# CCNA

## **ICND-1** Notes

Interconnecting Cisco
Networking Devices,
Part 1

**Somenath Sinha**

May 2018

# Contents


I Fundamentals of Networking 3

1 Network Reference Models and Protocols 4

2 Infrastructure Components 5

3 Network Architecture 6

4 Network Cabling 7

5 Basic Troubleshooting 8

6 IPv4 Addressing 9

7 IPv6 Addressing 10

II LAN Switching 11

8 Fundamentals of Ethernet 12

9 Basic Cisco Catalyst Switch Configuration 13

10 Virtual LANs (VLANs) 14

11 Trunking 15

12 Troubleshooting Switch Operation 16

13 Basic Switch Security 17

14 Voice VLANs 18

III IP Routing 19

15 Basic Router Operation 20

16 Basic Router Configuration and Verification 21

17 Routing Fundamentals 22

18 Routing Information Protocol (RIP) 23

IV Network Services 24

19 Dynamic Host Configuration Protocol (DHCP) 25

20 Network Address Translation (NAT) 26

21 Network Time Protocol (NTP) 27

V Network Management 28

22 Network Management Protocols 29

23 Device Management 30

24 Troubleshooting with Cisco IOS Tools 31

# Part I

# Fundamentals of Networking

# Chapter 1

# Network Reference Models and Protocols

## Chapter 2

# Infrastructure Components

# Chapter 3

# Network Architecture

# Chapter 4

# Network Cabling

## Chapter 5

# Basic Troubleshooting

## Chapter 6

# IPv4 Addressing

# Chapter 7

# IPv6 Addressing

# Part II

# LAN Switching

# Chapter 8

# Fundamentals of Ethernet

# Chapter 9

# Basic Cisco Catalyst Switch Configuration

## Chapter 10

# Virtual LANs (VLANs)

# Chapter 11

# Trunking

# Chapter 12

# Troubleshooting Switch Operation

# Chapter 13

# Basic Switch Security

# Chapter 14

# Voice VLANs

# Part III

# IP Routing

## Chapter 15

# Basic Router Operation

# Chapter 16

# Basic Router Configuration and Verification

## Chapter 17

# Routing Fundamentals

# Chapter 18

# Routing Information Protocol (RIP)

# Part IV

# Network Services

# Chapter 19

# Dynamic Host Configuration Protocol (DHCP)

# Chapter 20

# Network Address Translation (NAT)

# Chapter 21

# Network Time Protocol (NTP)

# Part V

# Network Management

# Chapter 22

# Network Management Protocols

# Chapter 23

# Device Management

# Chapter 24

# Troubleshooting with Cisco IOS Tools