



# Introduction to Cisco Networking Technologies

**Length**  
4 days

**Format**  
Lecture/lab

**Track**  
CCNA

**Version**  
2.1

## Course Description

In this course, you will learn fundamental computer networking terms, concepts, and components. You will apply this knowledge to configure basic network connectivity via serial and LAN networks using PCs, a hub, a router, and a switch.

## Who Should Attend

This course is designed for people who need to learn basic IP networking concepts and Cisco router and switch configuration basics. This is the first of two courses designed for individuals who are pursuing CCNA certification.

## Related Training

Interconnecting Cisco Network Devices (ICND)

# INTRO

## Learning Objectives

After you complete this course, you will be able to:

- Create a simple Ethernet network
- Determine the most appropriate network topology for typical user requirements
- Define how networks can be connected by routing protocols
- Construct a topology and network addressing scheme with subnet mask computations and default gateways
- Compare UDP to TCP and explain the relationship of reliable data delivery to the TCP process
- Define major WAN multiplexing and access technologies
- List the components of an enterprise network and define its installation and testing processes
- Complete and verify initial IOS software device configuration
- Use Cisco IOS commands to accurately determine network operational status and performance
- Manage IOS system image files and configuration files



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## Course Outline

### **Module 1: Building a Simple Serial Network**

Exploring the Functions of Networking  
Using a PC on a Network  
Understanding the OSI Model

### **Module 2: Building a Simple Ethernet Network**

Defining a LAN  
Understanding How an Ethernet LAN Works  
Connecting to an Ethernet LAN

### **Module 3: Expanding the Network**

Choosing the Right Network Topology  
Understanding the Challenges of Shared LANs  
Solving Network Challenges with Switched LAN Technology  
Maximizing the Benefits of Switching

### **Module 4: Connecting Networks**

Understanding How TCP/IP Works  
Exploring the IP Packet Delivery Process  
Understanding How IP Address Protocols Work  
Exploring the Functions of Routing

### **Module 5: Constructing Network Addresses**

Understanding Binary Basics  
Classifying Network Addressing  
Constructing a Network Addressing Scheme  
Calculating Subnet Masks

### **Module 6: Ensuring the Reliability of Data Delivery**

Understanding How UDP and TCP work  
Establishing a TCP Connection

### **Module 7: Connecting to Remote Networks**

Understanding WAN Technologies  
Using Dedicated Connections for WANs  
Using Circuit Switching in WANs  
Using Packet Switching in WANs

### **Module 8: Operating and Configuring Cisco IOS Devices**

Operating Cisco IOS Software  
Starting a Switch  
Starting a Router  
Configuring a Router

### **Module 9: Managing Your Network Environment**

Discovering Neighbors on the Network  
Getting Information about Remote Devices  
Managing Router Startup and Configuration  
Managing Cisco Devices

