THINQTANK® LEARNING

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

Our Learning Exclusive

- Custom exam prep software and materials
- Exam delivery in classroom with 98% success
- Course specific thinQtank® Learning publications to promote fun exciting learning
- Extended hours of training including immersive hands-on exercises
- WE DO NOT "TEACH THE TEST" We always deliver valuable hands-on experience
- Receive all reading material and study guides when you register
- All courses taught by CCIE expert instructors

Course Duration

- Seven days of instructor-led training
- 50% lecture, 50% hands-on labs

Prerequisites

- Basic computer skills, operating systems familiarity, and basic Internet knowledge
- A basic understanding of computer networking principles
- No Cisco CLI experience is required but some basic knowledge is recommended

Target Audience

- Network Consulting Engineer
- Network Planning Engineer
- Network Implementation Engineer
- Anyone wishing to attain CCENT/CCNA, CCNA Security and CCDA certifications

Exam Information

- 100-105 Interconnecting Cisco Networking Devices Part 1 (ICND1) v3.0
- 200-105 Interconnecting Cisco Networking Devices Part 2 (ICND2) v3.0
- 200-310 Designing for Cisco Internetwork Solutions (DESGN) v3.0
- 210-260 Implementing Cisco Network Security (IINS)

Delivery Methods

- Instructor-Led Training
- Immersive Live-Online Training
- On-Site and Custom Delivery

Exclusive Tools and Learning Package

- Additional 10 hours of remote lab access
- Custom video recordings with even more in-depth learning of course topics
- Customized practice exam software
- Digital courseware
- Retake any or all portions of the course as many times as you like in person or live on-line for 24 months
- Six months mentoring access to CCIE engineers after completing the course

Course Overview

thinQtank® Learning is offering a unique seven-day boot camp in which students can receive four certifications in one week. As with all of our Cisco Training Experiences – exams are delivered in the classroom.

The Interconnecting Cisco Networking Devices, Part 1 (ICND1) v3.0 portion of the course provides knowledge and skills that are needed to install, operate, configure, and verify a basic IPv4 and IPv6 network, including configuring a LAN switch, configuring an IP router, managing network devices, and identifying basic security threats. Learn the functions of networking, knowledge of Cisco routers and switches, establishing internet connectivity, managing ACLs, configuring device security, implementing VLANs and trunks, configuring static routing and RIPv2, and becoming familiar with IPv6.

The Interconnecting Cisco Networking Devices, Part 2 (ICND2) v3.0 portion of the course provides knowledge and skills needed to install, configure, operate, and troubleshoot a small enterprise network. Learn Quality of Service (QoS) elements and understanding their applicability, how virtualized and cloud services interact and impact enterprise networks and, cover an overview of network programmability and the related controller types and tools that are available to support software defined network architectures.

In the CCNA Security portions of the course you will learn about the design, implementation, and monitoring of a comprehensive security policy using Cisco IOS security features and technologies as examples. You will also learn about security controls of Cisco IOS devices as well as a functional introduction to the Cisco Adaptive Security Appliance (ASA). This course enables you to perform basic tasks to secure a network using Cisco IOS security features, which are available through web-based GUIs on the Cisco ASA, and the command-line interface (CLI) on Cisco routers and switches. Site-to-site virtual private network (VPN) configuration is covered on both the Cisco IOS and the Cisco ASA. Modern malware examples are included in this course as are cryptographic techniques using stronger hashing and encryption algorithms. Current versions of Cisco IOS, Cisco ASA, and Cisco AnyConnect are featured.

Included is the CCDA e-learning self-study package. Cisco Certified Design Associate (CCDA) is for network design engineers, technicians, and support engineers, who enable efficient network environments with an understanding of network design fundamentals. A CCDA certified network professional demonstrates the skills required to design basic campus, data center, security, voice, and wireless networks. To prepare for the CCDA exam, students will receive hours of E-learning material and specialized exam preparation material.

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

ICND1 and ICND2 Course Objectives

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage network device security
- Expand small to medium sized networks with WAN connectivity
- Describe IPv6 basics
- Operate a medium-sized LAN with multiple switches, supporting VLANs, trunking, and spanning tree
- Troubleshoot IP connectivity
- Describe how to configure and troubleshoot EIGRP in an IPv4 environment, and configure EIGRP for IPv6
- Configure and troubleshoot OSPF in an IPv4 environment and configure OSPF for IPv6
- Define characteristics, functions, and components of a WAN
- Describe how device management can be implemented using the traditional and intelligent ways.

