar with the GUI of Packet Tracer, you can create your first network topology by carrying out the following steps:

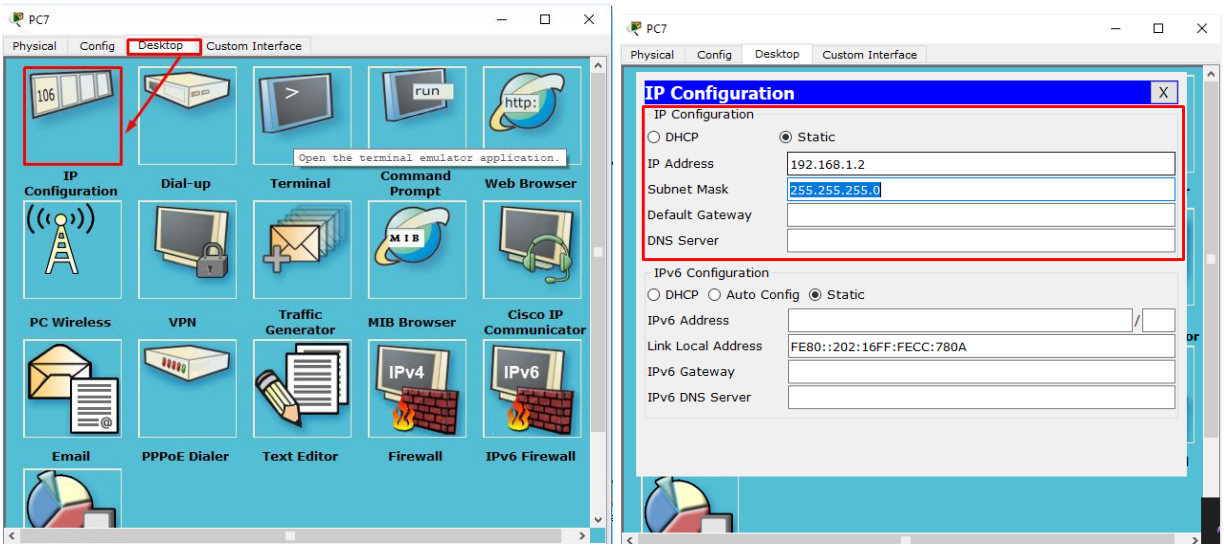
1. From the network component box, click on End Devices and drag-and-drop, **a Generic PC** icon and **a Generic PC** icon into the Workspace.
2. Click on Connections, then click on **Copper Cross-Over**, then on PC0, and select FastEthernet. After this, click on PC1 and select FastEthernet.The link status LED should show up in green, indicating that the link is up



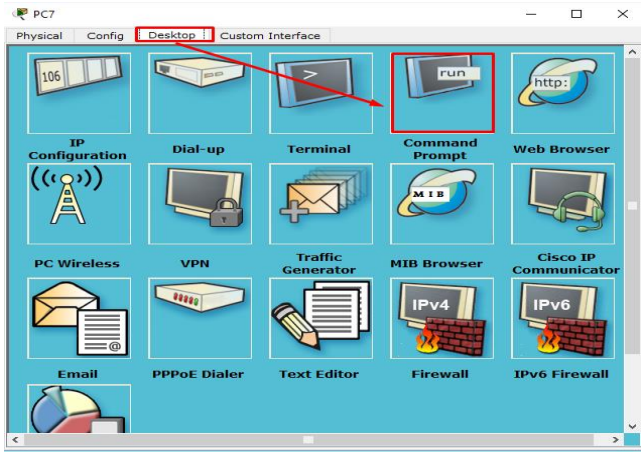
3. Click on the PC0, go to the Desktop tab, click on IP Confguration, and enter an IP address and subnet mask. In this topology, the default gateway and DNS server information is not needed as there are only two end devices in the network.

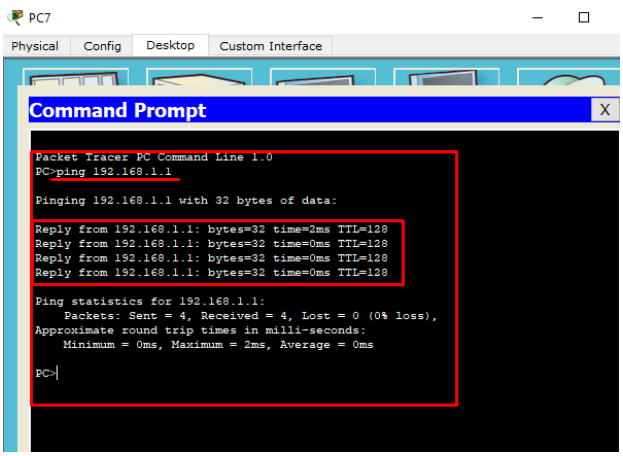


4. Close the window, open the PC1, and assign an IP address to it in the same way. Make sure that both of the IP addresses are in the same subnet

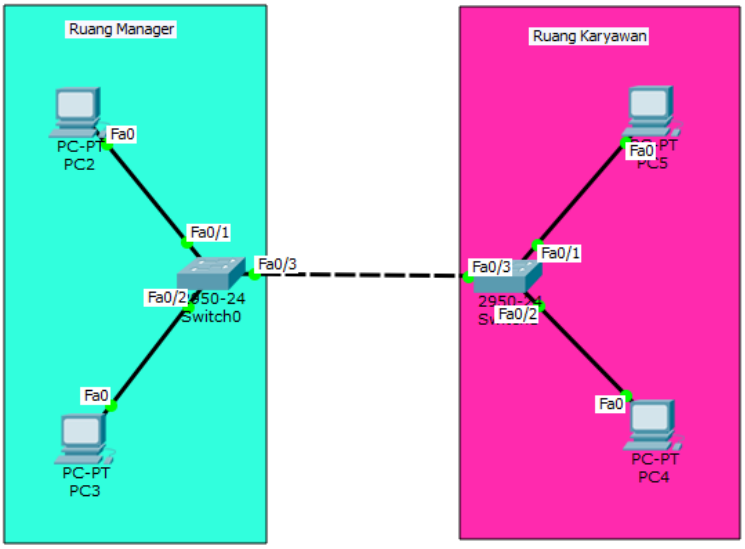


5. Close the IP Confguration box, open the command prompt, and ping the IP address of the device at the end to check connectivity. Check on both side in PC0 and PC1





Study case



Right now you work as network engineer for PT Kadit Osi, PT Kadit Osi plan to open their new branch in Batam. Make a network plan with requirement as below:

- Marketing division : Need **4** host
- Programer division : Need **7** host

Please provide IP table using VLSM with network base **103.49.221.0/24**

Design topology using packet tracer with those case, to connect between HRD and security you can use HUB. Give alias on each PC based on your nick name with 2 capital letterVerify connection through all computer, and capture based on each PC

If you don't understand, please ask your assistant!