NS3EDU.

Learn Today $ Earn Tomorrow

NETWORKING DIPLOMA

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NS3EDU: BRIDGE YOUR IT DREAMS TO REALITY

EMPOWERING CAREERS THROUGH KNOWLEDGE

Looking to make it big in the world of IT networking? Look no further than NS3Edu! We help beginners learn the ropes & experienced pros master new skills. Come join us and build your dream career!

CERTIFICATES

MISSION

The mission of NS3Edu is to empower our candidates with in-depth knowledge of IT fundamentals along with real-time industry experience and also take 100% responsibility for the placement by making them Industry fit.

VISION

In-depth knowledge + hands-on experience + analytical thinking = placement

ROADMAP OF JOB PLACEMENT

Confused in **Different** Career Options

Counselling & **Demo** sessions

Student Enrollment & Induction **session**

Course **Kick** off (Live Classes)

Access to Recorded Sessions, E book & Lab Manual

Qualifies- Job Placement

Opportunities for **Job** Placement

Screening by Corporate **HR** & **Tech** Team

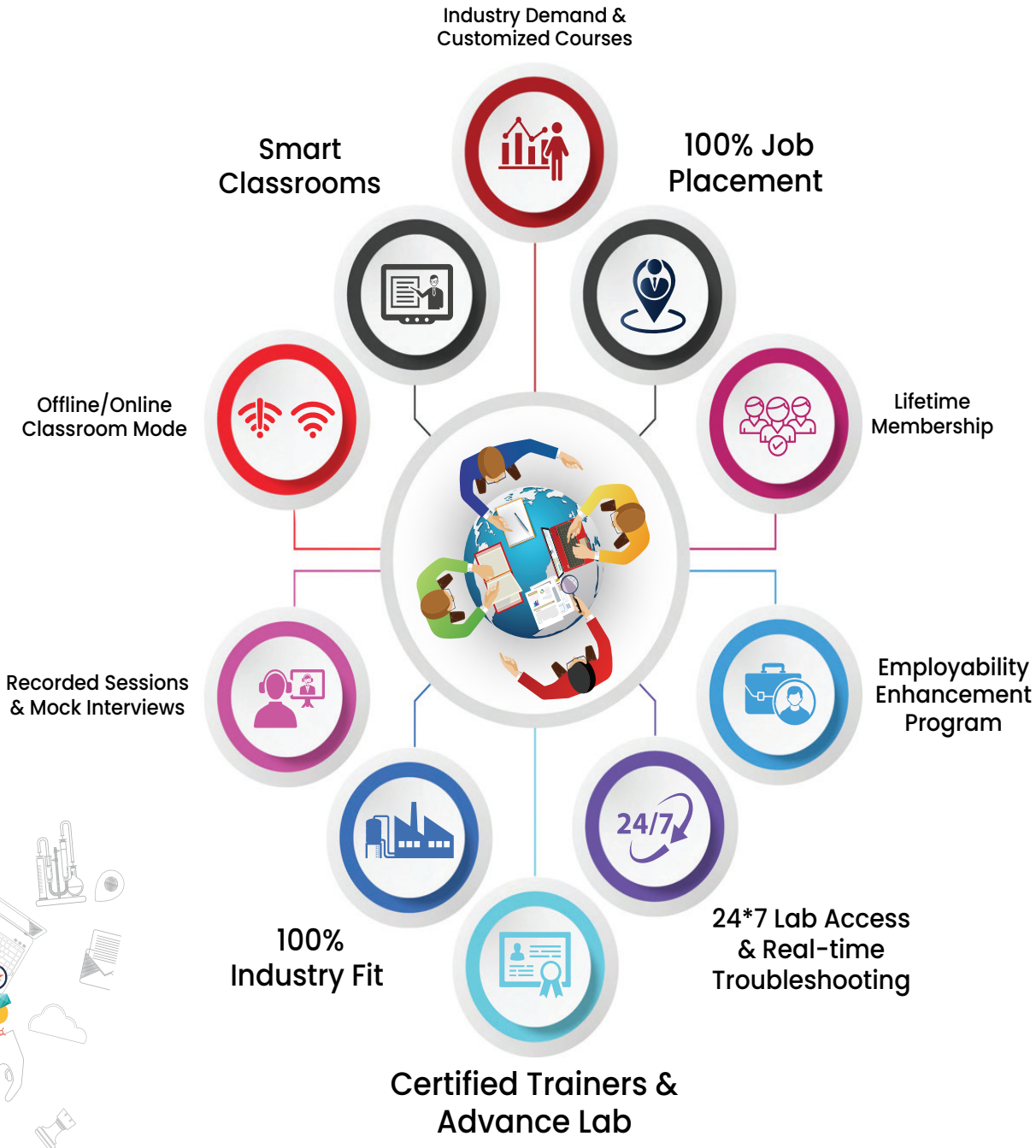
2 Week **Technical Task** Training

NS3 Tech **Industrial** Exposure

Course **Completion**

WHAT MAKES US UNIQUE?

USP's



NETWORKING ASSOCIATE
COURSE OUTLINE

Module-1

1. General Networking

- Introduction to Networks
- OSI Reference Model
- Ethernet Technologies
- Hubs vs Switches vs Routers
- IPv4 Addressing and Subnetting
- IPv6 Addressing
- TCP & UDP
- Introduction to 802.11 Wireless
- Cisco 802.11 Implementations

2. CCNA

Network Fundamentals

- Explain the role and function of network components
- Describe characteristics of network topology architectures
- Compare physical interface and cabling types
- Identify interface and cable issues (collisions, errors, mismatch duplex, and/or speed)
- Compare TCP to UDP
- Configure and verify IPv4 addressing and subnetting
- Describe the need for private IPv4 addressing
- Configure and verify IPv6 addressing and prefix
- Compare IPv6 address types
- Verify IP parameters for Client OS (Windows, Mac OS, Linux)
- Describe wireless principles
- Explain virtualization fundamentals (virtual machines)

Network Fundamentals

- Configure and verify VLANs (normal range) spanning multiple switches
- Configure and verify inter switch connectivity
- Password Recovery And Switch Reset (Layer2/Layer 3)
- Configure and verify Layer 2 discovery protocols (Cisco Discovery Protocol and LLDP)
- Configure and verify (Layer 2/Layer 3) EtherChannel (LACP)