IINS Course Objectives

- Describe network fundamentals and build simple LANs
- Establish Internet connectivity
- Manage network device security
- Expand small to medium sized networks with WAN connectivity

CCDA Course Objectives

- Discuss methodology in network design
- Describe how to structure and modularize the network design using the Cisco Enterprise Architecture
- Design the Enterprise Campus and Enterprise Data Center modules
- Design the Remote Connectivity modules as needed
- Design a network addressing plan and select a suitable routing protocol for a given network design
- Evaluate security solutions for the network
- Discuss the design implications of voice transport across the network
- Discuss the design implications of wireless networking

THINQTANK® LEARNING

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

Note that there may be overlap with ICND1 and ICND2 topics and some topics and labs may be combined.

ICND1 Course Modules

1 Build a Simple Network

- Examples of networks
- Common network components by function
- Characteristics of a network
- Compare and contrast logical and physical topologies
- Interpret network diagrams
- User applications on the network
- Identify the requirements of a host-to-host communication model
- The OSI reference model
- Functions and purposes of the TCP/IP layers
- Peer-to-peer communication
- Encapsulation and de-encapsulation
- Components of a LAN
- Switches
- Characteristics and features of switches
- Cisco IOS Software
- Functions and usage of the Command Line Interface (CLI)
- Switch installation and configuration
- Ethernet LAN connection media
- Ethernet frame fields
- Duplex communication
- Troubleshooting switch issues

2 Establishing Internet Connectivity

- Characteristics of IP
- IPv4 components and addresses
- DNS functions
- Subnets and subnet mask
- Subnetting
- Role and implementation of VLSM
- Purpose and functions of the TCP/IP transport layer
- Transport
- TCP vs. UDP analogy
- Role, components, and functions of a router
- Router configuration
- Network discovery protocol
- Address Resolution Protocol (ARP)
- Default gateway
- Packet delivery
- Static and dynamic routing
- Access Control Lists (ACLs)
- Standard IPv4 ACLs
- Configure and verify ACLs
- Demarcation point
- DHCP and static addresses
- NAT and PAT configuration and verification

3 Build a Medium-Sized Network

- VLANs and trunking implementation
- Inter-VLAN routing configuration and application
- IOS DHCPv4 server configuration
- Routing protocols
- RIPv2 features and configuration

4 Managing and Securing Network Devices

- Basic security configuration
- Unused ports security
- Port security configuration
- Configure and verify NTP
- Syslog messages and configuration
- ROM functions
- Router boot sequence
- IOS image files
- IOS file systems

5 Introducing IPv6

- IPv4 issues
- IPv6 features and addresses
- IPv6 operation and configuration

ICND1 Labs and Demonstrations

- Get Started with Cisco CLI
- Performing Basic Switch Configuration
- Implementing the Initial Switch Configuration
- Troubleshooting Switch Media and Port Issues
- Inspecting TCP/IP Applications
- Configuring Cisco Discovery Protocol
- Implementing the Initial Router Configuration
- Configuring Default Gateway
- Explore Packet Forwarding
- Configuring and Verifying Static Routes
- Implementing IPv4 and IPv6 Static Routing
- Configuring and Verifying ACLs
- Implementing Basic Numbered and Named ACLs
- Configuring Static NAT and Dynamic NAT and PAT
- Troubleshooting NAT and PAT
- Configuring VLANs and Trunk
- Troubleshooting VLANs and Trunk
- Configuring a Router on a Stick
- Implementing VLANs and Routing Between the VLANs
- Troubleshooting DHCP Issues
- Implementing a DHCP Server in on a Cisco IOS Device
- Configuring, Verifying and Troubleshooting RIPv2
- Enhancing the Security of the Initial Configuration
- Limiting Remote Access Connectivity
- Securing Device Administrative Access
- Configuring and Verifying Port Security
- Configuring and Verifying NTP
- Implementing Device Hardening
- Configuring Basic IPv6 Connectivity

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

ICND2 Course Modules

1 Implementing Scalable Medium-Sized Networks =
- VLAN connectivity troubleshooting
- Redundant switched topologies
- Spanning-tree operation
- Link aggregation using EtherChannel
- Layer 3 redundancy protocols
- HSRP and FHRP configuration and verification

2 Troubleshooting Basic Connectivity
- IPv4 network connectivity troubleshooting
- Guidelines for IPv4 vs IPv6
- IPv6 network connectivity troubleshooting

3 Implementing an EIGRP-Based Solution
- EIGRP features, path selection and composite metric
- EIGRP for IPv6
- EIGRP common issues and detection

4 Implement a Scalable OSPF-Based Solution
- OSPF components
- Multiarea OSPF implementation
- OSPFv3 for IPv6 configuration and verification
- Multiarea OSPF troubleshooting

5 Wide-Area Networks
- WAN topology and connectivity options
- Point-to-point protocols and configuration
- GRE tunnels
- EBGP configuration and verification

6 Network Device Management
- Common access layer threat mitigation techniques
- Simple Network Management Protocol (SNMP)
- APIC-EM and IWAN
- Cloud computing
- QoS mechanisms

