# Cisco | Networking Academy®
## Mind Wide Open™

# *Packet Tracer 5.0*

As networking systems continue to evolve in complexity, new curricula and educational tools are emerging to facilitate teaching and learning about the technology. Students seeking ICT skills now benefit from the accessibility of online learning curricula and new opportunities for social learning, collaboration, and competition.

For over ten years, the Cisco® Networking Academy® has worked in partnership with academies globally to provide a consistent and locally relevant approach to teaching information technology skills to students. The Networking Academy's primary mission is to improve career and economic opportunities, with the intent to create positive impact on individual lives and communities.

Packet Tracer 5.0 is comprehensive networking technology teaching and learning software and is an integral part of the Networking Academy's CCNA Discovery and CCNA Exploration curriculum. It provides powerful simulation, visualization, authoring, assessment, and collaboration capabilities and makes teaching and learning networking technology easier by visually simulating virtual networking environments. Packet Tracer enables collaboration, activity creation, and customization of essential learning tasks, allowing instructors and students to create their own virtual "network worlds" for teaching and learning networking concepts and technologies.

Packet Tracer's embedded activities offer an effective, interactive environment for learning CCNA-level networking concepts and protocols. From lectures and labs to homework and competitions, Packet Tracer transcends the boundaries of traditional learning by extending the classroom into a virtual world of exploration, experimentation and explanation.

## Product Overview

Packet Tracer 5.0 offers a unique combination of realistic simulation and visualization experiences, complex assessment and activity authoring capabilities, and opportunities for multiuser collaboration and competition.
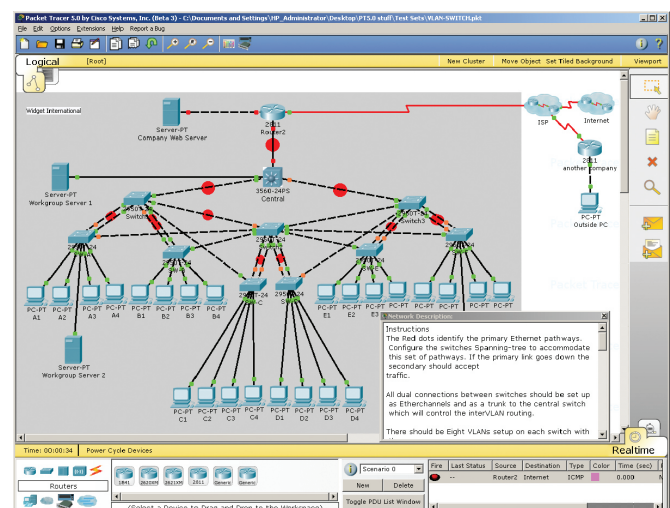
- Makes teaching easier by providing a free, multiuser environment for instructors to easily teach complex technical concepts

- Makes learning easier by providing a realistic simulation and visualization environment

- Provides authoring of learning activities, tasks, labs and complex assessments

- Supports lectures, group and individual labs, homework, and competitions

- Allows students and teachers to design, build, configure, and troubleshoot networks using virtual equipment

- Supplements without replacing real equipment and enables extended learning opportunities beyond physical classroom limitations

- Simulates continuous real-time updates of underlying network logic and activity

- Empowers students to explore concepts, conduct experiments, and test their understanding

- Promotes social learning via a network-capable (peer to peer) application with opportunities for multiuser competition, remote instructor-student interaction, social networking and gaming

- Enables self-paced learning outside the classroom

- Supports and simulates current protocols used in industry and government including most CCNA-level commands

## How it Works

Packet Tracer offers a broad range of opportunities for instructors to demonstrate networking concepts. Although Packet Tracer is not a substitute for real equipment, it allows students to practice using a model of the Cisco Internetwork Operating System (IOS) command line interface and provides visual, drag-and-drop problem solving using virtual networking devices. This hands-on capability is a fundamental component of learning how to configure routers and switches from the command line. Students can see how to configure and connect networking hardware while confirming systems design. Instructors can create their own self-evaluated activities that present immediate feedback to students on their proficiency in completing assignments.

