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**Learning Style: On Demand**

**Technology: Cisco**

**Difficulty: Intermediate**

**Course Duration: 40 Hours**

## Implementing and Operating Cisco Security Core Technologies (SCOR) v1.0 - On Demand



### About this course:

The Implementing and Operating Cisco Security Core Technologies (SCOR) v1.0 course helps you prepare for the Cisco CCNP Security and CCIE Security certifications and for senior-level security roles.

In this course, you will master the skills and technologies you need to implement core Cisco security solutions to provide advanced threat protection against cybersecurity attacks. You will learn security for networks, cloud and content, endpoint protection, secure network access, visibility, and enforcements. You will get extensive hands-on experience deploying Cisco Firepower® Next-Generation Firewall and Cisco Adaptive Security Appliance (Cisco ASA) Firewall; configuring access control policies, mail policies, and 802.1X Authentication; and more. You will get introductory practice on Cisco Stealthwatch® Enterprise and Cisco Stealthwatch Cloud threat detection features.

This course helps you prepare to take the Implementing and Operating Cisco Security Core Technologies (350-701 SCOR) exam, which leads to the new CCNP Security, CCIE Security, and the Cisco Certified Specialist - Security Core certifications.

## **Course Objective:**

After taking this course, you should be able to:

- Describe information security concepts and strategies within the network
- Describe common TCP/IP, network application, and endpoint attacks
- Describe how various network security technologies work together to guard against attacks
- Implement access control on Cisco ASA appliance and Cisco Firepower Next-Generation Firewall
- Describe and implement basic email content security features and functions provided by Cisco Email Security Appliance
- Describe and implement web content security features and functions provided by Cisco Web Security Appliance
- Describe Cisco Umbrella® security capabilities, deployment models, policy management, and Investigate console
- Introduce VPNs and describe cryptography solutions and algorithms
- Describe Cisco secure site-to-site connectivity solutions and explain how to deploy Cisco IOS Virtual Tunnel Interface (VTI)-based point-to-point IPsec VPNs, and point-to-point IPsec VPN on the Cisco ASA and Cisco Firepower Next-Generation Firewall (NGFW)
- Describe and deploy Cisco secure remote access connectivity solutions and describe how to configure 802.1X and Extensible Authentication Protocol (EAP) authentication
- Provide basic understanding of endpoint security and describe Advanced Malware Protection (AMP) for Endpoints architecture and basic features
- Examine various defenses on Cisco devices that protect the control and management plane
- Configure and verify Cisco IOS Software Layer 2 and Layer 3 data plane controls
- Describe Cisco Stealthwatch Enterprise and Stealthwatch Cloud solutions
- Describe basics of cloud computing and common cloud attacks and how to secure cloud environment

## **Audience:**

- Security engineers
- Network engineers, designers, administrators, and managers
- Systems engineers
- Consulting systems engineers
- Technical solutions architects
- Cisco integrators and partners

## **Prerequisite:**

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

- Skills and knowledge equivalent to those learned in Implementing and Administering Cisco Solutions (CCNA®) v1.0 course
- Familiarity with Ethernet and TCP/IP networking
- Working knowledge of Microsoft Windows
- Working knowledge of Cisco IOS networking and concepts
- Familiarity with basics of networking security concepts

This Cisco course is recommended to help you meet these prerequisites:

- Implementing and Administering Cisco Solutions (CCNA) v1.0

## **Course Outline:**

### **Describing Information Security Concepts\***

Information Security Overview  
 Managing Risk  
 Vulnerability Assessment  
 Understanding CVSS

### **Describing Common TCP/IP Attacks\***

Legacy TCP/IP Vulnerabilities  
 IP Vulnerabilities  
 ICMP Vulnerabilities  
 TCP Vulnerabilities  
 UDP Vulnerabilities  
 Attack Surface and Attack Vectors  
 Reconnaissance Attacks  
 Access Attacks  
 Man-In-The-Middle Attacks  
 Denial of Service and Distributed Denial of Service Attacks  
 Reflection and Amplification Attacks  
 Spoofing Attacks  
 DHCP Attacks

### **Describing Common Network Application Attacks\***

- Password Attacks
- DNS-Based Attacks
- DNS Tunneling
- Web-Based Attacks
- HTTP 302 Cushioning
- Command Injections
- SQL Injections
- Cross-Site Scripting and Request Forgery
- Email-Based Attacks

## **Describing Common Endpoint Attacks\***

- Buffer Overflow
- Malware
- Reconnaissance Attack
- Gaining Access and Control
- Gaining Access via Social Engineering
- Gaining Access via Web-Based Attacks
- Exploit Kits and Rootkits
- Privilege Escalation
- Post-Exploitation Phase
- Angler Exploit Kit

## **Describing Network Security Technologies**

- Defense-in-Depth Strategy
- Defending Across the Attack Continuum
- Network Segmentation and Virtualization Overview
- Stateful Firewall Overview
- Security Intelligence Overview
- Threat Information Standardization
- Network-Based Malware Protection Overview
- IPS Overview
- Next Generation Firewall Overview
- Email Content Security Overview
- Web Content Security Overview
- Threat Analytic Systems Overview
- DNS Security Overview
- Authentication, Authorization, and Accounting Overview
- Identity and Access Management Overview
- Virtual Private Network Technology Overview
- Network Security Device Form Factors Overview

