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CCNP Security v6.1

END to END

TABLE OF CONTENT

MODULE 1 :- FIREWALL

Day 1 – 120 mins

- Introduction to the course
- Course Material
- Planning for CCIE
- Discuss the Table of Content

Day 2 – 120mins

Cisco ASA Overview

- Firewall Overview
- Firewall Techniques
    - Stateless Packet Filtering
    - Stateful Packet Filtering

Cisco ASA Product Family

- Introducing the Cisco ASA 5500-X Series NGFW
- Introducing the Cisco ASAv
- Difference between UTM and NGFW

Day 3 – 120mins

Cisco ASA Features

- Using the CLI
- Using the Cisco ASDM
- Understanding Factory default configuration
- Working on the configuration files

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Cisco ASA Firewall Interfaces

- Configuring Physical interfaces
- Configuring Vlan interfaces
- Redundant Interface
- Configuring Interface Security Parameters
    - Naming the interface
    - Security Level
    - Assigning the IP Address

Day 4 – 120mins

Cisco ASA IP Connectivity

- Configuring the Static Routing
- Routing with EIGRP
- Routing with OSPF
- Routing with BGP
- Verifying the routing Table
- Configuring the SSH and Telnet
- Configuring HTTP/S

Day 5/6 – 240 mins

Cisco ASA NAT (Address Translation)

- Understanding the NAT
- Methods of NAT
    - Inside NAT
    - Outside NAT
- Implementation of NAT
    - Auto NAT
    - Manual NAT
- Types of NAT
    - Static
        - NAT
        - PAT
    - Dynamic
        - NAT

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        - PAT
    - Twice NAT
    - Identity NAT

Cisco ASA ACL

- Inside/ Outside ACL.
- Object ACL.
- Life of a Packet on the Cisco

Day 7 – 120mins

Cisco ASA Modes

- Transparent Mode
- Routed Mode

Cisco ASA Context

- Admin Context
- System Context
- User Context
- Deployment Guide

Day 8/9/10 – 360 mins

Cisco High Availability

- ASA Failover
- Active/Standby
- Active/Active
- Verifying failover Operations
- Clustering ASA firewall
- Wireshark Capture

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MODULE 2 :- VPN

Day 11 – 120 mins

- Cryptography Overview
- Hash Algorithm
- Encryption Overview
- Cryptanalysis
- Symmetric Encryption Algorithm
- Asymmetric Encryption Algorithm
- Digital Signatures
- PKI Overview
- PKI Operations

Day 12 – 120 mins

Fundamentals of VPN Technologies and IPSec

- What is VPN
- Introduction of Ipsec Terminology
- VPN Types
- Ipsec Features
- Confidentiality, Integrity, Availability and Anti-Replay.
- IPSec Protocols: - IKE, ESP and AH
- IKE Modes
- IKE Phases
- NAT-T
- Security Associations and Components
- How to configure cisco IOS as CA

Day 13/14 – 240 mins

Site to Site VPN

- What is Site-to Site VPN
- Wireshark Capture
- GRE
- Gre over IPSec
- Site-to-Site VPN Labs

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Day 15/16 – 240 mins

Deploying DMVPN

- DMVPN Overview
- DMVPN Terminologies
- NHRP
- MGRE
- DMVPN Working
- DMVPN Advantages and Limitations
- DMVPN Phase 1, 2 and 3
- DMVPN Labs
- DMVPN Redundancy – Dual Hub DMVPN Deployment

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Day 17– 120 mins

Remote Access VPN

- Remote Access VPN Introduction
- Remote Access VPN modes
- Client Mode Software
- Client Mode Hardware
- Remote Access with DVTI
- Remote Access Working
- Remote Access Labs

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Day 18– 120 mins

Deploying Clientless SSL VPN

- SSL VPN Overview
- SSL Handshake
- SSL VPN Modes
- Clientless and Thick Client
- SSL VPN Working
- SSL VPN Labs

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Day 19 – 120 mins

Deploying Anyconnect VPN

- Anyconnect Overview
- Connection Policies
- Group Policies
- Split Tunnelling
- Client Profile
- Anyconnect Image Upload

Day 20 – 120 mins

GET VPN

- GET VPN
- GET VPN Terminologies
- GDOI
- Key Server (KS)
- KEK (Key Encryption Key)
- TEK (Traffic Encryption Key)
- Rekey Process (Unicast and Multicast)
- Group Member (GM)
- GET VPN Lab and Working

