



# Ethernet VLANs

IPC\_118d | 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 of choice. VLANs are used extensively in the end-to-end IP network and a solid foundation in IP and Ethernet has become a basic job requirement for the carrier world. Starting with a brief history, the course provides a focused basic level introduction to the fundamentals of Ethernet VLAN technology.

## 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:

- Define Ethernet VLANs
- Identify Ethernet VLAN applications and benefits
- Summarize the key variations of the Ethernet family of standards to support VLANs
- Identify the key types of Ethernet VLANs
- Describe VLAN Trunks and their purpose

## Course Prerequisites

No Prerequisites

## Outline

1. Virtual Local Area Networks (VLANs)
    - 1.1 VLAN Definition
    - 1.2 Characteristics of LAN
    - 1.3 Packet flow in VLAN
    - 1.4 Advantages of VLAN
  2. VLAN Application and Benefits
    - 2.1 VLAN Applications
    - 2.2 VLAN Benefits
  3. Single Switch VLANs
    - 3.1 Port based VLAN
  4. Multi-Switch VLANs: Trunks and Tagging
    - 4.1 Multi-Switch VLANs
    - 4.2 VLAN tags
    - 4.3 VLAN Trunks
- Putting It All Together