

Deploying and Managing Juniper Wireless Networks with Mist AI (JWMA)

Duration: 4 Days **Course Code: JUN_JWMA**

Overview:

This four-day course provides students with the knowledge required to work with enterprise wireless technologies and Juniper Driven by Mist AI™ wireless networks.

Students will gain in-depth knowledge of wireless technologies, Juniper Mist™ technologies, and how to configure and use them.

Through demonstrations and hands-on labs, students will gain experience with the features and functionalities of Mist AI-driven Wi-Fi.

COURSE LEVEL

Intermediate

RELATED JUNIPER PRODUCT

• Juniper Mist AI

Target Audience:

Individuals working with enterprise wireless networks and applying artificial intelligence to their activities.

Objectives:

- After successfully completing this course, you should be able to:
- • Describe the IEEE 802.11 standard and amendments.
- • Describe wireless frequency bands.
- • Apply radio frequency (RF) basics in wireless networks.
- • Identify how modulation and coding make up wireless networks.
- • Describe the interworkings of association and roaming.
- • Describe network contention factors.
- • Define WLANs.
- • Define Juniper Mist.
- • Describe Juniper Mist configuration objects for wireless networks.
- • Describe Juniper Access Points and their configuration options.
- • Describe Juniper Mist's WLAN configuration objects.
- • Describe Juniper Mist™ Edge.
- • Describe the Juniper Mist guest options.
- • Describe WxLAN policies and how apply them to resources.
- • Examine wireless intrusion detection and prevention from Juniper Mist.
- • Describe WLAN security threats detected by the Juniper Mist WLAN system.
- • Interpret wireless service-level expectations (SLEs) in relation to users.
- • Gather events and insights from the Mist™ cloud.
- • Summarize Juniper Mist's radio resource management (RRM).
- • Review additional data to create dashboard and reports.
- • Evaluate machine learning and artificial intelligence.
- • Summarize Marvis queries.
- • Extend Mist's Marvis actions.
- • Describe the functions of Marvis Actions and Marvis Minis.
- • Compare the concepts and methods of location services.
- • Explain Juniper Mist's approach to user engagement and asset visibility.

Prerequisites:

- Basic TCP/IP skills

Testing and Certification

JNCIS-MistAI-Wireless Certification

- General networking
- Completion of the Introduction to Juniper Mist AI course or equivalent knowledge

Follow-on-Courses:

Juniper Mist AIOps (JMA)

Deploying and Managing Juniper Wired Networks for Campus and Branch with Mist AI (JCMA)

Content:

DAY 1	<ul style="list-style-type: none"> • Explain the difference between organization-level and site-level configuration objects 	<ul style="list-style-type: none"> • Describe WLAN security threats detected by the Juniper Mist WLAN system
1 Wi-Fi Standards	<ul style="list-style-type: none"> • Define Juniper Mist configuration objects and their uses 	16 Juniper Mist Service-Level Expectations
<ul style="list-style-type: none"> • Describe the purpose of the 802.11 standard and its physical layer amendments 	Lab 2: Remote Site and Site Groups and Variables	<ul style="list-style-type: none"> • List Wi-Fi Assurance SLEs and their classifiers
2 Wi-Fi Radio Frequency Bands	10 Juniper Access Points	17 Juniper Mist Events and Insights
<ul style="list-style-type: none"> • Describe the 2.4-GHz, 5-GHz, and 6-GHz frequency bands used for WLANs and their channels 	<ul style="list-style-type: none"> • Summarize access points and connectivity 	<ul style="list-style-type: none"> • Describe site, AP, and client events
3 Applying Radio Frequency Basics to Wi-Fi	<ul style="list-style-type: none"> • Describe the boot procedure for a Juniper Access Point, its requirements, and the process of adding a Juniper Access Point to the Juniper Mist cloud 	<ul style="list-style-type: none"> • Explain the packet capture functionality of the Juniper Mist system
<ul style="list-style-type: none"> • Describe the properties of an RF wave 	<ul style="list-style-type: none"> • Describe common AP configuration settings 	<ul style="list-style-type: none"> • Describe the 802.11 MAC header and list 802.11 MAC frame types
<ul style="list-style-type: none"> • Convert dBm to Milliwatts using RF math 	<ul style="list-style-type: none"> • Use the Juniper Access Points dashboard to get information about an Access Point 	Lab 4: SLE Troubleshooting
<ul style="list-style-type: none"> • Explain factors that contribute to RF signals and how they relate to WLANs 	11 WLANs	18 Juniper Mist Radio Resource Management
4 Modulation and Coding for Wireless Networks	<ul style="list-style-type: none"> • Define a SSIDs, BSSIDs, and their functions 	<ul style="list-style-type: none"> • Describe Juniper Mist RRM operations and their purposes
<ul style="list-style-type: none"> • Explain RF modulation and how it relates to WLAN data rates 	<ul style="list-style-type: none"> • Review additional WLAN configuration options 	DAY 4
<ul style="list-style-type: none"> • Describe the relationship between SNR and MCS 	<ul style="list-style-type: none"> • Explain WLAN security options and how they are configured in a Juniper Mist WLAN configuration object 	19 Juniper Mist Dashboard and Reports
5 Understanding Client Association and Roaming	<ul style="list-style-type: none"> • Describe data rates and how they are configured in Juniper Mist 	<ul style="list-style-type: none"> • Explain custom dashboard and report options
<ul style="list-style-type: none"> • Describe the 802.11 state machine and steps required for an 802.11 station to connect to an access point 	<ul style="list-style-type: none"> • Explain SSID strategies for multiband deployments 	20 Juniper Mist Artificial Intelligence and Troubleshooting Options
<ul style="list-style-type: none"> • Explain the protocols used in a client's connection to the network 	12 Juniper Mist Edge	<ul style="list-style-type: none"> • Assess Juniper Mist's application of artificial intelligence
6 Network Contention Factors	<ul style="list-style-type: none"> • Define the features and benefits 	<ul style="list-style-type: none"> • Describe the reactive and proactive troubleshooting methodologies
<ul style="list-style-type: none"> • Describe 802.11 contention 	<ul style="list-style-type: none"> • Identify popular use cases 	21 Marvis Queries
7 Wi-Fi Architectures and Life Cycle		<ul style="list-style-type: none"> • Explain the difference between Marvis natural language and Marvis query language

• Differentiate WLAN architectures	• Categorize the product options	22 Marvis Actions
• Describe the stages of the WLAN life cycle	• Summarize the installation	• Explain the features of Marvis Actions
8 Getting Started with Juniper Mist	• Review the Edge management	• Explain the functions of Marvis Minis
• Examine the Juniper Mist architecture	• Troubleshoot the device and connectivity	Lab 5: Marvis
• Create a Juniper Mist account	DAY 3	23 Location-Based Services
• Summarize Juniper Mist subscriptions	13 Guest Portals	• Describe real-time location services
• Summarize the MSP dashboard	• Describe the Juniper Mist guest options	• Explain Wi-Fi components for location services
Lab 1: Initial Setup	14 Juniper Mist WxLAN Policies	24 User Engagement and Asset Visibility
DAY 2	• Explain WLAN policies and how they are configured	• Explain Juniper Mist's approach to user engagement
9 Juniper Mist Configuration Objects	Lab 3: WLANs and WxLAN	• Describe Juniper Mist's asset visibility capabilities
	15 Juniper Mist Wi-Fi Security	

Additional Information:

Delegates will receive e-kit courseware.

Further Information:

For More information, or to book your course, please call us on Head Office 01189 123456 / Northern Office 0113 242 5931

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