Day 21/22 – 240 mins

Flex VPN

- Introduction and Working IOS Flex VPN
- Flex VPN Labs

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Day 23 – 120 mins

Introducing Cisco ISE Architecture and Deployment

- Security challenges
- Cisco ISE solutions Use Cases
- Secure Access Control
- ISE function
- ISE deployment components
- Context visibility
- ISE Personas
- ISE Licensing
- Infrastructure Components
- Identity Source

Day 24 – 120 mins

Fundamentals of AAA

- AAA.
- Radius Overview
- Radius Messages
- AV Pair
- IEEE 802.1x Primer.
- EAP
    - Types of EAP
    - Tunnel EAP
        - EAP-FAST
        - PEAP
        - EAP-TLS
    - Non-Tunnel EAP
        - EAP-MD5
        - MSCHAP
        - EAP GTC
- Host Mode
- Deployment of 802.1x

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Day 25 – 120 mins

Bootstrap Network Access Devices

- Radius Commands
- AAA Commands

Day 26 – 120 mins

Introduction to ISE GUI

- AD overview and configuration
- Admin Access
- Administrative Work
- Certificate in ISE
- Personas
- Probes for ISE
- Backup/Restore
- Maintenance

Day 27/28/29 – 360 mins

Configuring Authentication and Authorization Policy

- Dot1x Authentication and Authorization
- MAB Authentication and Authorization
- AP Authentication and Authorization
- Device Administration

Configuring Posturing and Profiling

- Posturing
- Profiling of Devices

Cisco TrustSec and Its Component

- SGT/SGN Tagging
- Classification

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- Propagation
  - Inline
  - SXP
- Enforcement ACL

Day 30/31 – 240 mins

Miscellaneous Topics

- Configuring the Cisco WLC and AP via GUI and CLI

Cisco VPN Authentication

- Cisco Anyconnect VPN authentication from ISE

Troubleshooting ISE

- Radius Live Log
- Diagnostic Validator
- Logs Management
- Radius Messages with Attribute Type

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MODULE 4 :- NGFW

Day 32/33/34/35/36 – 480 mins

Cisco NGFW

- What is NGFW and UTM
- Components of NGFW
- Introduction of the SourceFire and Snort Rules
- Cisco Acquisitions
- FTD, NGIPS
- Off Box Management and On Box Management
- FMC and FDM GUI
- Licensing on the FMC
- Registration of FMC with FTD and NGIPS
- Configuration of the Sensor Interface
- Configuring NAT and Routing

- Configuring the Policies
  - Access Control Policy
  - SSL Policy
  - Pre-Filter Policy
  - Security Intelligence
  - DNS Policy
  - HTTP Response
  - Blocking Gambling and Social Networking Sites
  - Intrusion Policy
- Life of a Packet on the Cisco Next Generation Firewall

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MODULE 5 :- WSA

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Day 37/38/39 – 360mins

WSA/ESA

- Describe the Cisco WSA
- Install and verify the WSA
- Deploy proxy services for the WSA
- WCCP Services and Transparent Proxy
- Utilize authentication with the WSA
- Configure various policies for the WSA
- Enforce acceptable use using the WSA
- Defend against malware
- Configure data security
- Perform Administration and Troubleshooting of WSA's

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MODULE 6 :- Cisco Stealth Watch and Cisco Umbrella

Day 40/41/42/43 – 480 mins

StealthWatch

- Introduction to Netflow
- Why we need Cisco StealthWatch
- Components of StealthWatch
- Advance Features of StealthWatch
- Configuring the Stealthwatch Management Console
- Using the Appliance Setup Tool with the SMC
- Configuring the Stealthwatch Flow Collector
- Finalising the Flow Collector Configuration
- Adding a Flow Collector to the SMC
- Exploring Where to Enable NetFlow on a Network
- Configuring NetFlow on Cisco IOS Routers/ASA/Switches
- An Example of a NetFlow Config Generator Tool
- Introduction to the Stealthwatch GUIs
- Organizing Hosts with Host Groups
- Analyzing Flows
- Enabling Cognitive Analytics
- Configuring Encrypted Traffic Analytics
- Creating Custom Policies
- Acknowledging Alarms
- Installing Stealthwatch Apps
- Capturing Packets for Diagnostics
- Logs, Stats, and Diagnostic Packs

Day 44/45/46 – 360mins

Umbrella

- Cisco Umbrella – Security Solution
- Implementing Cisco Umbrella
- Roaming Client
- Umbrella Roaming Security
- Reporting
- Active Directory User Sync

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MODULE 7 :- CCIE LAB

CCIE LAB Preparation

1. 20 x 8 hr Session = 120 Hrs.
2. Multiple Mock Labs
3. 80 Hrs Technology Labs
4. Preparation for the Design/Tshoot/Configuration
5. Self-Analysis Sheet

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