
OPERATING JUNIPER NETWORKS ROUTERS IN THE ENTERPRISE (OJRE)

Course No: EDU-JUN-OJRE

Length: Four days

Course Overview

This four-day course is an introductory-level, instructor-led course that focuses on installation, configuration, operational analysis, and troubleshooting considerations of Juniper Networks routers in the enterprise. OJRE introduces Juniper Networks Enterprise Routing platforms including both M-series and J-series models. It then focuses on router configuration using both the J-Web graphical user interface (GUI) and the JUNOS software command-line interface (CLI). Real-world configuration and operational monitoring case studies are provided for general router configuration and for RIP, static, and OSPF routing. The class also provides an overview of common services such as the Virtual Router Redundancy Protocol (VRRP), the Multilink Point-to-Point Protocol (MLPPP) and Network Address Translation (NAT).

The course combines both lecture and labs, with significant time allocated for hands-on experience with J-series platforms and JUNOS software. The OJRE class is an excellent way to prepare students for attending other offerings in the Juniper Networks training curriculum.

Objectives

After successfully completing this course, you should be able to install, configure, operate, and troubleshoot J-series platforms.

Intended Audience

The primary audiences for this course are end users of J-series platforms, which include the following:

- Network engineers;
- Support personnel;
- Reseller support; and
- Others responsible for implementing Juniper Networks Enterprise Routing products.

Course Level

OJRE is an introductory-level course.

Prerequisites

The OJRE prerequisite is a basic understanding of the TCP/IP protocols.

While not required, familiarity with the command-line interface of a routing platform or UNIX system is helpful.

Course Contents

Day 1

Chapter 1: Course Introduction

Chapter 2: Juniper Networks Enterprise Routers

- Customer Edge and Enterprise Platforms
- Overview of Enterprise Routing Platforms
- Architecture and Packet Flow
- Model Specifics
- Interface Support and Naming
- Field-Replaceable Units

Chapter 3: JUNOS User Interfaces

- User Interface Options
- User Authentication and Authorization
- Active and Candidate Configurations
- Using the J-Web Graphical User Interface
- Lab 1, Parts 1-3: The J-Web Interface
- Using the JUNOS Software Command-Line Interface
- Lab 1, Parts 4-5: The JUNOS Software CLI

Chapter 4: Installation and Initial Configuration

- Installation Guidelines
- Autoinstallation
- Rescue and Factory-Default Configurations
- Configuration Checklist
- Initial Configuration Using J-Web
- Initial Configuration Using the CLI
- Overview of Interface Configuration
- Configuring Interfaces Using J-Web
- Lab 2: Initial Configuration

Day 2

Chapter 5: Operational Monitoring and Maintenance

- Monitoring Platform Operation
- Monitoring Interface Operation
- Network Utilities
- System Logging and Protocol Tracing
- License Management
- Maintaining JUNOS Software
- File System Maintenance and Password Recovery
- Lab 3: Operational Monitoring

Chapter 6: Routing Protocols and Policy

- Routing Tables and Route Preferences
- Routing Policy
- J-Web Support for Routing Protocols and Policy
- Configuring and Monitoring Static Routing
- Lab 4, Parts 1-3: Static Routing
- Interior Gateway Protocols
- Configuring and Monitoring RIP
- Lab 4, Parts 4-5: RIP
- Configuring and Monitoring OSPF
- Lab 4, Part 6: OSPF Single Area
- Lab 4, Part 7: OSPF Multiarea

Day 3

Chapter 7: Services

- Overview of Services and Services Architecture
- Overview of MLPPP
- Configuring and Monitoring MLPPP
- Overview of NAT and PAT
- Configuring and Monitoring NAT and PAT
- Lab 5: Services (MLPPP and NAT)

Day 4

Chapter 8: Miscellaneous Features

- Introduction to VRRP
- Configuring VRRP
- Monitoring VRRP Operation
- Introduction to DHCP Services
- Configuring a DHCP Server
- Monitoring DHCP Server Operation
- Configuring a DHCP/BOOTP Relay Agent
- Monitoring DHCP/BOOTP Relay Operation
- Lab 6: Miscellaneous Features (VRRP and DHCP)

Chapter 9: Troubleshooting

- Troubleshooting Methodology
- Troubleshooting Resources and Tool Kit
- Best Practices
- Lab 7, Parts 1-3: Troubleshooting
- Troubleshooting Hardware
- Troubleshooting Software
- Troubleshooting Interfaces
- Troubleshooting Protocols (OSPF)
- Lab 7, Parts 4: Troubleshooting

Appendix A: Supported PIMs

Appendix B: J-Web Interface Configuration Examples



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