*Packet Tracer's drag-and-drop interface allows students to configure and validate system architecture*

## Key Features

**Packet Tracer Workspaces:** Packet Tracer has two workspaces: logical and physical. The logical workspace allows users to build logical network topologies by placing, connecting and clustering virtual network devices. The physical workspace provides a physical dimension of the logical network, giving a sense of scale and placement in how network devices such as routers, switches, and hosts would look in a real environment. It provides geographic representations of networks, including multiple cities, buildings, and wiring closets.

**Packet Tracer Modes:** Packet Tracer uses two operating modes to visualize the behavior of a network: real time mode and simulation mode. In real time mode the network behaves as real devices do, with immediate real time response for all network activities. In simulation mode the user can see and control time intervals, the inner workings of data transfer, and the propagation of data across a network. This helps students understand the fundamental concepts behind network operations.

**Tutorials:** Familiarize users with the product features and teach users step-by-step how to engage in simulations.

**Help:** Familiarizes users with the Packet Tracer interface, functions, and features. Annotated screenshots are used to aid understanding. Also includes important notes and tips.
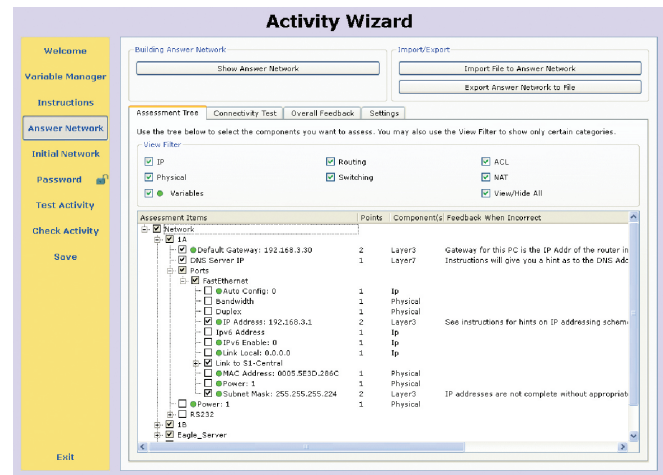
**Modular Devices:** Visually simulate hardware and offer the ability to insert interface cards into modular routers and switches, which then become part of the simulation.

**Protocols:** Packet Tracer supports HTTP, Telnet, SSH, TFTP, DHCP, and DNS;TCP and UDP; IPv4, IPv6, ICMPv4, and ICMPv6; RIP, EIGRP, multi-area OSPF, static routing, and route redistribution; Ethernet/802.3, 802.1 1, HDLC, Frame Relay, and PPP; ARP, CDP, STP, RSTP, 802.1q, VTP, DTP, and PAgP.

**Multiuser functionality:** Packet Tracer 5.0 is a network-capable application, with a multiuser peer-to-peer mode that allows collaborative construction of virtual networks over a real network. The multiuser feature affords exciting collaborative and competitive interactions, providing the option to progress from individual to social learning and features opportunities for collaboration, competition, remote instructor-student interaction, social networking, and gaming.

**Activity Wizard:** Allows users to become authors, setting up scenarios, adding instructional text, creating initial and final network topologies, grading, and feedback.

*The Activity Wizard enables the creation of customized learning activities*



## Additional Features

· Lab grading function

· International language support

· Supports the majority of protocols and technologies taught in the following curricula: CCNA v3.1, CCNA Discovery, and CCNA Exploration. May also be used to teach concepts from IT Essentials and CCNP Building Scalable Internetworks.

## Prerequisites

Packet Tracer 5.0 is compatible with the following platforms: Windows (XP and Vista) and Linux and supports activities authored in Packet Tracer versions 4.0, 4.1, and 4.1 1.

## Availability and Download Information

Packet Tracer 5.0 is available to established Networking Academy instructors, students and alumni. To download the software, log on to the Academy Connection website: www.cisco.com/go/netacad

## For More Information

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