- Describe the need for and basic operations of Rapid PVST+ Spanning Tree Protocol and identify basic operations
- Upgradation of the Firmware's for Layer 2 and Layer 3 Switches through TFTP and USB
- Compare Cisco Wireless Architectures and AP modes
- Factory Reset of Access Points and Basic Ap Configuration
- Describe physical infrastructure connections of WLAN components (AP,WLC, access/trunk ports and LAG)
- Describe AP and WLC management access connections (Telnet, SSH, HTTP,HTTPS, console, and TACACS+/RADIUS)
- Configure the components of a wireless LAN access for client connectivity using GUI only such as WLAN creation, security settings, QoS profiles, and advanced WLAN settings

IP Connectivity

- Interpret the components of routing table
- Determine how a router makes a forwarding decision by default
- Configure and verify IPv4 and IPv6 static routing
- Configure and verify single area OSPFv2
- Describe the purpose of first hop redundancy protocol

Security Fundamentals

- Define key security concepts (threats, vulnerabilities, exploits, and mitigation techniques)
- Describe security program elements (user awareness, training, and physical access control)
- Configure device access control using local passwords
- Describe security password policies elements, such as management, complexity, and password alternatives (multi factor authentication, certificates, and biometrics)
- Describe remote access and site-to-site VPNs
- Configure and verify access control lists
- Configure Layer 2 security features (DHCP snooping, dynamic ARP inspection, and port security)
- Differentiate authentication, authorization, and accounting concepts
- Describe wireless security protocols (WPA, WPA2, and WPA3)
- Configure WLAN using WPA2 PSK using the GUI
- Converting an AP from Mobility Express to CAPWAP Type and Vice Versa
- Configuration of AP as a Controller
- WLAN Configuration Cisco Mobility Express Controller with (WPA,WPA2,WPA3, Guest WLAN)

Automation & Programmability

- Explain how automation impacts network management
- Compare traditional networks with controller-based networking
- Describe controller-based and software defined architectures (overlay, underlay, and fabric)
- Compare traditional campus device management with Cisco DNA Center enabled device management
- Describe characteristics of REST-based APIs (CRUD, HTTP verbs, and data encoding)
- Recognize the capabilities of configuration management mechanisms Puppet Chef & Ansible
- Interpret JSON encoded data
- License Installation Process For Cisco L2/L3 Devices

