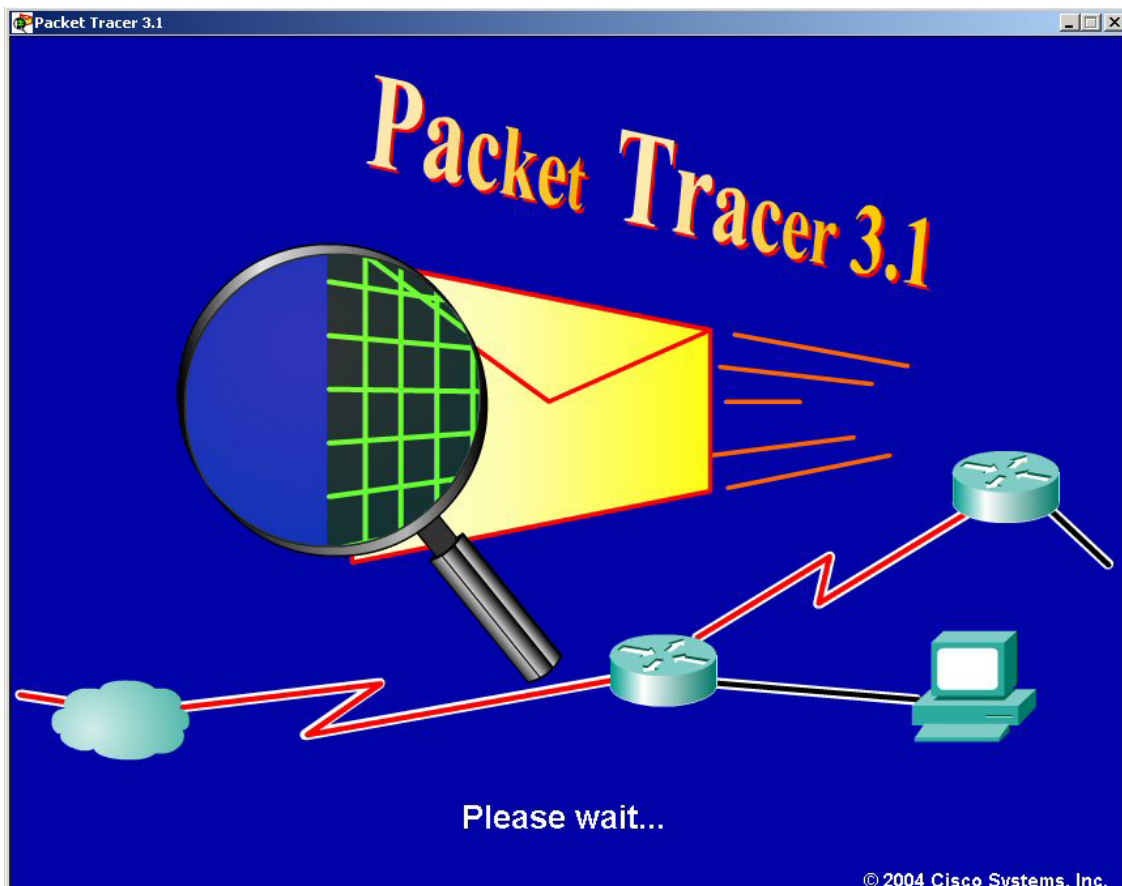


About Packet Tracer 3.1: Instructor FAQ



What is Packet Tracer v3.1?

Packet Tracer v3.1 is an interactive tool that is used to learn the basic functions of various devices at the physical, data link, network, and transport layers of the OSI model. This is intended to teach new students how and why devices in a network work the way they do. Packet Tracer v3.1 is a stand-alone, medium-fidelity simulation environment that allows novices to design, configure, and troubleshoot CCNA-level networks. Students create a network topology with a drag-and-drop interface. The devices they choose may then be interconnected and configured through a GUI. Switches and routers may be configured through a simulated version of Cisco IOS. After the devices have been connected and configured, students enter simulation mode. This causes RIP v2 routing updates and a form of STP to be executed. Students may then define packets and watch the animation of the route each packet takes through the network. A discrete-time model allows students to follow a packet as it encounters different network devices in a step-by-step or continuous movie mode. At any point in the journey, a packet may be stopped and its headers may be examined and processed based on the device algorithms explored.

What technologies and protocols are supported?

Packet Tracer v3.1 supports these technologies and protocols:

- Console, straight-thru, cross-over, serial, fiber and modem connections
- Limited Cisco IOS CLI configuration of switches and routers
- Switches, port characteristics, VLAN database, VLANs, and trunking
- Routers, ACLs, VLSM, simple NAT and PAT, and a form of DHCP
- Routing, RIP v2, static and default routes, and load balancing
- Clouds, bridges, hubs, access points, repeaters, PCs, servers, and printers

Packet Tracer v3.1 includes these features:

- Bridging, switching, and routing tables
- OSI encapsulation
- Many OSI Layer 1, 2, 3, and 4 features
- A Challenge Mode that requires students to direct the packet
- File saving, so topologies and configurations can be shared by instructors and worked on by groups of students

May I distribute the Packet Tracer to my students for their personal use?

