



Packet Tracer complements the Networking Academy curricula, allowing instructors to easily teach and demonstrate complex technical concepts and networking systems design. With Packet Tracer, instructors can customize individual or multiuser activities, providing hands-on lessons for students that offer value and relevance in their classrooms. Students can build, configure, and troubleshoot networks using virtual equipment and simulated connections, alone or in collaboration with other students. Most importantly, Packet Tracer helps students and instructors create their own virtual "network worlds" for exploration, experimentation, and explanation of networking concepts and technologies.

The Cisco Networking Academy® program is designed to keep pace with the evolution of networking systems by providing innovative curricula and educational tools that help students understand the complexities of information and communication technologies (ICTs). Within this framework, the Cisco® Packet Tracer e-learning software was developed to help Networking Academy students gain practical networking technology skills in a rapidly changing environment.

## Cisco Packet Tracer

Cisco Packet Tracer is a powerful network simulation program that allows students to experiment with network behavior and ask "what if" questions. As an integral part of the Networking Academy comprehensive learning experience, Packet Tracer provides simulation, visualization, authoring, assessment, and collaboration capabilities and facilitates the teaching and learning of complex technology concepts.

Packet Tracer supplements physical equipment in the classroom by allowing students to create a network with an almost unlimited number of devices, encouraging practice, discovery, and troubleshooting. The simulation-based learning environment helps students develop 21st century skills such as decision making, creative and critical thinking, and problem solving.

## Features

Cisco Packet Tracer includes the following features:

- Makes teaching easier by providing a free, multiuser environment for instructors to easily teach complex technical concepts
- Makes learning easier by providing a realistic network simulation and visualization environment
- Provides authoring of learning activities, tasks, labs, and complex assessments
- Supports lectures, group and individual labs, homework, assessments, case studies, games, and competitions
- Supplements real equipment and enables extended learning opportunities beyond physical classroom limitations
- Simulates continuous real-time updates of underlying network logic and activities
- Empowers students to explore concepts, conduct experiments, and test their understanding
- Promotes social learning through a network-capable (peer-to-peer) application with opportunities for multiuser competition, remote instructor-student interactions, social networking, and gaming
- Supports the majority of protocols and technologies taught in the following Networking Academy curricula: Cisco CCNA® Discovery, CCNA Exploration, and CCNA Security, and can also be used to teach concepts from IT Essentials and Cisco CCNP® courses

Layer	Cisco Packet Tracer Supported Protocols
Application	• HTTP, TFTP, Telnet, SSH, DNS, DHCP, NTP, SNMP, AAA
Transport	• TCP and UDP, TCP Nagle Algorithm and IP Fragmentation, GRE VPN
Network	• IPv4, ICMP, ARP, IPv6, ICMPv6, IPsec • RIPV1/v2/ng, Multi-Area OSPF, EIGRP • Static Routing, Route Redistribution, Multilayer Switching, L3 QoS, NAT, CBAL, Zone-based policy firewall and intrusion prevention system on the ISR
Network Access/Interface	• Ethernet (802.3), 802.11, HDLC, Frame Relay, PPP • STP, RSTP, VTP, DTP, CDP, 802.1q, PAgP • L2 QoS, SLARP, Auto Secure, Simple WEP, WPA, EAP

## Cisco Networking Academy

In partnership with schools and organizations around the world, the Cisco Networking Academy program delivers a comprehensive learning experience to help students develop ICT skills for entry-level career opportunities, continuing education, and globally recognized career certifications. The curricula also help students build 21st century skills such as collaboration and problem solving by encouraging practical application of knowledge through hands-on activities and network simulations.

Networking Academy teaches ICT skills to students from virtually every socioeconomic background and region of the world. Students gain the skills needed to pursue networking careers in a variety of industries such as technology, healthcare, financial services, fashion, entertainment, and more. Students also gain access to a global support group, career developments tools, and social networking resources to help them become architects of the human network.

## For More Information

Cisco Networking Academy: [www.cisco.com/go/netacad](http://www.cisco.com/go/netacad)

Course Catalog: [www.cisco.com/go/netacadcourses](http://www.cisco.com/go/netacadcourses)

Locate an academy: [www.cisco.com/go/academylocator](http://www.cisco.com/go/academylocator)

Certifications: [www.cisco.com/go/certifications](http://www.cisco.com/go/certifications)