



# Ethernet Bridging

IPC\_116d | 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 telecom industry as the Layer 1 and Layer 2 technology of choice. Ethernet bridging and associated capabilities are used extensively in the end-to-end IP network and a solid foundation in IP and Ethernet 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 Ethernet Bridging as a key capability of Ethernet based nodes.

## Intended Audience

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

## Objectives

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

- Introduce Ethernet bridges and explain how they operate
- Introduce Ethernet switches and explain how they differ from Ethernet bridges
- Discuss Spanning Tree Protocol and its variations
- Introduce the concept of multilayer switching
- Discuss the use of link aggregation group in Ethernet networks

## Course Prerequisites

No Prerequisites

## Outline

1. Ethernet Bridge
  - 1.1 Definition
  - 1.2 History
  - 1.3 Learning bridge
2. Ethernet Switch
  - 2.1 Definition
  - 2.2 History
  - 2.3 Ethernet switching
  - 2.4 Full duplex operation
3. Spanning Tree Protocol (STP)
  - 3.1 Function
  - 3.2 Operation
  - 3.3 Variants
4. Multilayer Switch (MLS)
  - 4.1 Definition
  - 4.2 Function
5. Link Aggregation Group
  - 5.1 Definition
  - 5.2 Uses
6. Summary