



COURSE OVERVIEW

This four-day course is designed to provide students with the knowledge required to work with Enterprise wireless technologies and Mist AI-Driven Wi-Fi networks. Students will gain in-depth knowledge of Wi-Fi technologies, Mist technologies, and how to configure and use them. Through demonstrations and hands-on labs, students will gain experience with the features and functionality of Mist AI-driven Wi-Fi.

COURSE LEVEL

Intermediate

AUDIENCE

Individuals responsible for working with Enterprise wireless networks and applying artificial intelligence to their activities

PREREQUISITES

- Basic TCP/IP skills
- General networking
- Basic knowledge of wireless technologies (Wi-Fi) is recommended

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OBJECTIVES

- Introduce the IEEE 802.11 standard and amendments.
- Describe Wi-Fi frequency bands.
- Apply radio frequency basics in Wi-Fi networks.
- Identify how modulation and coding make up Wi-Fi.
- Describe the inter-workings of association and roaming.
- Describe network contention factors.
- Define WLANs.
- Introduce Mist.
- Describe Mist configuration objects for Wi-Fi.
- Explain Juniper access points and their configuration options.
- Describe Mist's WLAN configuration objects.
- Describe Mist Edge.
- Describe the Mist guest options.
- Describe WLAN policies and apply them to resources.
- Describe WLAN security threats detected by the Mist WLAN system.
- Interpret wireless service level expectations (SLE) in relation to users.
- Gather events and insights from the Mist cloud.
- Summarize Mist's Radio Resource Management (RRM).
- Evaluate custom dashboard and reports options.
- Evaluate machine learning and artificial intelligence.
- Summarize Marvis queries.
- Extend Mist's Marvis actions.
- Compare location service's concepts and methods.
- Explain Mist's approach to user engagement.

COURSE CONTENTS

DAY 1

1	Course Introduction
2	Wi-Fi Standards <ul style="list-style-type: none">Describe the purpose of the 802.11 standard and its physical layer amendments
3	Wi-Fi Radio Frequency Bands <ul style="list-style-type: none">Describe the 2.4-GHz, 5-GHz, and 6-GHz frequency bands used for WLANs and their channels
4	Applying Radio Frequency Basics to Wi-Fi <ul style="list-style-type: none">Describe the properties of an RF waveConvert dBm to Milliwatts using RF mathExplain free space path loss and how it relates to WLANs
5	Modulation and Coding for Wi-Fi <ul style="list-style-type: none">Explain RF modulation and how it relates to WLAN data ratesDescribe the relationship between SNR and MCS
6	Understanding Client Association and Roaming <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 pointExplain the protocols used in a client's connection to the network
7	Network Contention Factors <ul style="list-style-type: none">Describe 802.11 contention Lab 1: WLAN Testing
8	Wi-Fi Architectures and Life Cycle <ul style="list-style-type: none">Differentiate WLAN architecturesDescribe the stages of the WLAN life cycle
9	Getting Started with Mist <ul style="list-style-type: none">Examine the Mist architectureCreate a Mist accountSummarize Mist subscriptions Lab 2: Initial Setup

DAY 2

10	Mist Configuration Objects <ul style="list-style-type: none">Explain the difference between organization-level and site-level configuration objectsDefine Mist configuration objects and their usesSummarize the MSP dashboard Lab 3: Remote Site and Site Groups and Variables
11	Juniper Access Points <ul style="list-style-type: none">Summarize access points and connectivityDescribe the boot procedure for a Juniper AP, its requirements, and the process of adding a Juniper AP to the Mist cloudDescribe common AP configuration settingsUse the Mist AP dashboard to get information about an AP
12	WLANs <ul style="list-style-type: none">Define a BSS, ESS, an SSIDs and their functionsReview additional WLAN configuration optionsExplain WLAN security options and how they are configured in a Mist WLAN configuration objectDescribe data rates and how they are configured in Mist
13	Mist Edge <ul style="list-style-type: none">Define the features and benefitsIdentify popular use casesCategorize the product optionsSummarize the installationReview the Edge managementTroubleshoot the device and connectivity

Continued on the next page.

COURSE CONTENTS (continued)

DAY 3

14	Guest Portals <ul style="list-style-type: none">Describe the Mist guest options
15	Mist WxLAN Policies <ul style="list-style-type: none">Explain WLAN policies and how they are configured Lab 4: WLANs and WxLAN
16	Mist Wi-Fi Security <ul style="list-style-type: none">Explain WxLAN policies and how they are configured
17	Mist Service Level Expectations <ul style="list-style-type: none">List Wi-Fi Assurance SLEs and their classifiers
18	Mist Events and Insights <ul style="list-style-type: none">Describe site, AP and client eventsExplain the packet capture functionality of the Mist systemDescribe the 802.11 MAC header and list 802.11 MAC frame types Lab 5: SLE Troubleshooting
19	Mist Radio Resource Management <ul style="list-style-type: none">Describe the Mist RRM operations and their purposes

DAY 4

20	Mist Dashboard and Reports <ul style="list-style-type: none">Review additional data to create dashboards and reports
21	Mist Artificial Intelligence and Troubleshooting Options <ul style="list-style-type: none">Assess Mist's application of artificial intelligenceReview troubleshooting options; reactive and proactive
22	Marvis Queries <ul style="list-style-type: none">Explain the difference between Marvis natural language and Marvis query language
23	Marvis Actions <ul style="list-style-type: none">Describe the functions of Marvis actions Lab 6: Marvis
24	Location-Based Services <ul style="list-style-type: none">Review Wi-Fi components for location services
25	User Engagement and Proximity Tracing <ul style="list-style-type: none">Examine Mist's proximity tracing capabilities

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