

# IDENTITY SERVICES ENGINE (ISE) ADMINISTERING ADVANCED

Course Code: 860060

This 5-day advanced training course dives deep into Cisco Identity Services Engine (ISE) with a focus on profiling, posturing, and policy creation, along with in-depth troubleshooting techniques. Participants will learn how to leverage Cisco ISE to enhance network security, endpoint compliance, and policy enforcement through a structured approach. The course includes extensive hands-on labs, real-world case studies, and advanced troubleshooting methods to ensure participants gain the expertise needed to design, deploy, and maintain a secure Cisco ISE environment.

## What You'll Learn

At the conclusion of this course, you should have an understanding of:

- Advanced Profiling in Cisco ISE
- Advanced Posturing in Cisco ISE
- Policy Creation and Enforcement in Cisco ISE
- Advanced Integrations and Automation
- In-Depth Troubleshooting, AI/ML Analytics, and Best Practices

## Who Needs to Attend

- Network Security Engineers
- Network Security Architects
- ISE Administrators
- Senior Security Operations Center (SOC) personnel responsible for Incidence Response
- Cisco Integrators and Partners

## Prerequisites

To fully benefit from this course, you should have the following knowledge:

- Familiarity with the Cisco IOS® Software Command-Line Interface (CLI) for wired and wireless devices
- Familiarity with Cisco AnyConnect® Secure Mobility Client
- Familiarity with Microsoft Windows operating systems
- Familiarity with 802.1X

Recommended Cisco offerings that may help you meet these prerequisites:

- Cisco CCNP Security Certification training
- Implementing and Configuring Cisco Identity Services Engine (SISE) v4.0 or

v4.1

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CLASSROOM LIVE

\$5,595 CAD

5 Day

## Classroom Live Outline

### **MODULE 1: Advanced Profiling in Cisco ISE**

- Lesson 1: Introduction to Profiling
  - ☒ Overview of Cisco ISE Profiling Services
  - ☒ Importance of Profiling in Network Access Control
  - ☒ Profiling Policies and Attribute Collection
- Lesson 2: Profiling Techniques and Configuration
  - ☒ Passive vs. Active Profiling Methods
  - ☒ Device Sensor Capabilities and Probes (RADIUS, DHCP, HTTP, SNMP, NetFlow)
  - ☒ Endpoint Classification and Profiling Policy Creation
- Lesson 3: Profiling Enhancements and Best Practices
  - ☒ Creating Custom Profiling Policies
  - ☒ Tuning Profiling Accuracy and Efficiency
  - ☒ Integrating Cisco ISE with Network Infrastructure for Optimal Profiling
- Lesson 4: Troubleshooting Profiling Issues
  - ☒ Debugging Profiling Policies
  - ☒ Analyzing Live Logs and Reports
  - ☒ Resolving Misclassification and Incorrect Device Profiling

### **MODULE 2: Advanced Posturing in Cisco ISE**

- Lesson 1: Introduction to Posture Assessment
  - ☒ Role of Posturing in Endpoint Security
  - ☒ Understanding Cisco ISE Posture Policies
  - ☒ NAC Agent vs. Secure Client Posture Module
- Lesson 2: Posture Configuration and Deployment
  - ☒ Configuring Posture Conditions and Remediation Actions
  - ☒ Deploying Posture Assessment in a Wired and Wireless Network
  - ☒ Endpoint Compliance and Remediation Techniques
- Lesson 3: Posturing for BYOD and Corporate Devices
  - ☒ Implementing Posture Policies for BYOD and Corporate-Owned Devices

- ☒ Integrating Cisco ISE with MDM for Posture Compliance
  - ☒ Automating Quarantine and Remediation Workflows
- Lesson 4: Troubleshooting Posturing Issues
  - ☒ Common Posturing Failures and Debugging Techniques
  - ☒ Monitoring Posture Logs and Reports
  - ☒ Resolving Agent Installation, Communication, and Policy Mismatch Issues

### **MODULE 3: Policy Creation and Enforcement in Cisco ISE**

- Lesson 1: Overview of Policy Creation in Cisco ISE
  - ☒ Cisco ISE Policy Framework
  - ☒ Authentication vs. Authorization Policies
  - ☒ Creating Hierarchical Policy Structures
- Lesson 2: Advanced Policy Configuration
  - ☒ Configuring Policy Sets and Conditions
  - ☒ Attribute-Based Access Control (ABAC) Implementation
  - ☒ Dynamic Authorization with Change of Authorization (CoA)
- Lesson 3: Adaptive Network Access Policies
  - ☒ Implementing Context-Aware Policies
  - ☒ Role-Based and Device-Based Policy Enforcement
  - ☒ Integrating Cisco ISE with External Identity Sources (LDAP, AD, SAML)
- Lesson 4: Policy Troubleshooting and Optimization
  - ☒ Using Live Logs and Policy Simulation for Debugging
  - ☒ Analyzing Authentication and Authorization Failures
  - ☒ Optimizing Policy Efficiency and Reducing Latency

