

Junos Enterprise Switching (JEX)

Objectives

After successfully completing this course, you should be able to:

- List the benefits of implementing switched LANs.
- Describe transparent bridging concepts and operations.
- Describe terms and design considerations for switched LANs.
- List enterprise platforms that support Layer 2 switching.
- Configure interfaces for Layer 2 switching operations.
- Display and interpret the Ethernet switching table.
- Explain the concept of a VLAN.
- Describe access and trunk port modes.
- Configure and monitor VLANs.
- Describe voice VLAN and native VLAN concepts.
- Explain inter-VLAN routing operations.
- Configure and monitor inter-VLAN routing.
- Explain when a spanning tree is required.
- Describe STP and Rapid Spanning Tree Protocol (RSTP) operations.
- List some advantages of using RSTP over STP.
- Configure and monitor RSTP.
- Describe the bridge protocol data unit (BPDU), Loop, and Root protection features.
- Configure and monitor the BPDU, Loop, and Root protection features.
- List and describe various port security features.
- Configure and monitor port security features.
- Describe the storm control feature.
- Configure and monitor storm control.
- Describe firewall filter support for EX Series Ethernet Switches.
- Implement and monitor the effects of a firewall filter.
- Describe the basic concepts and operational details of a virtual chassis.
- Implement a virtual chassis with multiple EX4200 switches.
- List and describe some features that promote high availability.
- Configure and monitor high availability features.

Intended Audience

This course benefits individuals responsible for configuring and monitoring EX Series switches.

Course Level

JEX is an intermediate-level course.

Prerequisites

Students should have basic networking knowledge and an understanding of the Open Systems Interconnection (OSI) reference model and the TCP/IP protocol suite. Students should also attend the

Introduction to the Junos Operating System (IJOS) and the Junos Routing Essentials (JRE) courses prior to attending this class.

Course Contents

Day 1

Chapter 1: Course Introduction

Chapter 2: Layer 2 Switching

- Ethernet Bridging Basics
- Terminology and Design Considerations
- Overview of Enterprise Switching Platforms
- Enabling and Monitoring Layer 2 Switching Operations
- Lab 1: Implementing Layer 2 Switching

Chapter 3: Virtual Networks

- Overview of VLANs
- Configuring and Monitoring VLANs
- Voice VLAN
- Native VLAN
- Routed VLAN Interfaces
- Lab 2: Implementing Virtual Networks

Chapter 4: Spanning Tree

- Spanning Tree Protocol
- Rapid Spanning Tree Protocol
- Configuring and Monitoring STP and RSTP
- Protection Features: BPDU Protection
- Protection Features: Loop Protection
- Protection Features: Root Protection
- Lab 3: Implementing Spanning Tree

Day 2

Chapter 5: Port Security

- MAC Limiting
- DHCP Snooping
- Dynamic ARP Inspection (DAI)
- IP Source Guard
- Lab 4: Implementing Port Security

Chapter 6: Device Security and Firewall Filters

- Storm Control
- Firewall Filters
- Lab 5: Implementing Storm Control and Firewall Filters

Chapter 7: Virtual Chassis

- Overview of Virtual Chassis
- Configuring and Monitoring a Virtual Chassis
- Lab 6: Implementing Virtual Chassis Systems

Chapter 8: High Availability Features

- Overview of High Availability Networks
- Link Aggregation Groups
- Redundant Trunk Groups
- Lab 7: Implementing High Availability Features