

Deploying and Managing SD-WAN with Juniper Mist AI, Revision 26A

COURSE OVERVIEW

This three-day, intermediate-level course provides students with the foundational knowledge required to work with Juniper Mist™ WAN Assurance. The course summarizes how Juniper Mist WAN Assurance streamlines the deployment, configuration, and management of Juniper® Mist WAN Edge devices in a full hub-and-spoke software-defined WAN (SD-WAN) deployment.

Key topics include a review of fundamental Juniper Mist concepts; the onboarding options for WAN Edge devices; an overview of the supported security features; design principles and steps for implementing basic standalone, multi-site standalone, and SD-WAN topologies; the best way to leverage variables and the automation available in Juniper Mist for deployment and scaling out the network; how Juniper Mist translates intent into configurations on the Juniper Networks® SRX Series Firewalls and Juniper Networks® SSR Series Routers platforms; how to create custom application and filtering for unique traffic flows; establishing Juniper and third-party secure services edge (SSE) connections; design principles for highly available WAN Edges; and monitoring and troubleshooting WAN Edges in Juniper® SD-WAN driven by Mist AI™.

The labs in this course follow a sequential structure, requiring participants to complete each lab in the specified order. Each lab builds upon concepts and configurations established in the preceding labs, culminating in the creation of an overlay within an SD-WAN deployment.

COURSE LEVEL

[Deploying and Managing SD-WAN with Juniper Mist AI](#) is an intermediate-level course.

AUDIENCE

This course benefits individuals responsible for implementing, configuring, and maintaining SSR Series Routers and SRX Series Firewall devices deployed as Juniper Mist WAN Edge devices.

PREREQUISITES

- Intermediate cloud and networking knowledge
- Intermediate understanding of the OSI reference model and the TCP/IP protocol suite
- Familiarity with SSR Series Routers and Secure Vector Routing
- An understanding of SRX Series Firewalls
- Attendees should have taken the [Introduction to Juniper Mist AI](#) course.

RELATED JUNIPER PRODUCTS

SRX Series, Session Smart Routers, Mist AI, Junos OS

RECOMMENDED NEXT COURSE

[Automating Juniper Mist AI Enterprise](#)

OBJECTIVES

- Describe SD-WAN with Juniper Mist.
- Explain the key concepts and terminology in SD-WAN with Juniper Mist.
- Effectively onboard a WAN Edge device and perform basic configurations.
- Articulate the Juniper Mist intent-driven model.
- Explain how Application Policy influences resource access.
- Explain how Juniper Mist translates intent into configurations for WAN Edge.
- Define and apply SD-WAN with Juniper Mist scaling and variable features.
- Describe how Juniper Mist enables site-to-site connectivity through the overlay.
- Deploy application steering using application identification.
- Effectively onboard a hub and deploy a full hub and spoke SD-WAN.
- Configure and deploy a highly available, clustered WAN Edge.
- Define the SD-WAN with Juniper Mist integration workflow for a Secure Services Edge.
- Monitor and troubleshoot your WAN Edge devices.

COURSE CONTENTS

DAY 1

Module 01: Introduction to SD-WAN with Juniper Mist

- Explain the key concepts and terminology used in SD-WAN with Juniper Mist
 - Describe the SD-WAN with the Juniper Mist solution
 - Define the WAN Edge and its role in SD-WAN connectivity
 - Define the terminology used in SD-WAN with Juniper Mist
 - Outline deployment considerations for SD-WAN with Juniper Mist

Module 02: WAN Assurance Configuration Hierarchy

- Outline the WAN Assurance Configuration Hierarchy
 - Describe the Juniper Mist Intent Model
 - Outline WAN Assurance Networks and Applications
 - Summarize the hub profile workflow and the WAN Edge Template use cases

Module 03: Networks in SD-WAN with Juniper Mist

- Outline networks in SD-WAN with Juniper Mist
 - Assess network as an element to prioritize deployment patterns and workflow
 - Examine network elements, including users and indirectly attached network subnets
 - Contrast platform implementation deployment considerations for the SRX Series devices and SSR Series Routers

Module 04: Applications in SD-WAN with Juniper Mist

- Explain how applications influence traffic in SD-WAN with Juniper Mist
 - Describe Applications
 - Explain Traffic Steering in Juniper Mist
 - Connect Application Policy to Juniper Mist Intent-Based Networking Elements

