

Lab Manual: Cisco Packet Tracer

Objective: This lab manual aims to guide you through various networking tasks using the Cisco Packet Tracer. By following these exercises, you will learn to make connections between routers and end devices, configure static and dynamic routing, set up basic router settings, configure VLANs, and more using both graphical interface and Command Line Interface (CLI) commands.

Lab 1: Making a Connection on Router & End Devices

1. Open Cisco Packet Tracer.
2. Drag and drop a router and two end devices (like PCs or laptops) onto the workspace.
3. Connect the router to each end device using Copper Straight-through cables.
4. Configure IP addresses on each device's interface.
5. Test connectivity between the devices using the 'ping' command.

Lab 2: Making a Connection with Static Routing Across 4 Routers

1. Add four routers to the workspace.
2. Connect the routers serially using Serial DCE and DTE cables.
3. Configure IP addresses for each interface.
4. Configure static routes on each router to enable communication across the network.
5. Test connectivity between devices on different networks.

Lab 3: Making a Connection Using Dynamic Routing

1. Set up a network with at least three routers.
2. Configure a dynamic routing protocol such as OSPF or EIGRP on each router.
3. Allow the routers to dynamically exchange routing information.
4. Verify routing tables on each router.
5. Test connectivity between devices on different networks.

Lab 4: Configuring Basic Router Settings and Setting Password with IOS CLI

1. Access the CLI of a router.
2. Configure basic settings such as hostname, domain-name, and interface IP addresses.
3. Set an enable secret password to secure privileged EXEC mode.
4. Set a console and vty line password to secure remote access.
5. Save the configuration.

Lab 5: Configuring Static Routing with 3 Routers Using CLI Commands

1. Access the CLI of each router.
2. Configure IP addresses on each interface.
3. Define static routes to enable communication between networks.
4. Verify the routing table to ensure correct route entries.
5. Test connectivity between devices on different networks.

Lab 6: VLAN Basic Configuration with CLI

1. Access the CLI of a switch.
2. Configure VLANs using the `vlan` command.
3. Assign interfaces to VLANs using the `interface` command.
4. Configure trunk ports to allow VLAN traffic to pass between switches.
5. Test VLAN connectivity between devices.