



## Internet Protocol Basics

**53 Min.**

### LEARNING OBJECTIVE:

Upon completing the course, the participant will be able to:

- Understand the concept of OSI Model & TCP/IP Model
- Understand the IP Address, IP classes
- Dig deep into the concept of Subnetting

### COURSE OBJECTIVE:

This course introduces the student to the concept of the Internet Protocol and the suite of associated protocols. Through a series of discussion, the student will gain knowledge in the TCP/IP suite of protocols. The course explains the functions of the IP suite of protocols and describes the architecture of IP addressing. We will also Compare and contrast IP routing protocols.

### WHO SHOULD ATTEND:

This course is designed to provide a general overview of IP for Telecom Professionals, Network Engineers strategic or technical managers, consultants, communications professionals, and others who plan to work in LTE wireless network.

### TARGET AUDIENCE:

Telecom Professional

### INSTRUCTIONAL METHODS:

Lectures in Classroom, Virtual Classroom trainings, discussion, Questions & Answers. All participants will also receive comprehensive course materials.

### COURSE OUTLINE:

#### 1. Introduction

- 1.1 Overview and objectives
- 1.2 The network
- 1.3 The OSI Model

#### 1.4 TCP/IP model

- 1.5 Layer Interaction : The Application Layer
- 1.6 Layer Interaction : The Transport Layer
- 1.7 Layer Interaction : The Network Layer
- 1.8 Layer Interaction : Link and Physical Layer





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### 2. Basics

- 2.1 Layering : Physical Communication
- 2.2 Format of IP address
- 2.3 Internet Addresses
- 2.4 Structure of IP address
- 2.5 Binary to decimal
- 2.6 IP address classes
- 2.7 IP classes : A and B
- 2.8 IP Classes : C and D
- 2.9 IP Classes : E

### 3. Intermediate

- 3.1 IP classes conversion
- 3.2 Broadcast Addresses
- 3.3 Private addresses
- 3.4 Subnetworks
- 3.5 Subnet Masks
- 3.6 Subnet masking: Part 1
- 3.7 Subnet masking : Part 2
- 3.8 Subnet masking : Part 3
- 3.9 Subnet masking : Part 4

### 4. Advanced

- 4.1 Learning to Subnet : Part 1
- 4.2 Learning to Subnet : Part 2
- 4.3 Subnetting Formulas

- 4.4 Formula for defining a subnet Mask
- 4.5 Determining all valid network ID's
- 4.6 Determining Valid Host ID
- 4.7 Working with Hexadecimal Numbers
- 4.8 Special Addresses
- 4.9 Maximum numbers of Hosts per network

### Evaluation and feedback of the participants

Maximum number of participants: 15

Duration: 53 Min.