Job Assistance

- Cisco Certified Trainer
- Bilingual Lectures
- Hands on Lab
- Q&A Preparation and Assessment Module
- Recorded Sessions

Module-1 Exam

NETWORKING
Professional in Encor-Enarsi
Course Outline

Module-2

Week(1)

- CCNA and Over View Of CCNP Enterprise
- Introduction Of TCP/IP Model, L2 Forwarding, Mac Address Table Concept
- Vlan Introduction and configuration, Types of Vlan, DTP and Native Vlan
- Trunk and Access port, Dynamic Auto and Dynamic Desirable practical, Concept of Sub Interfaces (Show Interval routing using routers).
- Practical Day For All the topics we have covered.

Week(2)

- Forwarding Architecture: - Process Switching, Cisco Express Forwarding (CEF) || Revision Day
- Introduction To Spanning Tree Protocol (STP), Root Bridge Elec on, how to calculate Loop Free Topology
- Basic practical of spanning tree on Rack, Root Bridge Manipulation method,
- Cost manipulation, explain STP Port states
- PVST + and CST Difference, Show practical of load balancing
- Introduction to RSTP, RSTP Port States, RSTP synchronization + Practical

Week(3)

- Topology change in PVST + and RSTP (compare and show which is better)
- STP Mechanism --STP Protection with practical (Root Guard, Loop Guard)
- STP Protection: - BPDU Guard, BPDU Filter, UDLD [Practical on All the Protection Concepts]
- Introduc on To MST (Multiple Spanning Tree), Intra Region MST and Inter Region MST.
- Introduction to VTP version1 & VTP Version2

Week(4)

- VTP version 3 with Practical.
- Introduction to ether channels, Requirement, Static, Dynamic (PAGP and LACP)
- Practical of EtherChannel, Layer3 EtherChannel
- Introduction to routing, static routing with packet flow on same and different Network.
- Introduction to EIGRP, Messages in EIGRP, Neighborship Process

Week(5)

- EIGRP metric calculation process, DUAL
- Equal and Unequal Cost Load Balancing with practical with offset list
- Route Summarization on EIGRP, what is summarization (basic), EIGRP authentication
- Route Filtering EIGRP (Distribution List: - Standard Acl, Extended Acl, Prefix-List & Route Map)
- Introduction to OSPF, OSPF Neighborship and Adjacency process

Week(6)

- Explanation to LSA (type 1 and type 2)
- Inter area OSPF operations, type 3 LSA with practical
- Type 4 and type 5 LSA in OSPF, OSPF Authentication
- OSPF Area types with practical
- OSPF Path Selection (Intra Area Routes, Interarea Routes and Equal Cost Multipathing).

Week(7)

- Summarization Of Routes and Route Filtering.
- Redistribution (Basic and Advance)
- OSPF Revision and One More Practical Day for the OSPF.
- DHCP and DNS Packet Flow On the basis of Interview Purpose.
- Introduction to BGP, why we use BGP, Single home, multi home, what is public and private AS

Week(8)

- BGP Session Types, BGP Messages and BGP Neighbor States.
- BGP neighborship process with practical (EBGP and IBGP)
- Introduction to route advertisement in BGP with Practical
- BGP Path manipulation atiributes
- Introduction to multicast, Multicast address range, multicast in LAN (introduction)

Week(9)

- IGMP Version 2&3 and IGMP snooping.
- Introduction to QOS, Classification, marking.
- Introduction to FHRP, HSRP
- HSRP practical, HSRP preempt feature
- Load Balancing in HSRP, Introduction to GLBP

Week(10)

- Complete GLBP with practical. Introduction to VRRP with practical.
- NAT on IOS, static, dynamic and PAT with practical, NTP
- PBR with practical
- SNMP and Syslog
- DMVPN Phase1 with IPsec configuration

Week(11)

- Introduction to IPV6, Address types, you can add it in future
- stateless autoconfig feature in IPv6, Static Routing with IPV6
- Overlay networks, GRE tunnel with practical
- IPSEC basic, ISAKMP, IKEv1, Explain negotiation process and phases (just an overview for the same)
- Wireless (Describe Layer 1 concepts, such as RF power, RSSI, SNR, interference noise, band & channels, & wireless client devices capabilities)