Module 05: SD-WAN with Juniper Mist Quick Start

- Explain how to onboard a WAN Edge device and perform basic configurations
 - Explain the onboarding options for a WAN Edge in Juniper Mist
 - Explain the basic SD-WAN with Juniper Mist workflow
 - Outline device-specific templates

Lab 01: SD-WAN with Juniper Mist Quick Start

Module 06: Application Identification and Discovery

- Explain application identification and discovery in SD-WAN with Juniper Mist
 - Outline application identification and discovery in SD-WAN with Juniper Mist
 - Describe application identification on SRX Series Firewalls and Premium Analytics
 - Describe application identification on Juniper Session Smart Router and Premium Analytics

Module 07: Application Policy and Application Steering

- Explain application steering in SD-WAN with Juniper Mist
 - Define application steering in SD-WAN with Juniper Mist
 - Explain how to use AppID to implement application steering
 - Define application steering considerations

Lab 02: Application Policy in SD-WAN with Juniper Mist

DAY 2

Module 08: SD-WAN with Juniper Mist

- Explain how Juniper Mist translates intent into configurations for SD-WAN
 - Define SD-WAN
 - Explain the SD-WAN overlay for SRX devices
 - Explain the SD-WAN overlay for SSR Series Routers
 - Explain SD-WAN deployment considerations

Module 09: WAN Assurance Design

- Provide an overview of the WAN Assurance design
 - Explain the Juniper Mist full-stack design for the Session Smart Router and the SRX Series Firewall
 - Outline high availability design for the Session Smart Router and the SRX Series Firewall

- Explain high availability actions

Module 10: Configuring a Spoke with WAN Edge Templates

- Configuring a Spoke with WAN Edge Templates
 - Outline WAN Edge workflow, design, and settings
 - Summarize WAN Edge spoke interface configuration
 - Compare traffic steering policies for WAN Edge Templates
 - Describe spoke application policy

Module 11: Automating and Scaling the Network

- Implement SD-WAN, including Juniper Mist's scaling
 - Review WAN Edge Templates
 - Explain site variables
 - Explain how to import, export, and apply templates
 - Explain organization-level application policy

Lab 03: Scaling with Templates and Variables**Module 12: Hub Profiles**

- Explain how to create hub profiles on Juniper Mist cloud
 - Outline hub profiles
 - Summarize interface configuration in hub profiles
 - Relate traffic steering configuration
 - Analyze organization application policies
 - Explain creating OSPF areas for hub profiles
 - Explain configuring traditional routing policies

Lab 04: Hub Deployment in WAN Assurance**DAY 3****Module 13: SD-WAN with Juniper Mist High Availability Design**

- Explain high availability design for Session Smart WAN Edges
 - Explain the concepts of Session Smart high availability
 - Outline the HA deployment workflow
 - Explain SRX cluster caveats

Lab 05: HA Hub Design**Module 14: Traditional Routing Configuration in WAN Assurance**

- Describe Traditional Routing Configuration in WAN Assurance
 - Outline BGP configuration
 - Summarize OSPF configuration
 - Outline BGP monitoring workflow
 - Describe virtual routing for routes from the default instance
 - Explain how to use application policies to route from the default instance

Module 15: SD-WAN with Juniper Mist with Secure Services Edge

- Describe Secure Edge connections
 - Describe the Juniper Secure Service Edge Solution
 - Explain SD-WAN with Juniper Mist and Juniper Secure Edge integration
 - Explain SD-WAN with Juniper Mist and SSE Zscaler integration

Module 16: Cradlepoint Cellular Edges

- Outline Cellular edge integration with Juniper Mist
 - Describe Cradlepoint and its integration with Juniper Mist
 - Explain how to plan, onboard, and provision the cellular edge
 - Explore how to manage and monitor cellular edges in Juniper Mist

Module 17: Monitoring SD-WAN with Juniper Mist

- Explain how to monitor the Juniper Mist WAN Edge
 - Describe how to monitor with WAN Edge details
 - Explain how to monitor with WAN Edge Insights

Lab 06: Troubleshooting the Routing Policy

Module 18: Troubleshooting SD-WAN with Juniper Mist

- Explain the tools used to troubleshoot the Juniper Mist WAN Edge
 - Outline steps for troubleshooting with Marvis and SLEs in SD-WAN with Juniper Mist
 - Review tools for troubleshooting

Lab 07: Troubleshooting SD-WAN with Juniper Mist

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