### **MODULE 4: Advanced Integrations and Automation**

- Lesson 1: Cisco ISE Integration with Third-Party Solutions
  - ☒ Integrating Cisco ISE with Cisco Secure Network Analytics (Stealthwatch)
  - ☒ Connecting Cisco ISE with SIEM and Threat Intelligence Platforms
  - ☒ API-Based Automation for Identity and Policy Management
- Lesson 2: Automating Cisco ISE Operations
  - ☒ Automating Network Access Control with pxGrid and Cisco Catalyst Center
  - ☒ Dynamic Policy Adjustments Based on Threat Intelligence
  - ☒ Implementing REST API for ISE Management and Reporting
- Lesson 3: Security Group Tags (SGT) and TrustSec Integration
  - ☒ Overview of Security Group Tags (SGT) and TrustSec Framework
  - ☒ Implementing SGT for Role-Based Access Control (RBAC)
  - ☒ Policy Enforcement Using SGT-Based Access Controls
  - ☒ Troubleshooting SGT Deployment Issues
- Lesson 4: ISE with Firepower Integration
  - ☒ Overview of Cisco ISE and Firepower Integration
  - ☒ Configuring Firepower and ISE Integration
  - ☒ Threat Detection and Dynamic Policy Enforcement
  - ☒ Troubleshooting ISE and Firepower Integration
- Lesson 5: ISE Use Cases

- ☒ Reviewing Complex ISE Deployments and Best Practices
- ☒ Lessons Learned from Large-Scale ISE Implementations

## **MODULE 5: In-Depth Troubleshooting, AI/ML Analytics, and Best Practices**

- Lesson 1: Advanced Troubleshooting Techniques
  - ☒ Debugging Authentication and Authorization Issues
  - ☒ Analyzing Logs with TACACS+, RADIUS, and Syslog
  - ☒ Using the Cisco ISE CLI and Debug Commands
- Lesson 2: Common Issues and Resolutions
  - ☒ Addressing Profiling and Posture Failures
  - ☒ Troubleshooting CoA and Policy Mismatches
  - ☒ Resolving Endpoint and Device Registration Issues
- Lesson 3: AI/ML Analytics in Cisco ISE
  - ☒ Behavior-Based Anomaly Detection - Identifies suspicious network activity based on deviations from normal user and device behavior.
  - ☒ Automated Threat Response - Enhances security by dynamically adjusting access policies based on AI-driven risk assessments.
  - ☒ Enhanced Endpoint Profiling - Improves device classification accuracy using ML-based pattern recognition.
  - ☒ Predictive Security Insights - Uses historical and real-time data to anticipate potential security threats before they materialize.
- Lesson 4: Multi-Factor Classification in Cisco ISE
  - ☒ Context-Aware Authentication - Considers multiple attributes, such as device posture, location, and user role, before granting access.
  - ☒ Risk-Based Access Control - Assigns risk scores to endpoints based on behavioral analytics, compliance status, and security posture.
  - ☒ Dynamic Policy Adjustments - Adapts authentication and authorization policies in real-time based on the risk assessment of the requesting entity.
  - ☒ Integration with AI/ML Analytics - Uses AI-driven insights to refine classification accuracy and enhance security decision-making.
- Lesson 5: Performance Optimization and Scaling Cisco ISE
  - ☒ High-Availability and Redundancy Considerations
  - ☒ Scaling Cisco ISE in Large Enterprise Networks
  - ☒ Best Practices for Policy Optimization and Log Retention

## Classroom Live Labs

- Lab 0: Lab Access
- Lab 1: Cisco ISE GUI Familiarization and Initial Configuration
- Lab 2: WLC Integration and Policy Set Configuration
- Lab 3: Identity Source and Wireless Policy
- Lab 4: Wired Switch Integration and Policy Setup
- Lab 5: Create Policies for Domain Computers
- Lab 6: Create Policies for Employee
- Lab 7: Create Policies for Contractor
- Lab 8: Create Authorization Profile for Wireless Users

- Lab 9: DHCP Profiling
- Lab 10: Active Directory Profiling
- Lab 11: Block Unknown OUI Clients
- Lab 12: Block Anomalous Clients
- Lab 13: Configure Posture Compliance Services on Cisco ISE
- Lab 14: Configure Client Provisioning Portal
- Lab 15: Configure Posture Elements and Posture Policy
- Lab 16: Posture Authorization Profiles and Policy Sets
- Lab 17: Posture Compliance Configuration and Testing
- Lab 18: ISE MDM Posture
- Lab 19: ISE and FTD
- Lab 20: Adaptive Network Control Policy
- Lab 21: ISE and SNA integration
- Lab 22: ANC Global Exception Policy
- Lab 23: Test Adaptive Network Control
- Lab 24: ISE App on Splunk Enterprise
- Lab 25: ISE syslog configuration for Splunk
- Lab 26: Syslog Data on Splunk
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May 4 - 8, 2026 | 9:00 AM - 5:00 PM CST

Aug 3 - 7, 2026 | 9:00 AM - 5:00 PM CST

Nov 2 - 6, 2026 | 9:00 AM - 5:00 PM CST

Visit us at [www.globalknowledge.com](http://www.globalknowledge.com) or call us at 1-866-716-6688.

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