



CCNA Boot Camp

Course length: 5 days

Course Summary:

Cisco Systems is considered one of the leading names in Internetworking Devices. With the vast enterprise coverage of these devices, more engineers are required to gain knowledge on the operations and management of these devices.

The Cisco Certified Network Associate (CCNA) Boot Camp program builds participants knowledge on the foundation skills needed to start off their career skills on the Cisco track.

This 5-day course teaches you from the basic understanding of networks till the basic knowledge of the day-to-day operations of Switches and Routers. On top of gaining the necessary skills and knowledge, participants are also geared towards the CCNA certification.



Who Should Attend:

Systems Engineers, Sales Engineers of Cisco Devices, or anyone who would require foundation skills to administer a Cisco device.

Objectives:

At the end of the session, participants should have achieved the following:

- Gained the core knowledge of networking concepts, switching and routing, LAN and WAN protocols
- Acquired practical hands-on exercises to acquire the necessary skills
- Preparation for the 640-801 CCNA examination

Time:

Class time is 9.00am – 4.30/5.00pm

Breaks are scheduled twice daily, one in the morning and another in the afternoon. Lunch is typically 12-1pm. This time may alter based on the trainers' discretion.

Course Material:

Course materials are provided. Our goal is to make sure your class meets your objectives, not ours. Therefore, all of our outlines are treated as guides to help steer the workshop. We may change or alter course topics to best suit the classroom situation.

Lesson Plan:

Lesson 1: Networking Fundamentals

The Internetworking Model

The OSI Reference Model

Cisco Hierarchical Model

Ethernet Data Transmission & Cabling Types

Data Encapsulation Process

ARP & RARP

Summary

Knowledge Test



Lesson 2: Switching

How do switches operate?
 How the MAC Address table is built?
 Broadcast & Multicast
 Viewing the MAC Address table
 Port-Based Authentication
 Spanning Tree Protocol (STP)
 Spanning Tree Process
 STP Timers
 STP Interface States
 VLANs & Trunking
 VLAN Trunking Protocol (VTP)
 VTP Pruning
 Port Types and Effects on Trunking
 Etherchannels
 Knowledge Test
 LAN Switching Lab Practice

Lesson 3: Frame Relay

Frame Relay Concepts
 Local Management Interface
 Encapsulation Types
 DLCI Addressing
 Knowledge Test
 Frame Relay Lab Practice

Lesson 4: Point-to-point & ISDN

Point-to-point Serial Links
 HDLC vs. PPP
 Authenticating over WAN Links with PPP
 Authenticating with PAP
 Authenticating with CHAP
 ISDN
 The ISDN Channels
 Dial-on-Demand Routing
 Interesting Traffic
 Manually setting the Idle Timer
 Dialing the Remote Router
 Troubleshooting ISDN
 Show ISDN Status
 Show ISDN History
 Knowledge Test
 ISDN / Point-to-point Lab Practice

Lesson 5: Binary Math & Subnetting

Converting Decimal to Binary
 Converting Binary to Dotted Decimal
 IP Address & Subnetting
 Determining Number of Valid Subnets
 Determining Number of Valid Hosts
 Determining Subnet Number of a Given IP
 Determining the Range of Valid Hosts in a Subnet
 Meeting Stated Design Requirements
 Knowledge Test



Lesson 6: Initial Router Configuration

Router Boot Process
 User Modes
 Router Modes
 IOS Help
 Configuring Router Passwords
 Encrypting All Router Passwords
 Cisco Discovery Protocol
 Physical Interface, Logical Interface, IP Addressing
 Knowledge Test

Lesson 7: RIP, IGRP and Static Routing

Static Routes
 Adding a Static Route
 Configuring Static Default Route
 Distance Vector Protocols
 Split Horizon
 Route Poisoning
 Hold-Down Timers
 Triggered Updates
 Configuring RIP
 Troubleshooting RIP
 RIP version 1 vs. RIP version 2
 Configuring IGRP
 How IGRP Computes Metric
 Tuning IGRP's Default Bandwidth Assumptions
 IGRP Unequal Cost Load Balancing
 Debugging IGRP
 How the Router Chooses Between Multiple Paths
 Administrative Distance
 Distance Vector Protocols Comparison Matrix
 Knowledge Test
 Static Routing / RIP / IGRP Lab Practice

Lesson 8: Link State Protocols

The Concept
 Link State vs. Distance Vector
 Hello Packets – The Heartbeat of OSPF
 How the Dijkstra Algorithm Assists with Loop Prevention
 Configuring OSPF
 The Designated Router
 OSPF Network Types
 OSPF Router Types
 Virtual Links
 OSPF Stub Area Types
 OSPF Authentication
 Configuring OSPF Router ID
 Troubleshooting OSPF
 Knowledge Test
 OSPF Lab Practice



Lesson 9: Hybrid Protocols : EIGRP

Why EIGRP is a Hybrid
 Hello Packets and RTP
 Loop Avoidance
 EIGRP's Default Network Summarization
 How EIGRP handles multiple equal-cost and unequal cost routes to the same destination
 EIGRP / IGRP Differences
 Configuring EIGRP
 EIGRP Authentication
 Knowledge Test
 EIGRP Lab Practice

Lesson 10: Advanced TCP/IP Concepts

Standard, Extended and Named Access Lists
 Configuring Standard Access Lists
 Configuring Extended Access Lists
 Configuring Named Access Lists
 Route Summarization
 Route Summarization with RIP
 Route Summarization with EIGRP
 IP Address Conservation
 Network Address Translation (NAT)
 Static NAT
 Dynamic NAT
 Telnet
 Using and Resolving Host Names
 Building a IP Host Table
 Using DNS to Resolve HostNames
 Password Recovery Techniques for 2500 & 2600
 Maximum Transmission Units
 FTP & TFTP
 Knowledge Test
 Advanced TCP/IP Lab Practice

Methodology:

This course is conducted using a combination of instructor-led training, hands-on labs, discussions, quizzes, practice tests and mock evaluations

This is a product of



THE REDYNAMICS BOOT CAMP SERIES