# **IP Basics**

## IPC\_114d | On-Demand | Transport | Express Course Duration: 1 hour

As the communications industry transitions to wireless and wireline converged networks to support voice, video, data and mobile services over IP, a solid understanding of IP and its role in networking is essential. IP is to data transfer as what a dial tone is to a wireline telephone. A fundamental knowledge of IPv4 and IPv6 networking along with use of VLANs is a must for all telecom professionals. A solid foundation in IP has become a basic job requirement in the carrier world. Starting with a brief history, the course provides a focused basic level introduction to the fundamentals of IP technology. It is a modular introductory course only on IP basics as part of the overall eLearning IP fundamentals curriculum.

#### **Intended Audience**

This course is intended for those seeking a basic level introduction to the Internet Protocol (IP).

#### **Objectives**

After completing this course, the student will be able to:

- Describe the purpose and structure of an IP address
- Describe network prefix
- Explain the purpose of CIDR Prefix
- Explain the purpose of Subnet Mask
- Describe IP Subnets
- Explain the IP header and its key fields
- Describe broadcasting in IP networks
- Describe multicasting in IP networks

#### **Course Prerequisites**

No Prerequisites

### Outline

- IP Address
  IP address Structure
  CIDR based IP address
  IP address examples
- 2. IP Subnets2.1 IP subnet definition2.2 Subnet creation principle2.3 Subnet creation Example
- 3. IP Header
- 3.1 IP Header fields description
- 3.2 Importance of TTL field in IP header
- 4. Multicast and Broadcast4.1 Broadcast Operations4.2 Multicast Operations

Putting It All Together



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