Cisco Certification
ICND1 - Interconnecting Cisco Network Devices Part 1

Description:
This 5-day course focuses on providing the skills and knowledge necessary to install, operate, and troubleshoot a small branch office Enterprise network, including configuring a switch, a router, connecting to a WAN and implementing network security. A learner should be able to complete configuration and implementation of a small branch office network under supervision. This is the first in a two-course series preparing the learner for the CCENT and CCNA certifications.

Objectives:

- Describe how networks function, identifying major components, function of network components and the Open System Interconnection (OSI) reference model
- Using the host-to-host packet delivery process, describe issues related to increasing traffic on an Ethernet LAN and identify switched LAN technology solutions to Ethernet networking issues
- Describes the reasons for extending the reach of a LAN and the methods that can be used with a focus on RF wireless access
- Describes the reasons for connecting networks with routers and how routed networks transmit data through networks using TCP/IP
- Describe the function of Wide Area Networks (WANs), the major devices of WANs, and configure PPP encapsulation, static and dynamic routing, PAT and RIP routing
- Use the command-line interface to discover neighbors on the network and managing the router’s startup and configuration

Outline:

- Building a Simple Network
  - Network Basics (Example)
  - Securing the Network
  - Understanding the Host-to-Host Communications Model
  - Understanding the TCP/IP Internet Layer
  - Understanding the TCP/IP Transport Layer
  - Exploring the Packet Delivery Process
  - Understanding Ethernet
  - Connecting to an Ethernet LAN
• Ethernet LANs
  o Understanding the Challenges of Shared LANs
  o Solving Network Challenges with Switched LAN Technology
  o Exploring the Packet Delivery Process
  o Operating Cisco IOS Software
  o Starting a Switch
  o Understanding Switch Security
  o Maximizing the Benefits of Switching
  o Troubleshooting Switch Issues

• Wireless LANs
  o Exploring Wireless Networking
  o Understanding WLAN Security
  o Implementing a WLAN
  o VoIP Requirements

• LAN Connections
  o Exploring the Functions of Routing
  o Understanding Binary Basics
  o Constructing a Network Addressing Scheme
  o Starting a Cisco Router
  o Configuring a Cisco Router
  o Exploring the Packet Delivery Process
  o Understanding Cisco Router Security
  o Using Cisco SDM
  o Using a Cisco Router as a DHCP Server
  o Accessing Remote Devices

• WAN Connections
  o Understanding WAN Technologies
  o Enabling the Internet Connection
  o Enabling Static Routing
  o Configuring Serial Encapsulation
  o Enabling RIP

• Network Environment Management
  o Discovering Neighbors on the Network
  o Managing Cisco Router Startup and Configuration
  o Managing Cisco Devices