Packet Tracer

A guideline by Sanjana Shemonti

Packet Tracer

- Packet Tracer is a visual simulation tool designed by Cisco Systems that allows users to create network topologies and imitate modern computer networks
- The software allows users to simulate the configuration of Cisco routers and switches using a simulated command line interface.
- Packet Tracer makes use of a drag and drop user interface, allowing users to add and remove simulated network devices as they see fit.

Installation

- An .exe file is provided for cisco packet tracer 6.1.1
- Run the .exe file and install packet tracer. It is not a problematic process.

Creating a topology

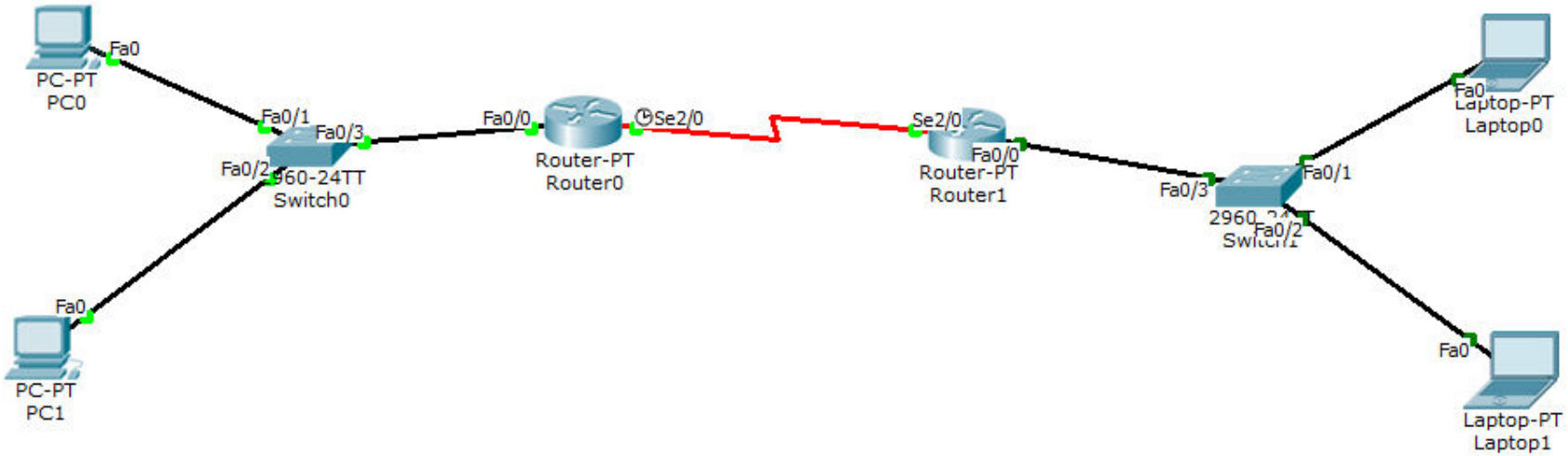
- Use drag and drop method to create a topology, i.e.
  - Use generic router
  - Switch 2960
  - Generic pc and laptop as end devices
  - Copper straight cable to connect end devices to switch and switch to router
  - Serial DCE to connect routers

- Then configure the components manually

Cisco Packet Tracer

File Edit Options View Tools Extensions Help

Logical [Root] New Cluster Move Object Set Tiled Background Viewport



Time: 00:40:12 Power Cycle Devices Fast Forward Time Realtime

Connections

Automatically Choose Connection Type

Scenario 0

New Delete

Toggle PDU List Window

Fire	Last Status	Source	Destination	Type	Color	Time (sec)	Periodic	Num
	Successful	PC0	Laptop1	ICMP		0.000	N	0

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Configuring end devices

- Click on the end device you want to configure
- Under the Desktop tab, select ip configuration
- Select static
- Enter ip address, subnet mask and default gateway as per your topology
- Close the window
- Do it for all the end devices
- Be careful about assigning ip address, subnet mask and default gateway

Configuring routers

- Click a router
- Go to CLI tab, it is the command line interface you will be using
- Attention: you will not be using the Config tab for direct configuration!!
- In CLI, press enter to get started

Some important points

- Router> is the user mode
- Router# is the privilege mode
- Router(config)# is the global configuration mode
- Router(config if)# is the interface configuration mode

- You can go back to the previous mode by entering Ctrl+z or exit
- To show labels of the components in the topology, go to Options-> Preferences->select show port labels

Router configuration commands

- Router> en (short for enable)
- Router# config t (configure terminal)
- Router(config)# int fa0/0 (interface fa0/0... Fa0/0 can be other labels depending on topology)
- Router(config if)# ip add 192.168.1.1 255.255.255.0

router ip subnet mask

no shutdown

#exit

This will configure the router to its own network

Router configuration commands

- For router-router configuration
- Router(config)# int Serial2/0
- Router(config if)# ip add 192.168.2.1 255.255.255.0

  # clock rate 5600

  # no shutdown

  #exit

Sending packets

- To check if the network topology is configured as you wanted
- Click on a end device
- Go to Desktop tab -> command prompt
- Write ping <ip address of another end device you want to send a packet to>
- Press enter
- It configuration is ok you will see the details of sending packets

Sending packets (simulation)

- Go to simulation tab at the bottom right corner
- From the list at the right side of the window select the closed envelop, put it from where you want to send packet and to where you want it to go
- Click auto capture/play
- The envelop will go through its desired configured path, if configuration is ok
- It will fail to route, if you have done any mistakes

Routing protocol

- Dynamic routing RIP
- Commands
  - Router(config)# router rip
  - Router(config-router)# network <ip address>

  - Other commands:
    - Router(config)# no router rip (to remove routing protocol)
    - Router# sh run (show run)
    - Router# sh ip route
    - Router# wr (to build configuration)

Routing protocol

- Static routing
- Commands
  - Router(config)# ip route **<destination network address> <subnet mask> <exiting network address>**

    Router(config)# ip route **192.168.3.0 255.255.255.0 192.168.2.0**
  - Router(config)# end

Tutorial links for RIP and Static

- https://www.youtube.com/watch?v=tPUe99KoVxA
- https://www.youtube.com/watch?v=1ifYHiFtYBo
- https://www.youtube.com/watch?v=QF8pqGNWVqI

That’s All!!