ICND2 Labs and Demonstrations

- Troubleshooting VLANs and Trunks
- Configuring Root Bridge and Analyze STP Topology
- Troubleshooting STP Issues
- Building Redundant Switched Topologies
- Configuring and Verifying EtherChannel
- Improving Redundant Switched Topologies with EtherChannel
- Configuring and Verifying HSRP
- Troubleshooting HSRP
- Implementing and Troubleshooting HSRP
- Configuring and Verifying IPv4 Extended Access Lists
- Troubleshooting IPv4 Network Connectivity
- Troubleshooting IPv4 Connectivity
- Configuring and Verifying IPv6 Extended Access Lists
- Troubleshooting IPv6 Network Connectivity
- Troubleshooting IPv6 Connectivity
- Configuring and Verifying EIGRP
- Implementing EIGRP
- Configuring and Verifying EIGRP for IPv6
- Configuring and Verifying Single-Area OSPF
- Configuring and Verifying Multiarea OSPF
- Implementing Multiarea OSPF
- Configuring and Verifying OSPFv3
- Implementing OSPFv3 for IPv6
- Troubleshooting Multiarea OSPF
- Troubleshooting OSPF
- Configuring Serial Interface and PPP
- Configuring and Verifying MLP
- Configuring and Verifying PPPoE Client
- Implementing WAN Using Point-to-Point Protocols
- Configuring and Verifying GRE Tunnel
- Implementing GRE Tunnel
- Configuring and Verifying Single Homed EBGP
- Implementing Single-Homed EBGP

THINQTANK® LEARNING

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

CCNA Security Course Modules

1 Security Concepts
- Threatscape
- Threat defense technologies
- Security policy and basic security architectures
- Cryptographic technologies

2 Secure Network Devices
- Implementing AAA
- Management protocols and systems
- Securing the control plane

3 Layer 2 Security
- Securing layer 2 infrastructures
- Securing layer 2 protocols

4 Firewall
- Firewall technologies
- Introducing the Cisco ASA v9.2
- Cisco ASA access control and service policies
- Cisco IOS zone based firewall

5 VPN
- IPsec technologies
- Site-to-Site VPN
- Client based remote access VPN
- Clientless remote access VPN

6 Advanced Topics
- Intrusion detection and protection
- Endpoint protection
- Content Security
- Advanced network security architectures

CCNA Security Labs and Demonstrations (Optional)

- Discovery 1: Exploring Cryptographic Technologies
- Discovery 2: Configure and Verify AAA
- Discovery 3: Configuration Management Protocols
- Discovery 4: Securing Routing Protocols
- Discovery 5: VLAN Security and ACLs on Switches
- Discovery 6: Port Security and Private VLAN Edge
- Discovery 7: Securing DHCP, ARP, and STP
- Discovery 8: Explore Firewall Technologies
- Discovery 9: Cisco ASA Interfaces and NAT
- Discovery 10: Access Control Using the Cisco ASA
- Discovery 11: Exploring Cisco IOS Zone-Based Firewall
- Discovery 12: Explore IPsec Technologies
- Discovery 13: IOS-Based Site-to-Site VPN
- Discovery 14: ASA-Based Site-to-Site VPN
- Discovery 15: Remote Access VPN: ASA and AnyConnect
- Discovery 16: Clientless Remote Access VPN
- Challenge 1: Configure AAA and Secure Remote Administration
- Challenge 2: Configure Secure Network Management Protocols
- Challenge 3: Configure Secure EIGRP Routing
- Challenge 4: Configure Secure Layer 2 Infrastructure
- Challenge 5: Configure DHCP Snooping and STP Protection
- Challenge 6: Configure Interfaces and NAT on the Cisco ASA
- Challenge 7: Configure Network Access Control with the Cisco ASA
- Challenge 8: Configure Site-to-Site VPN on IOS
- Challenge 9: Configure AnyConnect Remote Access VPN on ASA

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

CCDA E-Learning Course Modules

- Module 1: Applying a Methodology to Network Design
- Module 2: Structuring and Modularizing the Network
- Module 3: Designing Basic Campus and Data Center Networks
- Module 4: Designing Remote Connectivity
- Module 5: Designing IP Addressing and Selecting Routing Protocols
- Module 6: Evaluating Security Solutions for the Network
- Module 7: Identifying Voice Networking Considerations
- Module 8: Identifying Wireless Networking Considerations
- Module 9: Implementing and Operating the Network Design

CISCO QUAD
Cisco CCENT/CCNA/CCDA/CCNA Security (QUAD)

thinQtank® Global, Inc. dba thinQtank® Learning P.O. Box 803215, Valencia, CA 91380 USA
Tel 855-TO-THINQ Fax 208-979-0668 www.thinqtanklearning.com