Week(12)

- Wireless (Describe AP modes and antenna types)
- Describe the components of network security design (Threat Defense, Endpoint Security, NGFW, Network access control with 802.1x, MAB, and Web AUTH)
- AAA
- AAA
- ASA

Week(13)

- Data plane and management Security
- uRPF
- MPP Copp
- NAT PAT
- SPAN RSPAN

Week(14)

- IP SLA and Net flow
- MPLS
- QOS
- SD WAN
- PREPARATION FOR INTERVIEW

Week(15)

- PREPARATION FOR INTERVIEW

Module-2 Exam

NETWORKING PROFESSIONAL IN SECURITY COURSE OUTLINE

Module-3

1. Implementing and Operating Cisco Security Core Technologies

1. Security Concepts

- Explain common threats against on-premises and cloud environments
- On-premises: viruses, trojans, DoS/DDoS attacks, phishing, rootkits, man-in-the-middle attacks, SQL injection, cross-site scripting, malware
- Cloud: data breaches, insecure APIs, DoS/DDoS, compromised credentials
- Compare common security vulnerabilities such as software bugs, weak and or hardcoded passwords, SQL injection, missing encryption, buffer overflow, path traversal, cross-site scripting/forgery
- Describe functions of the cryptography components such as hashing, encryption, PKI, SSL, IPsec, NAT-T IPv4 for IPsec, pre-shared key and certificate based authorization
- Compare site-to-site VPN and remote access VPN deployment types such as sVTI, IPsec, Cryptomap, DMVPN, FLEXVPN including high availability considerations, and AnyConnect
- Describe security intelligence authoring, sharing, and consumption
- Explain the role of the endpoint in protecting humans from phishing & social engineering attacks
- Explain North Bound and South Bound APIs in the SDN architecture
- Explain DNAC APIs for network provisioning, optimization, monitoring, and troubleshooting
- Interpret basic Python scripts used to call Cisco Security appliances APIs

2. Network Security

- Compare network security solutions that provide intrusion prevention and firewall capabilities
- Describe deployment models of network security solutions and architectures that provide intrusion prevention and firewall capabilities
- Describe the components, capabilities, and benefits of NetFlow and Flexible NetFlow records
- Configure and verify network infrastructure security methods (router, switch, wireless)
- Layer 2 methods (Network segmentation using VLANs and VRF-lite; Layer 2 and port security; DHCP snooping; Dynamic ARP inspection; storm control; PVLANs to segregate network traffic; and defenses against MAC, ARP, VLAN hopping, STP, and DHCP rogue attacks
- Device hardening of network infrastructure security devices (control plane, data plane, management
- plane, and routing protocol security)
- Implement segmentation, access control policies, AVC, URL filtering, and malware protection
- Implement management options for network security solutions such as intrusion prevention and perimeter security (Single vs. multidevice manager, in-band vs. out-of-band, CDP, DNS, SCP, SFTP, and DHCP security and risks)
- Configure AAA for device and network access (authentication and authorization, TACACS+, RADIUS and RADIUS flows, accounting, and dACL)
- Configure secure network management of perimeter security and infrastructure devices (secure device management, SNMPv3, views, groups, users, authentication, and encryption, secure logging, and NTP with authentication)
- Configure and verify site-to-site VPN and remote access VPN
- Site-to-site VPN utilizing Cisco routers and IOS

3. Securing the Cloud

- Identify security solutions for cloud environments
- Public, private, hybrid, and community clouds
- Cloud service models: SaaS, PaaS, IaaS (NIST 800-145)
- Compare the customer vs. provider security responsibility for the different cloud service models
- Patch management in the cloud
- Security assessment in the cloud
- Cloud-delivered security solutions such as firewall, management, proxy, security intelligence, and CASB
- Describe the concept of DevSecOps (CI/CD pipeline, container orchestration, and security
- Implement application and data security in cloud environments
- Identify security capabilities, deployment models, and policy management to secure the cloud
- Configure cloud logging and monitoring methodologies
- Describe application and workload security concepts