Yes, Packet Tracer v3.1 is free for Cisco Networking Academy students and may be downloaded from the Cisco Networking Academy Connection website. Before Packet Tracer is downloaded, you must agree to the terms and conditions of the User Agreement, which describes the proper use of this software.

Why should I use Packet Tracer?

Packet Tracer v3.1 will enhance the learning experience of students. These interactive activities will help explain and support the materials taught in lectures or online. This is a powerful instructional tool that was adopted by the Cisco Networking Academy to help instructors teach the curriculum.

How should I use Packet Tracer in my class?

Packet Tracer v3.1 is based on three learning principles:

- Learning is active.
- Learning is social
- Learning is contextual.

Packet Tracer v3.1 is designed to facilitate the creation of engaging, collaborative, and localized instructional materials. Instructors may use it to assign homework or it may be used as a formative assessment, for lab activities, as a lecture and demonstration tool, to practice and visualize IP subnetting and VLSM, for case study and design activities, to distribute bugged configurations for students to troubleshoot, and as a companion to the technical curriculum, which many students find difficult. Packet Tracer v3.1 is relevant to approximately 50 percent of the core Target Indicators as defined in the CCNA 3.0 PASS document. Packet Tracer 3.1 threads may be found in the CCNA community discussion forums. Dozens of built-in topologies, simulations, and tutorials are included.

How can I integrate Packet Tracer into my lecture?

Packet Tracer v3.1 may be used to reinforce the information that students learn after they read the curriculum and the instructor lectures on the material. The instructor may assign students the task of designing a network with certain specifications. The instructor may send packets across the networks to evaluate the designs. The instructor may also provide pre-designed networks that do not work properly, and ask the students to troubleshoot the networks. In the past, students would need access to equipment that may not be readily available to complete these activities. Students can run simulations to validate their answers.

Does Packet Tracer replace labs or skills exams?

No, the goal of the Academy program is still to teach students to design, install, operate, and troubleshoot networks. There is no substitute for lab experience to educate future networking professionals.

How long will it take me to learn Packet Tracer?

A person with basic networking skills can learn how to use Packet Tracer v3.1 and build basic simulations in less than one hour. The help documents provide several 5- to 10-minute tutorials that can help users quick-start this program.

Can I run simulations on networks that I create?

Yes, one of the most valuable aspects of Packet Tracer v3.1 is the ability to run simulations after networks are created. Users can create a network and then create several scenarios of packets that are sent from different sources to destinations. The network and these scenarios can be saved and used again.

What kind of equipment can be used to create topologies?

Topologies can be built with the following equipment:

- Router
- Cloud
- Switch
- Bridge
- Repeater
- Hub
- Wireless access point
- PC
- Server
- Printer

What type of interfaces can be used to interconnect devices?

The following interfaces can be used to connect hardware devices:

- Ethernet
- Fast Ethernet
- Gigabit Ethernet
- Serial
- Modem
- Wireless

Can I create topologies with wireless access points and wireless PCs?

Yes, wireless access points and PCs can be incorporated into the topologies and simulations.

What routing algorithms do the routers use in Packet Tracer?

Routers in Packet Tracer v3.1 use RIP version 2. The routers exchange routing information dynamically to build their routing tables.

Is Spanning Tree Protocol supported by the switches and bridges?

Switches and bridges in Packet Tracer v3.1 use a simplified version of Spanning Tree Protocol to break Layer 2 loops in a network.

Why do some links turn off when I switch from Topology to Simulation Mode?

When a user switches from Topology to Simulation Mode, Packet Tracer breaks Layer 1 and Layer 2 loops so that packets sent in Simulation Mode will not loop indefinitely. Hubs, repeaters, switches, and bridges turn off ports that are in loops.

Why does it sometimes take so long to switch from Topology to Simulation Mode?

To switch from Topology to Simulation Mode, Packet Tracer v3.1 needs to initialize the devices in a network. When this process occurs, hubs and repeaters break Layer 1 loops, switches and bridges break Layer 2 loops and build MAC tables, routers and clouds build routing tables, and routers and PCs build ARP tables. The more devices and connections there are in a network, the more time it takes to initialize them.

Will there be future versions of Packet Tracer?

Feedback from Cisco Networking Academy students and instructors will influence future updates and enhancements of Packet Tracer v3.1.

Where can I send comments, questions, and concerns about Packet Tracer?

You can read and post comments, questions and concerns to the CCNA community discussion forums at

<http://academy-community.net/Instructor%20Community/CCNA/>.

Bugs may be reported through the Academy Connection. To do this, click on **Help > Curriculum Quality > Contact Curriculum Team**.