Secure Design and Architecture Fundamentals for Enterprise Environments

This Secure Systems Design and Architecture training explains the security tools, technologies, and concepts that a network engineer must be familiar with before setting out to design an enterprise network's architecture. From physical to digital, cloud to on-prem, learn the fundamentals of keeping an enterprise secure with this training.

CBT Nuggets course material →

STUDY PLAN

WEEK 1

Security Concepts for the Enterprise — 164 min.

Introduction to Security Concepts for the Enterprise	1
Configuration management	5
Data protection	5
Hashing	10
Deception and Disruption	6
SSL/TLS Inspection	4
Site Resiliency	3
API Considerations	4
Quiz and Review	5

Cloud Computing and Virtualization

Overview	1
Introduction to Cloud Computing and Virtualization	1
Virtualization Overview	7
Cloud Models	4
MSPs and MSSPs	5
Desktop Virtualization	5
Deploy a VM	7
Modifying a VM	8
Containers and Microservices	3
Infrastructure as Code and SDN	4
Quiz and Review	5

Summarize App Development, Deployment, and Automation

Overview	1
Intro to App Development, Deployment, and Automation	1

Authentication and Authorization Design Concepts

WEEK 2

163 min.

Cybersecurity Resilience

Security for Embedded and Specialized Systems

Physical Security Controls

WEEK 3

164 min.

Quiz / Review	5

Cryptography Fundamentals

Overview	1
Intro to Cryptography Fundamentals	1
Cryptography Overview	8
Symmetric Encryption	5
Asymmetric Encryption	7
Hashing	4
Key Exchange	6
Digital Signatures	5
Hiding Data with Steganography	4
Crypto Considerations	3
Quiz & Review	7

Secure Network Architecture Services

Overview	1
DoS Protection, Load Balancers and Proxies	17
Intrusion Prevention/Detection Systems	13
Application Security	5
NACs and VPNs	7
Securing DNS and Email	10
Routers and NAT Gateways	8
Firewalls, UTMs and NGFWs	12

Secure Network Architecture Practices

Overview	1
Traffic Monitoring	8
Security Sensors	15

WEEK 4

154 min.

Network Segmentation	15
Deperimeterization / Zero Trust	3
Merging Networks	7
Defense In Depth	4

Security Infrastructure Design

Overview	1
Software Defined Networking (SDN)	9
Scalability and Automation	10
Resiliency In Infrastructure Design	15
Virtuailzation and Containerization	17
CDNs and Caching	7

Secure Software Integration

Overview	1
Baselines and Templates	8
APIs and Middleware	13
Software Assurance	11
Integrating Enterprise Applications	6
Application Development Security	10
Web Application Security	7

Data Security Techniques

Overview	1
Data Loss Prevention and Detection	6

WEEK 5

155 min.