4. Content Security

- Implement traffic redirection and capture methods
- Describe web proxy identity and authentication including transparent user identification
- Compare the components, capabilities, and benefits of local and cloud-based email and web solutions (ESA, CES, WSA)
- Configure and verify web and email security deployment methods to protect on-premises and remote users (inbound and outbound controls and policy management)
- Configure and verify email security features such as SPAM filtering, antimalware filtering, DLP, blacklisting, and email encryption
- Configure and verify secure internet gateway and web security features such as blacklisting, URL filtering, malware scanning, URL categorization, web application filtering, and TLS decryption
- Describe the components, capabilities, and benefits of Cisco Umbrella
- Configure and verify web security

5. Endpoint Protection and Detection

- Compare Endpoint Protection Platforms (EPP) and Endpoint Detection & Response (EDR) solutions
- Explain antimalware, retrospective security, Indication of Compromise (IOC), antivirus, dynamic file analysis, and endpoint-sourced telemetry
- Configure and verify outbreak control and quarantines to limit infection
- Describe justifications for endpoint-based security
- Describe the value of endpoint device management and asset inventory such as MDM
- Describe the uses and importance of a multifactor authentication (MFA) strategy
- Describe endpoint posture assessment solutions to ensure

6. Secure Network Access, Visibility & Enforcement

- Describe identity management and secure network access concepts such as guest services, profiling,
- posture assessment and BYOD
- Configure and verify network access device functionality such as 802.1X, MAB, WebAuth
  Describe network access with CoA
- Describe the benefits of device compliance and application control
- Explain exfiltration techniques (DNS tunneling, HTTPS, email, FTP/SSH/SCP/SFTP, ICMP, Messenger, IRC, NTP)
- Describe the benefits of network telemetry
- Describe the components, capabilities, and benefits of these security products and solutions
- Cisco Stealthwatch
- Cisco Stealthwatch Cloud
- Cisco pxGrid
- Cisco Umbrella Investigate
- Cisco Cognitive Threat Analytics
- Cisco Encrypted Traffic Analytics
- Cisco AnyConnect Network Visibility Module (NVM)

2) Securing Networks with Cisco Firepower

1. Deployment

- Implement NGFW modes- Routed mode and Transparent mode
- Implement NGIPS modes- Passive and Inline
- Implement high availability options- Link redundancy, Active/standby failover and Multi-instance
- Describe IRB configurations

2. Configuration

- Configure system settings in Cisco Firepower Management Center
- Configure these policies in Cisco Firepower Management Center- Access control, Intrusion, Malware and file, DNS, Identity, SSL and Prefilter
- Configure these features using Cisco Firepower Management Center- Network discovery, Application detectors (Open AppID), Correlation and Actions
- Configure objects using Firepower Management Center- Object Management, Intrusion Rules
- Configure devices using Firepower Management Center- Device Management, NAT, VPN, QoS, Platform Settings and Certificates

3. Management and Troubleshooting

- Troubleshoot with FMC CLI and GUI
- Configure dashboards and reporting in FMC
- Troubleshoot using packet capture procedures
- Analyze risk and standard reports

4. Integration

- Configure Cisco AMP for Networks in Firepower Management Center
- Configure Cisco AMP for Endpoints in Firepower Management Center
- Implement Threat Intelligence Director for third-party security intelligence feeds
- Describe using Cisco Threat Response for security investigations
- Describe Cisco FMC PxGrid Integration with Cisco Identify Services Engine (ISE)
- Describe Rapid Threat Containment (RTC) functionality within Firepower Management Center

3. Implementing & Configuring Cisco Identity Services Engine

1. Architecture and Deployment

- Configure personas
- Describe deployment options

2. Policy Enforcement

- Configure native AD and LDAP
- Describe identity store options- LDAP, AD, PKI, OTP, Smart Card and Local
- Configure wired/wireless 802.1X network access
- Configure 802.1X phasing deployment- Monitor mode, Low impact and Closed mode
- Configure network access devices
- Implement MAB
- Configure Cisco TrustSec
- Configure policies including authentication and authorization profiles

3. Web Auth and Guest Services

- Configure web authentication
- Configure guest access services
- Configure sponsor and guest portals

4. Profiler

- Implement profiler services
- Implement probes
- Implement CoA
- Configure endpoint identity management

5. BYOD

- Describe Cisco BYOD functionality
- Use cases and requirements
- Solution components
- BYOD flow
- Configure BYOD device on-boarding using internal CA with Cisco switches and Cisco wireless LAN controllers
- Configure certificates for BYOD
- Configure block list/allow list

