Advanced Junos Enterprise Switching

Duration: 2 Days **Course Code: AJEX** **Version: 17.A** **Delivery Method: Virtual Learning**

Overview:

This two-day course is designed to provide detailed coverage of virtual LAN (VLAN) operations, Multiple Spanning Tree Protocol (MSTP) and VLAN Spanning Tree Protocol (VSTP), authentication and access control for Layer 2 networks, IP telephony features, class of service (CoS) and monitoring and troubleshooting tools and features supported on the EX Series Ethernet Switches. Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos operating system and in monitoring device and protocol operations. This course uses Juniper Networks EX 4300 Series Ethernet Switches for the hands-on component, but the lab environment does not preclude the course from being applicable to other Juniper hardware platforms running the Junos OS. Optional lab components are available allowing attendees to perform network management and troubleshooting tasks using Junos Space Network Director 3.0. This course is based on Junos OS Release 17.1R1.8.

Advanced Junos Enterprise Switching (AJEX) is an advanced-level course.

Target Audience:

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

Objectives:

- After successfully completing this course, you should be able to:
- Restrict traffic flow within a VLAN.
- Manage dynamic VLAN registration.
- Tunnel Layer 2 traffic through Ethernet networks.
- Review the purpose and operations of a spanning tree.
- Implement multiple spanning-tree instances in a network.
- Implement one or more spanning-tree instances for a VLAN.
- List the benefits of implementing end-user authentication.
- Explain the operations of various access control features.
- Configure and monitor various access control features.
- Describe processing considerations when multiple authentication and access control features are enabled.
- Describe some common IP telephony deployment scenarios.
- Describe features that facilitate IP telephony deployments.
- Configure and monitor features used in IP telephony deployments.
- Explain the purpose and basic operations of CoS.
- Describe CoS features used in Layer 2 networks.
- Configure and monitor CoS in a Layer 2 network.
- Describe a basic troubleshooting method.
- List common issues that disrupt network operations.
- Identify tools used in network troubleshooting.
- Use available tools to resolve network issues.
- Discover, configure, and troubleshoot EX Series switches using Junos Space Network Director.

Prerequisites:

- Students should have an intermediate-level of 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) course, and the *Junos Enterprise Switching* (JEX) course prior to attending this class.
- JEX - Junos Enterprise Switching

Testing and Certification

- This course is recommended training for the the Juniper Networks Certified Professional Enterprise Routing and Switching (JNCIP-ENT) certification

Follow-on-Courses:

- The JNCIE–ENT Bootcamp is a suggested follow on course.
- AJER - Advanced Junos Enterprise Routing

Content:

Chapter 1: Course Introduction

Chapter 2: Advanced Ethernet Switching

- Virtual Local Area Networks
- Automating VLAN Administration
- Tunneling Layer 2 Traffic
- Lab 1: Advanced Ethernet Switching

Chapter 3: Advanced Spanning Tree

- Spanning Tree Review
- MSTP
- VSTP
- Advanced Spanning Tree Troubleshooting
- Lab 2: Advanced Spanning Tree

Chapter 4: Authentication and Access Control

- Authentication Overview
- Access Control Features
- Overview of Authentication Processing
- Lab 3: Authentication and Access Control

Chapter 5: Deploying IP Telephony Features

- Deployment Scenarios
- IP Telephony Features
- Case Study: Deploying IP Telephony Features
- Lab 4: Deploying IP Telephony Features

Chapter 6: Class of Service

- Class of Service Review
- Processing and Feature Overview
- Case Study: Implementing Class of Service
- Junos Space Network Director CoS Profiles
- Troubleshooting Class of Service
- Lab 5: Class of Service

Chapter 7: Monitoring and Troubleshooting Layer 2 Networks

- Introduction to Monitoring and Troubleshooting
- Monitoring and Troubleshooting Tools
- Case Studies
- Lab 6: Monitoring and Troubleshooting

Appendix A: ELS and Non-ELS Configuration Examples

- Switch Options
- IRB and VLAN Interfaces
- Q-in-Q Tagging

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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