

# Learning Services

## Cisco WAE Implementation with Cisco NSO Integration



The Cisco WAE Implementation with Cisco NSO Integration<sup>1</sup> (NSO101) course is an instructor-led, lab-based, hands-on course offered by Cisco® Learning Services. This course introduces learners to the basic knowledge necessary to plan, deploy, configure, and maintain the Cisco WAN Automation Engine (WAE) solution. Extensive hands-on labs help learners gain the necessary skills to install and maintain Cisco WAE systems.

### Duration

Instructor-led training (ILT): 4 days

### Target audience

The primary audience for this course is system installers, system integrators, system administrators, network administrators, and solutions designers.

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<sup>1</sup> Course content is dynamic and subject to change without notice.

## Objectives covered

- Learn the system architecture of Cisco WAE and WAE network abstraction
- Plan and deploy Cisco WAE Planning components, including Collector, WAE Design Archive, and WAE Live
- Plan and deploy Cisco WAE Automation components, including WAE Core and WAE Open SDN Controller (OSC), as well as learn the basics of WAE APIs
- Learn how to deploy changes to the network using Cisco WAE and OSC, as well as to determine how to integrate WAE with Cisco Network Services Orchestrator (NSO)
- Learn how to use the Cisco WAE Design application to solve problems and achieve business goals

## Recommended prerequisites

Cisco recommends that you have the following prerequisite knowledge and skills:

- Knowledge and skills that can be obtained by attending the Cisco NSO Foundation (NSO100) class equivalent
- Knowledge of general networking and routing concepts
- Basic knowledge of routing protocols (Open Shortest Path First [OSPF], Intermediate System-to-Intermediate System [IS-IS], Border Gateway Protocol [BGP])
- Understanding of Multiprotocol Label Switching (MPLS) and traffic engineering (TE) technologies
- Basic knowledge of Linux server operation and Linux tools
- Knowledge of accessing, configuring, and managing network devices
- Basic understanding of network automation and software-defined networking (SDN) concepts

## Course outline

- Module 1: WAE Introduction and Architecture Overview
  - Introduction to WAE
  - WAE Architecture and Design
- Module 2: WAE Server and Collector Implementation
  - Planning the Deployment
  - WAE Deployment
  - Overview of the Collection Process
  - Embedded Web Server
  - Configuring WAE Collector
  - Configuring WAE Core Server
- Module 3: WAE Design for Network Engineers
  - Getting Started with WAE Design
  - Working with Layouts
  - Describing Traffic with Demands
  - Failures and Simulation Analysis

- Module 4: WAE Design Traffic Engineering (IGP)
  - Engineering Traffic Using Metrics
  - Engineering Traffic Using RSVP-TE
- Module 5: WAE Live Deployment
  - The Basic Components of WAE Live
  - WAE Live Configuration
  - Templates for Visual Elements Control
- Module 6: WAE Live Features
  - WAE Live Map
  - WAE Live Explore
  - WAE Live Analytics
  - WAE Live Inventory
  - WAE Live Administration
- Module 7: WAE Maintenance and Troubleshooting
  - WAE Maintenance
  - WAE Troubleshooting

## Lab outline

- Lab 1: Lab: Virtual Learning Lab – Getting Started
- Lab 2: WAE Collector Configuration
- Lab 3: Augmented Collection Configuration
- Lab 4: Configuring WAE Core
- Lab 5: Getting Started with WAE Design
- Lab 6: Working with Layouts
- Lab 7: Describing Traffic with Demands
- Lab 8: Failures and Simulation Analysis
- Lab 9: Engineering Traffic Using Metrics
- Lab 10: Modeling MPLS RSVP-TE LSPs
- Lab 11: Configuring WAE Live
- Lab 12: WAE Live Explore and Map
- Lab 13: WAE Live Analytics
- Lab 14: Configuring WAE Live Inventory
- Lab 15: WAE Backup

## Registration

For more information about schedules and registration for this course, contact [aeskt\\_registration@cisco.com](mailto:aeskt_registration@cisco.com).

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## Websites for more information

For more information, visit the following websites:

- Cisco Learning Services for Cisco products and technologies: <http://www.cisco.com/go/cls>
- Security training: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/security.html>
- Data center training: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/data-center.html>
- Network management training: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/network-management.html>
- Optical networking training: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/optical.html>
- Service provider mobility training: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/mobile.html>
- Routing training for service providers: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/service-provider-routing.html>
- Broadband video training for service providers: <http://www.cisco.com/c/en/us/training-events/resources/learning-services/technology/service-provider-video.html>

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