6. Endpoint Compliance

- Describe endpoint compliance, posture services, and client provisioning
- Configure posture conditions and policy, and client provisioning
- Configure the compliance module
- Configure Cisco ISE posture agents and operational modes
- Describe supplicant, supplicant options, authenticator, and server

7. Network Access Device Administration

- Compare AAA protocols
- Configure TACACS+ device administration and command authorization

4. Securing Email with Cisco Email Security Appliance

1. Cisco Email Security Appliance Administration

- Configure Cisco Email Security Appliance features
- Hardware performance specifications
- Initial configuration process
- Routing and delivery features
- GUI
- Describe centralized services on a Cisco Content SMA
- Configure mail policies
- Incoming and outgoing messages
- User matching
- Message splintering

2. Spam Control with Talos SenderBase and Antispam

- Control spam with Talos SenderBase and Antispam
- Describe graymail management solution
- Configure file reputation filtering and file analysis features
- Implement malicious or undesirable URLs protection
- Describe the bounce verification feature

3. Content and Message Filters

- Describe the functions and capabilities of content filters
- Create text resources such as content dictionaries, disclaimers, and templates
  1) Dictionaries filter rules
  2) Text resources management
- Configure message filters components, rules, processing order and attachment scanning
- Configure scan behavior
- Configure the Cisco ESA to scan for viruses using Sophos and McAfee scanning engines
- Configure outbreak filters
- Configure Data Loss Prevention (DLP)

4. LDAP and SMTP Sessions

- Configure and verify LDAP servers and queries (Queries and Directory Harvest Attack)
- Understand spam quarantine functions
- Authentication for end-users of spam quarantine
- Utilize spam quarantine alias to consolidate queries
- Understand SMTP functionality
  1) Email pipeline
  2) Sender and recipient domains
  3) SMTP session authentication using client certificates
  4) SMTP TLS authentication
  5) TLS email encryption

5. Email Authentication and Encryption

- Configure Domainkeys and DKIM signing
- Configure SPF and SIDF
- Configure DMARC verification
- Configure forged email detection
- Configure email encryption
- Describe S/MIME security services and communication encryption with other MTAs
- Manage certificate authorities

6. System Quarantines and Delivery Methods

- Configure quarantine (spam, policy, virus, and outbreak)
- Utilize safelists and blocklists to control email delivery
- Manage messages in local or external spam quarantines
- Configure virtual gateways

5. Securing the Web with Cisco Web Security Appliance

1. Cisco WSA Features

- Describe Cisco WSA features and functionality
  1) Proxy service
  2) Cognitive Threat Analytics
  3) Data loss prevention service
  4) Integrated L4TM service
  5) Management tools
- Describe WSA solutions
  1) Cisco Advanced Web Security Reporting
  2) Cisco Content Security Management Appliance
- Integrate Cisco WSA with Splunk
- Integrate Cisco WSA with Cisco ISE
- Troubleshoot data security and external data loss using log files

2. Configuration

- Perform initial configuration tasks on Cisco WSA
- Configure an Acceptable Use Policy
- Configure and verify web proxy features
  1) Explicit proxy functionality
  2) Proxy access logs using CLI
  3) Active directory proxy authentication
- Configure a referrer header to filter web categories

3. Proxy Services

- Compare proxy terms
  1) Explicit proxy vs. transparent proxy
  2) Upstream proxy vs. downstream proxy
- Describe tune caching behavior for safety or performance
- Describe the functions of a Proxy Auto-Configuration (PAC) file
- Describe the SOCKS protocol and the SOCKS proxy services

4. Authentication

- Describe authentication features
  1) Supported authentication protocols
  2) Authentication realms
  3) Supported authentication surrogates supported
  4) Bypassing authentication of problematic agents
  5) Authentication logs for accounting records
  6) Re-authentication
- Configure traffic redirection to Cisco WSA using explicit forward proxy mode
- Describe the FTP proxy authentication
- Troubleshoot authentication issues

5. Decryption Policies to control HTTPs Traffic

- Describe SSL and TLS inspection
- Configure HTTPS capabilities
  1) HTTPS decryption policies
  2) HTTPS proxy function
  3) ACL tags for HTTPS inspection
  4) HTTPS proxy and verify TLS/SSL decryption
  5) Certificate types used for HTTPS decryption
- Configure self-signed and intermediate certificates within SSL/TLS transactions