## **Deploying Cisco ASA Firewall**

- Cisco ASA Deployment Types
- Cisco ASA Interface Security Levels
- Cisco ASA Objects and Object Groups
- Network Address Translation
- Cisco ASA Interface ACLs

- Cisco ASA Global ACLs
- Cisco ASA Advanced Access Policies
- Cisco ASA High Availability Overview

## **Deploying Cisco Firepower Next-Generation Firewall**

- Cisco Firepower NGFW Deployments
- Cisco Firepower NGFW Packet Processing and Policies
- Cisco Firepower NGFW Objects
- Cisco Firepower NGFW NAT
- Cisco Firepower NGFW Prefilter Policies
- Cisco Firepower NGFW Access Control Policies
- Cisco Firepower NGFW Security Intelligence
- Cisco Firepower NGFW Discovery Policies
- Cisco Firepower NGFW IPS Policies
- Cisco Firepower NGFW Malware and File Policies

## **Deploying Email Content Security**

- Cisco Email Content Security Overview
- SMTP Overview
- Email Pipeline Overview
- Public and Private Listeners
- Host Access Table Overview
- Recipient Access Table Overview
- Mail Policies Overview
- Protection Against Spam and Graymail
- Anti-virus and Anti-malware Protection
- Outbreak Filters
- Content Filters
- Data Loss Prevention
- Email Encryption

## **Deploying Web Content Security**

- Cisco WSA Overview
- Deployment Options
- Network Users Authentication
- HTTPS Traffic Decryption
- Access Policies and Identification Profiles
- Acceptable Use Controls Settings
- Anti-Malware Protection

## **Deploying Cisco Umbrella\***

- Cisco Umbrella Architecture
- Deploying Cisco Umbrella
- Cisco Umbrella Roaming Client
- Managing Cisco Umbrella
- Cisco Umbrella Investigate Overview

## **Explaining VPN Technologies and Cryptography**

- VPN Definition
- VPN Types
- Secure Communication and Cryptographic Services
- Keys in Cryptography
- Public Key Infrastructure

## **Introducing Cisco Secure Site-to-Site VPN Solutions**

- Site-to-Site VPN Topologies
- IPsec VPN Overview
- IPsec Static Crypto Maps
- IPsec Static Virtual Tunnel Interface
- Dynamic Multipoint VPN
- Cisco IOS FlexVPN

## **Deploying Cisco IOS VTI-Based Point-to-Point**

- Cisco IOS VTIs
- Static VTI Point-to-Point IPsec IKEv2 VPN Configuration

## **Deploying Point-to-Point IPsec VPNs on the Cisco ASA and Cisco Firepower NGFW**

- Point-to-Point VPNs on the Cisco ASA and Cisco Firepower NGFW
- Cisco ASA Point-to-Point VPN Configuration
- Cisco Firepower NGFW Point-to-Point VPN Configuration

## **Introducing Cisco Secure Remote Access VPN Solutions**

- Remote Access VPN Components
- Remote Access VPN Technologies
- SSL Overview

## **Deploying Remote Access SSL VPNs on the Cisco ASA and Cisco Firepower NGFW**

- Remote Access Configuration Concepts
- Connection Profiles
- Group Policies
- Cisco ASA Remote Access VPN Configuration
- Cisco Firepower NGFW Remote Access VPN Configuration

## **Explaining Cisco Secure Network Access Solutions**

- Cisco Secure Network Access
- Cisco Secure Network Access Components
- AAA Role in Cisco Secure Network Access Solution
- Cisco Identity Services Engine

## **Describing 802.1X Authentication**

- 802.1X and EAP
- EAP Methods
- Role of RADIUS in 802.1X Communications
- RADIUS Change of Authorization

## **Configuring 802.1X Authentication**

- Cisco Catalyst Switch 802.1X Configuration
- Cisco WLC 802.1X Configuration
- Cisco ISE 802.1X Configuration
- Supplicant 802.1x Configuration
- Cisco Central Web Authentication

## **Describing Endpoint Security Technologies\***

- Host-Based Personal Firewall
- Host-Based Anti-Virus
- Host-Based Intrusion Prevention System
- Application Whitelists and Blacklists
- Host-Based Malware Protection
- Sandboxing Overview
- File Integrity Checking

## **Deploying Cisco AMP for Endpoints\***

- Cisco AMP for Endpoints Architecture
- Cisco AMP for Endpoints Engines
- Retrospective Security with Cisco AMP
- Cisco AMP Device and File Trajectory
- Managing Cisco AMP for Endpoints

## **Introducing Network Infrastructure Protection\***

- Identifying Network Device Planes
- Control Plane Security Controls
- Management Plane Security Controls
- Network Telemetry
- Layer 2 Data Plane Security Controls
- Layer 3 Data Plane Security Controls

## **Deploying Control Plane Security Controls\***

- Infrastructure ACLs
- Control Plane Policing
- Control Plane Protection
- Routing Protocol Security

## Deploying Layer 2 Data Plane Security Controls\*

Overview of Layer 2 Data Plane Security Controls  
VLAN-Based Attacks Mitigation  
STP Attacks Mitigation  
Port Security  
Private VLANs  
DHCP Snooping  
ARP Inspection  
Storm Control  
MACsec Encryption

## Deploying Layer 3 Data Plane Security Controls\*

Infrastructure Antispoofing ACLs  
Unicast Reverse Path Forwarding  
IP Source Guard

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