



# Ethernet Basics

IPC\_119d | On-Demand | Transport | ⚙️

Course Duration: 1.5 hours

As the communications industry transitions to wireless and wireline converged networks to support voice, video, data and mobile services over IP networks, a solid understanding of Ethernet and its role in networking is essential. Ethernet is native to IP and has been adopted in various forms by the communication industry. A solid foundation in IP and Ethernet has become a basic job requirement in the industry. Starting with a brief history, the course provides a focused basic level introduction to the fundamentals of Ethernet technology. It is a modular introductory course only on Ethernet basics as part of the overall eLearning IP fundamentals curriculum.

## Intended Audience

This course is intended for those seeking a basic level introduction to Ethernet technology.

## Objectives

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

- Define Ethernet
- Summarize the key variations of the Ethernet family of standards
- Discuss Ethernet addressing and frame structure
- Discuss Ethernet services offered by carriers

## Course Prerequisites

No Prerequisites

## Outline

1. Ethernet Defined
    - 1.1 What is Ethernet?
    - 1.2 CSMA/CD
  
  2. Ethernet Standards
    - 2.1 Media and Connectors
    - 2.2 Auto Negotiation
  
  3. Ethernet Addressing and Frame Structure
    - 3.1 Details of MAC addresses
    - 3.2 Ethernet frame structure
  
  4. Carrier Ethernet
    - 4.1 Definition and Service types
    - 4.2 SLA and Service Continuity
- Putting It All Together