6. Differentiated Traffic Access Policies and Identification Profiles

- Describe access policies
- Describe identification profiles and authentication
- Troubleshoot using access logs

7. Acceptable Use Control

- Configure URL filtering
- Configure the dynamic content analysis engine
- Configure time-based & traffic volume acceptable use policies and end user notifications
- Configure web application visibility and control (Office 365, third-party feeds)
- Create a corporate global acceptable use policy
- Implement policy trace tool to verify corporate global acceptable use policy
- Configure WSA to inspect archive file types

8. Malware Defense

- Describe anti-malware scanning
- Configure file reputation filtering and file analysis
- Describe Advanced Malware Protection (AMP)
- Describe integration with Cognitive Threat Analytics

9. Reporting and Tracking Web Transactions

- Configure and analyze web tracking reports
- Configure Cisco Advanced Web Security Reporting (AWSR)
  1) Basic web usage
  2) Custom filters
- Troubleshoot connectivity issues

6. Implementing Secure Solutions with Virtual Private Networks

1. Site-to-site Virtual Private Networks on Routers and Firewalls

- Describe GETVPN
- Describe uses of DMVPN
- Describe uses of FlexVPN

2. Remote Access VPNs

- Implement AnyConnect IKEv2 VPNs on ASA and routers
- Implement AnyConnect SSLVPN on ASA
- Implement Clientless SSLVPN on ASA
- Implement Flex VPN on routers

3. Troubleshooting using ASDM and CLI

- Troubleshoot IPsec
- Troubleshoot DMVPN
- Troubleshoot FlexVPN
- Troubleshoot AnyConnect IKEv2 on ASA and routers
- Troubleshoot SSL VPN and Clientless SSLVPN on ASA

4. Secure Communications Architectures

- Describe functional components of GETVPN, FlexVPN, DMVPN, and IPsec for site-to-site VPN solutions
- Describe functional components of FlexVPN, IPsec, and Clientless SSL for remote access VPN solutions
- Recognize VPN technology based on configuration output for site-to-site VPN solutions
- Recognize VPN technology based on configuration output for remote access VPN solutions
- Describe split tunneling requirements for remote access VPN solutions
- Design site-to-site VPN solutions
  1) VPN technology considerations based on functional requirements
  2) High availability considerations
- Design remote access VPN solutions
  1) VPN technology considerations based on functional requirements
  2) High availability considerations
  3) Clientless SSL browser and client considerations and requirements
- Describe Elliptic Curve Cryptography (ECC) algorithms

7. Automating & Programming Cisco Security Solutions

1. Network Programmability Foundation

- Utilize common version control operations with git (add, clone, push, commit, diff, branching, and merging conflict)
- Describe characteristics of API styles (REST and RPC)
- Describe the challenges encountered and patterns used when consuming APIs synchronously and asynchronously
- Interpret Python scripts containing data types, functions, classes, conditions, and looping
- Describe the benefits of Python virtual environments
- Explain the benefits of using network configuration tools such as Ansible and Puppet for automating security platforms

2. Network Security

- Describe the event streaming capabilities of Firepower Management Center eStreamer API
- Describe the capabilities and components of these APIs
- Firepower (Firepower Management Center and Firepower Device Management)
- ISE
- pxGRID
- Stealthwatch Enterprise
- Implement firewall objects, rules, intrusion policies, and access policies using Firepower Management Center API
- Implement firewall objects, rules, intrusion policies, and access policies using Firepower Threat Defense API (also known as Firepower Device Manager API)
- Construct a Python script for pxGrid to retrieve information such as endpoint device type, network policy and security telemetry
- Construct API requests using Stealthwatch API
- perform configuration modifications
- generate rich reports

3. Advanced Threat & Endpoint Security

- Describe the capabilities and components of these APIs
  1) Umbrella Investigate APIs
  2) AMP for endpoints APIs
  3) ThreatGRID API
- Construct an Umbrella Investigate API request
- Construct AMP for endpoints API requests for event, computer, and policies
- Construct ThreatGRID APIs request for search, sample feeds, IoC feeds, and threat disposition

