

Cisco Networking Academy®, Constanta, Romania



CCNA Routing and Switching v6.X®: Introduction to Networking

Description:

Introduces the architecture, structure, functions, components, and models of the Internet and other computer networks. The principles and structure of IP addressing and the fundamentals of Ethernet concepts, media, and operations are introduced to provide a foundation for the curriculum. By the end of the course, students will be able to build simple LANs, perform basic configurations for routers and switches, and implement IP addressing schemes.

Skills and Competencies

Here are some examples of tasks students will be able to perform after completing each course:

- Describe the devices and services used to support communications in data networks and the Internet
- Describe the role of protocol layers in data networks
- Describe the importance of addressing and naming schemes at various layers of data networks in IPv4 and IPv6 environments
- Design, calculate, and apply subnet masks and addresses to fulfill given requirements in IPv4 and IPv6 network
- Build a simple Ethernet network using routers and switches
- Use Cisco command-line interface (CLI) commands to perform basic router and switch configurations

Table of Contents:

Chapter 0: Course Introduction

Chapter 1: Explore the Network

Chapter 2: Configure a Network Operating System

Chapter 3: Network Protocols and Communications

Chapter 4: Network Access

Chapter 5: Ethernet

Chapter 6: Network Layer

Chapter 7: IP Addressing

Chapter 8: Subnetting IP Networks

Chapter 9: Transport Layer

Chapter 10: Application Layer

Chapter 11: Build a Small Network

Chapter 1: Explore the Network

- 1.0 Introduction
- 1.1 Globally Connected
- 1.2 LANs, WANs, and the Internet
- 1.3 The Network as a Platform
- 1.4 The Changing Network Environment
- 1.5 Summary

Chapter 2: Configure a Network Operating System

- 2.0 Introduction
- 2.1 IOS Bootcamp
- 2.2 Basic Device Configuration
- 2.3 Address Schemes
- 2.4 Summary

Chapter 3: Network Protocols and Communications

- 3.0 Introduction
- 3.1 Rules of Communication
- 3.2 Network Protocols and Standards
- 3.3 Data Transfer in the Network
- 3.4 Summary

Chapter 4: Network Access

- 4.0 Introduction
- 4.1 Physical Layer Protocols
- 4.2 Network Media
- 4.3 Data Link Layer Protocols
- 4.4 Media Access Control
- 4.5 Summary

Chapter 5: Ethernet

- 5.0 Introduction
- 5.1 Ethernet Protocol
- 5.2 LAN Switches
- 5.3 Address Resolution Protocol
- 5.4 Summary

Chapter 6: Network Layer

- 6.0 Introduction
- 6.1 Network Layer Protocols
- 6.2 Routing
- 6.3 Routers
- 6.4 Configure a Cisco Router
- 6.5 Summary

Chapter 7: IP Addressing

7.0 Introduction

7.1 IPv4 Network Addresses

7.2 IPv6 Network Addresses

7.3 Connectivity Verification

7.4 Summary

Chapter 8: Subnetting IP Networks

8.0 Introduction

8.1 Subnetting an IPv4 Network

8.2 Addressing Schemes

8.3 Design Considerations for IPv6

8.4 Summary

Chapter 9: Transport Layer

9.0 Introduction

9.1 Transport Layer Protocols

9.2 TCP and UDP

9.3 Summary

Chapter 10: Application Layer

10.0 Introduction

10.1 Application Layer Protocols

10.2 Well-Known Application Layer Protocols and Services

10.3 Summary

Chapter 11: Build a Small Network

11.0 Introduction

11.1 Network Design

11.2 Network Security

11.3 Basic Network Performance

11.4 Network Troubleshooting

11.5 Summary

Contact: [Foundation for promoting Information and Communication Technology \(ICT Foundation\)](#)

[Constanta, Romania](#)

www.fict.ro