

## Deploying and Managing Juniper SD-WAN with Session Smart Routers

### COURSE OVERVIEW

This four-day, intermediate-level course teaches students to configure and manage Juniper® Session Smart® Routers and Juniper® Session Smart® Conductors for software-defined WAN (SD-WAN) deployments. The course begins with an introduction to the product and its programmable CLI, GUI, and Data Model, followed by practical deployment and configuration using the GUI. Students will establish multiple paths between Session Smart Routers and Session Smart Conductors and explore how to monitor and maintain tools. Additionally, students will gain insight into managing deployments within classified environments, enhancing their expertise in secure network management.

Students build multiple paths between three Session Smart Routers with one Session Smart Conductor. Students will then learn the tools they can use within their Session Smart Conductors and Session Smart Routers to monitor, maintain, and upgrade their Session Smart deployments.

Students working in the federal space will learn how Session Smart Routers work in classified environments and will learn how to manage their deployments.

### COURSE LEVEL

Intermediate

### AUDIENCE

- Individuals responsible for implementing, managing, and maintaining Juniper® Session Smart® Routing.

### PREREQUISITES

- Basic TCP/IP skills.
- General understanding of Linux.

### RELATED JUNIPER PRODUCTS

Juniper® Session Smart® Routers and Juniper® Session Smart® Conductors, Mist AI

### RELATED CERTIFICATIONS

[JNCIA-ENT](#)

### RECOMMENDED NEXT COURSE

[Deploying and Managing SD-WAN with Juniper Mist AI](#)

### OBJECTIVES

- Install a Session Smart Router and a Session Smart Conductor.
- Access Session Smart Routers with both the programmable command-line interface (PCLI) and the GUI.
- Describe how traffic flows through a Session Smart Router.
- Use the PCLI and GUI to operate and maintain Session Smart Routers.
- Route traffic to a data center using Session Smart Routers.
- Configure a high availability (HA) pair of Session Smart Routers.
- Configure multiple paths between Session Smart Routers.
- Configure Session Smart Routers to interoperate with BGP peers.
- Identify the proper commands and tools to troubleshoot Session Smart Routers.
- Identify where to go to find more information on APIs.
- Identify where to go for further resources.
- Identify the benefits of Juniper Mist WAN Assurance.
- Identify the benefits of Session Smart Router for Classified Networks

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## COURSE CONTENTS

### DAY 1

#### Module 01: Introduction to Session Smart Routing

- Describe SD-WAN and the Juniper Session Smart Router
- Explain the Session Smart Packet Walkthrough

#### Module 02: Interfaces for Managing Your Session Smart Routers

- Describe and navigate the Session Smart programmable CLI
- Describe and navigate the Session Smart GUI
- Describe and navigate Session Smart APIs

##### Lab 01: The Session Smart Interfaces

#### Module 03: Global Data and Local Data on the Session Smart Router

- Describe elements of the Session Smart Data Model
- Describe the difference between global data and local data
- Describe the elements of global data in the Session Smart Data Model
- Describe the elements of local data in the Session Smart Data Model

##### Lab 02: Configuring Global Data Elements

#### Module 04: Interacting with the Session Smart Platform

- Describe the Session Smart Conductor
- Describe the Juniper Mist-redirect ZTP installation process
- Describe the Session Smart ISO
- Describe the OTP installation process
- Describe configuration and backups on the Session Smart Router
- Describe how to upgrade the Session Smart Conductor and Session Smart Router

##### Lab 03: Interacting with the Platform

### DAY 2

#### Module 05: Session Smart Peering

- Describe the configuration template
- Describe Peers, BFD, Adjacencies, and Neighborhoods
- Describe the Session Smart Data Model

##### Lab 04: Deploying a Branch Router and Configuring Peering

#### Module 06: Session Smart Routing

- Describe forwarding information base, routing information base, and services information base
- Describe service routes
- Describe Ethernet over SVR

##### Lab 05: Routing

#### Module 07: Security Policies

- Explain the use of security policies
- Configure security policies
- Apply security policies
- Describe IDP policies

##### Lab 06: Security Policies

## Module 08: Multiple Paths Between Session Smart Routers

- Describe and configure service policies
- Describe and configure load balancing
- Describe and configure vectors

### Lab 07: Configuring Multiple Paths Between Session Smart Routers

## DAY 3

## Module 09: Redundancy and High Availability on the Session Smart Router

- Describe and configure VRRP
- Describe and configure dual-node high availability
- Describe and configure dual-router high availability
- Describe and configure link aggregation and LACP
- Describe conductor high availability

### Lab 08: High Availability

## Module 10: Traditional Routing on the Session Smart Router

- Describe routing instances, VRFs, and static routes
- Describe and configure peering with a BGP neighbor
- Describe and configure BGP over Secure Vector Routing

### Lab 09: Traditional Routing

## Module 11: Troubleshooting in the Session Smart GUI

- Describe notification interfaces
- Describe investigative interfaces

### Lab 10: Troubleshooting Using the GUI

## DAY 4

## Module 12: Troubleshooting Packet Captures

- Explain and implement packet captures on the Session Smart Router
- Explain and implement session captures on the Session Smart Router

### Lab 11: Packet Capture

## Module 13: Troubleshooting Session Smart Logs

- Describe general log information
- Describe how to troubleshoot using conductor logs
- Describe how to troubleshoot using router logs

### Lab 12: Logs

## Module 14: Troubleshooting Peer Paths

- Review elements of the Session Smart Data Model
- Describe BFD and configure BFD settings
- Describe how to troubleshoot BFD

### Lab 13: Troubleshooting Peer Paths

## Module 15: Troubleshooting Salt Connectivity

- Describe how to troubleshoot Salt connectivity in specific scenarios
- Describe how to troubleshoot Salt connectivity over in-band management

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## Lab 14: Troubleshooting Salt Connectivity

### SELF-STUDY MODULES

#### Module 16: Application Troubleshooting

- Describe troubleshooting steps, commands, and tables
- Identify the tenant and the service
- Utilize routing tables
- Utilize ping tools, capture tools, and logs
- Describe end-user testing and continuous troubleshooting

#### Module 17: Network Address Translation

- Describe and configure Network Address Translation on the Session Smart Router

#### Module 18: WAN Assurance

- Describe the advantages of Mist AI
- Define WAN Assurance
- Analyze the data models of Juniper Mist and Session Smart Router Data Models
- Explain Service-Level Expectations

#### Module 19: Session Smart Router for Classified Networks

- Explain the key concepts of SSRfC and how it works
- Explain how to perform installations and upgrades
- Describe the `Local Config Override` mode

#### Module 20: Processes on the Session Smart Router

- Describe the processes on the Session Smart Router

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