4. Cloud, Web and Email Security

- Describe the capabilities and components of these APIs
  a) Umbrella reporting and enforcement APIs
  b) Stealthwatch cloud APIs
  c) Cisco Security Management Appliance APIs
- Construct Stealthwatch cloud API request for reporting
- Construct an Umbrella Reporting and Enforcement API request
- Construct a report using Cisco Security Management Appliance API request (email and web)

Module-3 Exam

NETWORKING EXPERT IN SECURITY COURSE OUTLINE

Module-4

Week 1

- Deployment modes on Cisco ASA and Cisco FTD
- Firewall features on Cisco ASA and Cisco FTD
- Security features on Cisco IOS/IOS-X
- Cisco Firepower Management Center (FMC) features
- NGIPS deployment modes

Week 2

- Next Generation Firewall (NGFW) features
- Detect, and mitigate common types of attacks
- Clustering/HA features on Cisco ASA and Cisco FTD
- Policies and rules for traffic control on Cisco ASA & Cisco FTD
- Routing protocols security on Cisco IOS, Cisco ASA & Cisco FTD

Week 3

- Network connectivity through Cisco ASA and Cisco FTD
- Correlation and remediation rules on Cisco FMC
- AnyConnect client-based remote access VPN technologies on Cisco ASA, Cisco FTD, and Cisco Routers.
- Cisco IOS CA for VPN authentication
- FlexVPN, DMVPN, and IPsec L2L Tunnels

Week 4

- Uplink and downlink MACsec (802.1AE)
- VPN high availability using
- Infrastructure segmentation methods
- Micro-segmentation with Cisco TrustSec using SGT and SXP
- Device hardening techniques & control plane protection methods

Week 5

- Management plane protection techniques
- Data plane protection techniques
- Layer 2 security techniques
- Wireless security technologies
- Monitoring protocols

Week 6

- Security features to comply with organizational security policies, procedures, and standards BCP 38
- Cisco SAFE model to validate network security design and to identify threats to different Places in the Network (PINs)
- Interaction with network devices through APIs using basic Python scripts
- Cisco DNAC Northbound APIs use cases
- ISE scalability using multiple nodes and personas

Week 7

- Cisco switches and Cisco Wireless LAN Controllers for network access AAA with ISE.
- Cisco devices for administrative access with ISE
- AAA for network access with 802.1X and MAB using ISE.
- Guest lifecycle management using ISE and Cisco Wireless LAN controllers
- BYOD on-boarding and network access flows

Week 8

- ISE integration with external identity sources
- Provisioning of AnyConnect with ISE and ASA
- Posture assessment with ISE
- Endpoint profiling using ISE and Cisco network infrastructure including device sensor
- Integration of MDM with ISE

Week 9

- Certificate-based authentication using ISE
- Authentication methods
- Identity mapping on ASA, ISE, WSA, and FTD
- pxGrid integration between security devices WSA, ISE, & Cisco FMC
- Integration of ISE with multi-factor authentication

Week 10

- Access control & single sign-on using Cisco DUO security technology
- AMP for networks, AMP for endpoints, and AMP for content security (ESA and WSA)
- Detect, analyze, and mitigate malware incidents
- Perform packet capture and analysis using Wireshark, tcpdump, SPAN, ERSPAN and RSPAN
- DNS layer security, intelligent proxy & user identification using Cisco Umbrella

Week 11

- Web filtering, user identification, and Application Visibility and Control (AVC) on Cisco FTD and WSA.
- WCCP redirection on Cisco devices
- Email security features
- HTTPS decryption and inspection on Cisco FTD, WSA and Umbrella
- SMA for centralized content security management
- Cisco advanced threat solutions and their integration: Stealthwatch, FMC, AMP, Cognitive Threat Analytics (CTA), Threat Grid, Encrypted Traffic Analytics (ETA), WSA, SMA, CTR, and Umbrellas

Module-4 Exam

EMPLOYABILITY SKILLS

PD Classes

Resume Building

Technical Workshops

Linkedin Classes

Q/A Prepration

Hands on Practice with Advance Devices

Mock Interview rounds with HR & Tech Team

Internship Opportunities

OUR PLACEMENT PARTNERS

ACHIEVEMENTS

1500+ Training Hours

500+ Placements

50+ Corporate Training

200+ International /Domestic Batches

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