Designing Cisco Security Infrastructure (SDSI)

What you'll learn in this course

The Designing Cisco Security Infrastructure (SDSI) training teaches you about security architecture design, including secure infrastructure, applications, risk, events, requirements, artificial intelligence (AI), automation, and DevSecOps.

This training prepares you for the 300-745 SDSI v1.0 exam. If passed, you earn the Cisco Certified Specialist – Designing Cisco Security Infrastructure certification and satisfy the concentration exam requirement for the Cisco Certified Network Professional (CCNP) Security certification. This training also earns you 41 Continuing Education (CE) credits toward recertification.

Course duration

Instructor-led training: 5 days in the classroom

How you'll benefit

This training will help you:

- Gain hands-on experience of security architecture design
- Qualify for professional and expert-level security job roles
- Prepare for the 300-745 SDSI v1.0 exam
- Earn 41 CE credits toward recertification

Course Objectives

- Identify and explain the fundamental concepts of security architecture and how they support the design, building, and maintenance of a secure infrastructure
- Identify the layers of security infrastructure, core security technologies, and infrastructure concepts
- Explain how security designs principles contribute to secure infrastructure
- Identify and discuss security design and management frameworks that can be used for infrastructure security design
- Explain the importance of and methods for enforcement of regulatory compliance in security design
- Identify tools that enable detection and response to infrastructure security incidents
- Explain various strategies that can be implemented to modify traditional security architectures to meet the technical requirements of modern enterprise networks
- Implement secure network access methods, such as 802.1X, MAC Authentication Bypass (MAB), and web-based authentication
- Describe security technologies that can be applied to enterprise Wide Area Network (WAN) connections
- Compare methods to secure network management and control plane traffic
- Compare the differences between traditional firewalls and next-gen firewalls (NGFWs) and identify the advanced features that NGFWs provide
- Explain how web application firewalls (WAFs) secure web applications from threats
- Describe the key features and best practices for deploying intrusion detection system (IDS) and intrusion prevention system (IPS) as part of the enterprise infrastructure security design
- Explain how endpoints and services in cloud-native or microservice environments can be protected with host-based or distributed firewalls
- Discuss security technologies that address application data and data that is in transit
- Identify several security solutions for cloud-native applications, microservices, and containers
- Explain how technology advancements allow for improvements in today’s infrastructure security
- Identify tools that enable detection and response to infrastructure security incidents
- Describe frameworks and controls to access and mitigate security risks for infrastructure
- Explain how to make security adjustments following a security incident
- Identify DevSecOps integrations that improve security management and response
- Discuss how to ensure that automated services are secure
- Discuss how AI can aid in threat detection and response

Course Outline

- Definition and Purpose of Security Architecture
- Components of Security Infrastructure
- Security Design Principles
- Security and Design Frameworks
- Compliance and Regulatory Requirements
- Security Approaches to Protect Against Threats
- Modify the Security Architecture to Meet Technical Requirements
- Network Access Security
- VPN and Tunneling Solutions
- Secure Infrastructure Management and Control Planes
- Nextgen Firewalls
- Web Application Firewall (WAF)
- IPS/IDS Deployment
- Host-Based Firewalls and Distributed Firewalls
- Security Solutions Based on Application and Flow Data
- Security for Cloud-Native Applications, Microservices, and Containers
- Emerging Technologies in Application Security
- SOC Tools for Incident Handling and Response
- Modifying Design to Mitigate Risk
- Incident-Driven Security Adjustments
- DevSecOps Integration
- Secure Automated Workflows and Pipelines
- AI's Role in Securing Infrastructure

Course Prerequisites

There are no prerequisites for this training. However, the knowledge and skills you are recommended to have before attending this training are:

- Cisco CCNP Security or equivalent knowledge
- Familiarity with Microsoft Windows Operating Systems
- Familiarity with the Cisco Security portfolio

Who should Enroll

- Cisco and Partner's Systems Engineers
- Customer Network & Infrastructure Engineers
- Customer Security/NOC Engineers