

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

## COURSE OVERVIEW

This four-day course teaches network engineers and architects how to configure and manage the Juniper® Session Smart™ Router. Juniper Session Smart SD-WAN teaches students how to configure and use a Session Smart Router and a Juniper® Session Smart™ Conductor. It starts with an introduction to the product followed by an introduction to the programmable CLI, GUI, and Session Smart Data Model. After that, students will use the GUI to deploy and configure their Session Smart Routers. Students will 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 and maintain 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. This course is based on Release 6.2.

### COURSE LEVEL

Intermediate

### AUDIENCE

Individuals responsible for implementing, managing, and maintaining Session Smart Routing

### PREREQUISITES

- Basic TCP/IP skills.
- Familiarity with Linux

### RELATED JUNIPER PRODUCTS

- Session Smart Routers

### RELATED CERTIFICATION

[JNCIS-ENT](#)

### RECOMMENDED NEXT COURSE

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

### CONTACT YOUR REGIONAL EDUCATION SERVICES TEAM:

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### OBJECTIVES

- Install a Session Smart Router and a Session Smart Conductor.
- Access Session Smart Routers with both the 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 WAN Assurance.
- Identify the benefits of Session Smart Router for Classified Networks.

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

## COURSE CONTENTS

### DAY 1

1	<b>Introduction to Session Smart Routing</b> <ul style="list-style-type: none"><li>Describe SD-WAN and the Juniper Session Smart Router</li><li>Review Smart Packet Walkthrough</li></ul>
2	<b>Interfaces for Managing your Session Smart Routers</b> <ul style="list-style-type: none"><li>Describe and navigate the Session Smart PCLI</li><li>Describe and navigate the Session Smart GUI</li><li>Describe and navigate Session Smart APIs</li></ul> <b>Lab 1: Interfaces for Managing Your Session Smart Routers</b>
3	<b>Global and Local Data on the Session Smart Router</b> <ul style="list-style-type: none"><li>Describe elements of the Session Smart Data Model</li><li>Describe the difference between Global and Local Data</li><li>Describe the elements of Global Data in the Session Smart Data Model</li><li>Describe the elements of Local Data in the Session Smart Data Model</li></ul> <b>Lab 2: Configuring Global Data Elements</b>
4	<b>Interacting with the Platform</b> <ul style="list-style-type: none"><li>Describe the Session Smart Conductor</li><li>Describe the Mist-redirect ZTP installation process</li><li>Describe the Session Smart ISO</li><li>Describe the OTP installation process</li><li>Describe configuration and backups on the Session Smart Router</li><li>Describe upgrading the Session Smart Conductor and the Session Smart Router</li></ul> <b>Lab 3: Interacting with the Platform</b>

### DAY 2

5	<b>Session Smart Peering</b> <ul style="list-style-type: none"><li>Describe the Configuration Template</li><li>Describe Peers, BFD, Adjacencies, and Neighborhoods</li><li>Review the Session Smart Data Model</li></ul> <b>Lab 4: Deploy a Branch Router and Configure Peering</b>
6	<b>Session Smart Routing</b> <ul style="list-style-type: none"><li>Describe forwarding information base, routing information base, and services information base</li><li>Describe Service Routes</li><li>Describe Ethernet over SVR</li></ul> <b>Lab 5: Routing</b>
7	<b>Security Policies</b> <ul style="list-style-type: none"><li>Describe Security Policies</li><li>Configure Security Policies</li><li>Apply Security Policies</li><li>Describe IDP Policies</li></ul> <b>Lab 6: Security Policies</b>
8	<b>Multiple Paths Between Session Smart Routers</b> <ul style="list-style-type: none"><li>Explain and configure service policies</li><li>Explain and configure load balancing</li><li>Explain and configure vectors</li></ul> <b>Lab 7: Configuring Multiple Paths Between Session Smart Routers</b>

### DAY 3

9	<b>Redundancy and High Availability on the Session Smart Router</b> <ul style="list-style-type: none"><li>Explain and configure VRRP</li><li>Explain and configure dual-node high availability</li><li>Explain and configure dual-router high availability</li><li>Explain and configure link aggregation and LACP</li><li>Describe conductor high availability</li></ul> <b>Lab 8: High Availability</b>
10	<b>Traditional Routing on the Session Smart Router</b> <ul style="list-style-type: none"><li>Describe routing instances, VRFs, and static routes</li><li>Explain and configure peering with a BGP neighbor</li><li>Explain and configure BGP over Secure Vector Routing</li></ul> <b>Lab 9: Traditional Routing</b>

*Continued on the next page.*

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## COURSE CONTENTS (continued)

### DAY 3

#### 11 Troubleshooting in the Session Smart GUI

- Describe notification interfaces
- Describe investigative interfaces

Lab 10: Troubleshooting Using the GUI

### DAY 4

#### 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

#### 13 Troubleshooting Session Smart Logs

- Describe general log information
- Describe troubleshooting using conductor logs
- Describe troubleshooting using router logs

Lab 12: Logs

#### 14 Troubleshooting Peer Paths

- Review elements of the Session Smart Data Model
- Describe BFD and configure BFD settings
- Describe troubleshooting BFD

Lab 13: Troubleshooting Peer Paths

#### 15 Troubleshooting Salt Connectivity

- Describe troubleshooting Salt connectivity in specific scenarios
- Describe troubleshooting Salt connectivity over in-band management

Lab 14: Troubleshooting Salt Connectivity

### SELF-STUDY 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 continued troubleshooting

#### 17 Network Address Translation

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

#### 18 WAN Assurance

- Describe the advantages of Mist AI
- Describe WAN Assurance
- Describe the Mist and Session Smart Router Data Models
- Describe Service Level Expectations

#### 19 Session Smart Router for Classified Networks

- Describe the key concepts and how SSRfC works
- Describe how to perform installation and upgrades
- Describe the Local Config Override mode

#### 20 Processes on the Session Smart Router

- Describe the processes on the Session Smart Router

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