Introduction to the Junos Operating System (IJOS)

Engineering Simplicity

COURSE LEVEL

Introduction to the Junos Operating System (IJOS) is an introductory level course.

AUDIENCE

This course benefits individuals responsible for configuring and monitoring devices running the Junos OS.

PREREQUISITES

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

ASSOCIATED CERTIFICATION

JNCIA-Junos

RELEVANT JUNIPER PRODUCTS

- ACX Series
- Appsecure
- Contrail
- EX Series
- JSA Series
- Junos OS
- Junos Space
- M Series
- MX Series
- NFX Series
- PTX Series
- QFabric
- QFX Series
- SRX Series
- T Series

RECOMMENDED NEXT COURSE

Junos Intermediate Routing (JIR)

CONTACT INFORMATION

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COURSE OVERVIEW

This three-day course provides students with the foundational knowledge required to work with the Junos operating system and to configure Junos devices. The course provides a brief overview of the Junos device families and discusses the key architectural components of the software. Key topics include user interface options with a heavy focus on the command-line interface (CLI), configuration tasks typically associated with the initial setup of devices, interface configuration basics with configuration examples, secondary system configuration, and the basics of operational monitoring and maintenance of Junos devices. The course then delves into foundational routing knowledge and configuration examples including general routing concepts, routing policy, and firewall filters. Through demonstrations and hands-on labs, students will gain experience in configuring and monitoring the Junos OS and monitoring basic device operations. This course is based on Junos OS Release 15.1X49.

OBJECTIVES

- Describe the basic design architecture of the Junos OS.
- Navigate within the Junos CLI.
- Perform tasks within the CLI operational and configuration modes.
- Restore a Junos device to its factory-default state.
- Perform initial configuration tasks.
- Configure and monitor network interfaces.
- Describe user configuration and authentication options.
- Perform secondary configuration tasks for features and services such as system logging (syslog) and tracing, Network Time Protocol (NTP), configuration archival, and SNMP.
- Monitor basic operation for the Junos OS and devices.
- Identify and use network utilities.
- Upgrade the Junos OS.
- Perform file system maintenance and password recovery on a Junos device.
- Navigate within the Junos J-Web interface.
- Explain basic routing operations and concepts.
- View and describe routing and forwarding tables.
- Configure and monitor static routing.
- Configure and monitor OSPF.
- Describe the framework for routing policy and firewall filters.
- Explain the evaluation of routing policy and firewall filters.
- Identify instances where you might use routing policy.
- Write and apply a routing policy.
- Identify instances where you might use firewall filters.
- Write and apply a firewall filter.
- Describe the operation and configuration for unicast reverse path forwarding (RPF).
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COURSE CONTENT

Day 1

1 **COURSE INTRODUCTION**

2 **Junos Operating System Fundamentals**

- The Junos OS
- Traffic Processing
- Overview of Junos Devices

3 **User Interface Options: The Junos CLI**

- User Interface Options
- The Junos CLI: CLI Basics
- The Junos CLI: Operational Mode
- The Junos CLI: Configuration Mode

LAB 1: The Junos CLI

4 **User Interface Options: The J-Web Interface**

- The J-Web GUI
- Configuration

LAB 1: The J-Web Interface

5 **Initial Configuration**

- Factory-Default Configuration
- Initial Configuration
- Interface Configuration

LAB 2: Initial System Configuration

Day 2

6 **Secondary System Configuration**

- User Configuration and Authentication
- System Logging and Tracing
- Network Time Protocol
- Archiving Configurations
- SNMP

LAB 3: Secondary System Configuration

7 **Operational Monitoring and Maintenance**

- Monitoring Platform and Interface Operation
- Network Utilities
- Maintaining the Junos OS
- Password Recovery
- System Clean-Up

LAB 4: Operational Monitoring and Maintenance

8 **Interface Configuration Examples**

- Review of the Interface Configuration Hierarchy
- Interface Configuration Examples
- Using Configuration Groups

9 **Routing Fundamentals**

- Routing Concepts: Overview of Routing
- Routing Concepts: The Routing Table
- Routing Concepts: Routing Instances
- Static Routing
- Dynamic Routing

LAB 5: Routing Fundamentals

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Day 3

10	**Routing Policy**

- Routing Policy Overview
- Case Study: Routing Policy

LAB 6: Routing Policy

11	**Firewall Filters**

- Firewall Filters Overview
- Case Study: Firewall Filters
- Unicast Reverse-Path-Forwarding Checks

LAB 7: Firewall Filters

12	**Class of Service**

- CoS Overview
- Traffic Classification
- Traffic Queueing
- Traffic Scheduling
- Case Study: CoS

LAB 8: Class of Service

13	**JTAC Procedures**

- Opening a Support Case
- Customer Support Tools
- Transferring Files to JTAC

14	**Juniper Security Concepts**

- Security Challenges
- Juniper Networks' Security Focus

A	**IPv6 Fundamentals**

- IPv6 Addressing
- Protocols and Services
- Configuration

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