



Security Architecture



Course Overview:

Security Architecture Course

Step into the world of Security Architecture and build a strong foundation in designing, implementing, and managing secure IT systems. This course is ideal for beginners, IT graduates, and tech enthusiasts who want to start a career in cybersecurity and system security design.

You will learn:

- Security Architecture Principles & Best Practices
- Network Security Architecture
- Identity & Access Management (IAM)
- Data Security & Cryptography
- Cloud Security Architecture
- Application Security & Secure System Design
- Risk Assessment & Security Controls

Through practical examples and hands-on labs, you will gain the skills to identify vulnerabilities, implement secure system designs, and create resilient IT architectures.

By the end of the course, you will have job-ready, practical skills required to work in Security Architecture roles and contribute to building secure IT environments.

1. Introduction to Security Architecture :

- What is Security Architecture?
- Importance of Security Architecture in Organizations
- Security Architecture vs Security Engineering
- Security Architecture Principles
- CIA Triad (Confidentiality, Integrity, Availability)

2. Network Security Architecture :

- Network Design Basics
- Firewalls (Stateful, NGFW)
- IDS / IPS
- Network Segmentation & Zero Trust
- VPNs and Secure Remote Access
- DDoS Prevention Techniques

3. System & Infrastructure Security :

- Secure System Build
- OS Hardening (Windows/Linux)
- Baseline Configuration
- Patch Management
- Endpoint Security & Hygiene
- Secure Boot Process

4. Identity & Access Management (IAM) :

- Authentication vs Authorization
- Access Control Models (RBAC, ABAC, MAC, DAC)
- Identity Management
- Privileged Access Management (PAM)
- MFA (Multi-Factor Authentication)
- SSO (Single Sign-On)
- Federated Identity (SAML, OAuth, OpenID Connect)

5. Data Security & Cryptography :

- Data Classification
- Data Protection Techniques
- Encryption Standards (AES, RSA, SHA)
- Key & Secret Management
- Certificate Management
- Cryptography Basics
- Data Leakage Prevention (DLP)

6. Cloud Security Architecture :

- Cloud Service Models (IaaS, PaaS, SaaS)
- Shared Responsibility Model
- Cloud Identity & Access
- Cloud Network Security
- Secure Cloud Storage
- Cloud Encryption & Key Management
- Container & Kubernetes Security Basics

7. Application Security Architecture :

- Secure SDLC (S-SDLC)
- Shift-Left Security
- Threat Modeling
- OWASP Top 10 (Web & API)
- Secure API Architecture
- CI/CD Security Integration
- SAST, DAST, SCA Basics

8. Security Operations Architecture :

- SOC Architecture
- SIEM & SOAR Overview
- Vulnerability Management
- Incident Response Lifecycle
- Malware Analysis Basics
- Threat Detection & Response

9. Risk Management & Security Controls :

- Risk Identification & Analysis
- Risk Treatment Options
- Security Controls (Preventive, Detective, Corrective)
- 3 Lines of Defense Model
- Security Metrics & KPIs

10. Compliance, Governance & Frameworks :

- Security Governance Model
- Policies, Standards & Procedures
- ISO 27001 / 27002 / 27017 / 27018
- NIST Cybersecurity Framework
- CIS Top 20 Controls
- Regulatory Overview (GDPR, HIPAA, PCI DSS)

11. Emerging & Advanced Topics :

- Zero Trust Architecture
- Secure DevOps (DevSecOps)
- API & Microservices Security
- Secrets Vaulting & HSM
- Security Architecture for IoT
- AI & ML Security Overview

12.Hands-On & Case Studies:

- IAM Implementation Use Cases
- Designing Secure Network Architecture
- Cloud Security Architecture Design
- Incident Case Studies
- Real-World Breach Analysis
- Architecture Review & Assessment

13. Career & Certification Guidance :

- Skills Required for Security Architect
- Certifications:
- CISSP
- CISM
- CCSP
- AWS/Azure Security
- Resume & Interview Preparation



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