CELEBRATING
14 YEARS

QualityThought ®
Transforming Dreams! Redefining Future!

SECURITY TESTING

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Introduction to Security Testing

Understanding Security Testing

⇨ Importance of security testing
⇨ Common vulnerabilities and threats
⇨ Differences between functional testing and security testing

Types of Security Testing

⇨ Vulnerability scanning
⇨ Penetration testing
⇨ Security code review
⇨ Security auditing
⇨ Risk assessment

Security Fundamentals

Basic Security Concepts

⇨ CIA Triad (Confidentiality, Integrity, Availability)
⇨ Authentication, Authorization and Accounting (AAA)
⇨ Cryptography basics
⇨ Common attack vectors (e.g., phishing, social engineering)

Security Standards and Compliance

⇨ OWASP Top 10
⇨ NIST (National Institute of Standards and Technology)
⇨ ISO/IEC 27001
⇨ PCI-DSS (Payment Card Industry Data Security Standard)
⇨ GDPR (General Data Protection Regulation)

Web Application Security Testing

Introduction to Web Application Security

⇨ Understanding web architecture
⇨ Common web vulnerabilities (e.g., SQL injection, Cross-Site Scripting)
⇨ OWASP Top 10 vulnerabilities

Tools for Web Application Security Testing

⇨ Burp Suite
⇨ OWASP ZAP (Zed Attack Proxy)
⇨ Nikto
⇨ Wapiti

Performing Web Application Penetration Testing

⇨ Information gathering and reconnaissance
⇨ Scanning and enumeration
⇨ Exploitation of vulnerabilities
⇨ Post-exploitation techniques

Introduction to Security Testing

Introduction to Network Security

⇨ Network protocols and architecture
⇨ Common network vulnerabilities (e.g., Man-in-the-Middle attacks, DDoS attacks)

Tools for Network Security Testing

⇨ Nmap
⇨ Wireshark
⇨ Metasploit
⇨ Nessus

Performing Network Penetration Testing

⇨ Network mapping and scanning
⇨ Vulnerability assessment
⇨ Exploiting network vulnerabilities
⇨ Reporting and remediation

Mobile Application Security Testing

Introduction to Mobile Security

⇨ Understanding mobile architecture (iOS, Android)
⇨ Common mobile vulnerabilities

Tools for Mobile Security Testing

⇨ MobSF (Mobile Security Framework)
⇨ Drozer
⇨ APKTool
⇨ Frida

SECURITY TESTING

Performing Mobile Application Penetration Testing

⇨ Static and dynamic analysis
⇨ Reverse engineering
⇨ Exploiting mobile vulnerabilities
⇨ Secure coding practices for mobile apps

API Security Testing

Introduction to API Security

⇨ Understanding API architecture (REST, SOAP)
⇨ Common API vulnerabilities

Tools for API Security Testing

⇨ Postman
⇨ SoapUI
⇨ OWASP ZAP
⇨ Burp Suite

Performing API Penetration Testing

⇨ API enumeration and discovery
⇨ Vulnerability assessment and exploitation
⇨ Secure API development practices

Cloud Security Testing

Introduction to Cloud Security

⇨ Cloud service models (IaaS, PaaS, SaaS)
⇨ Common cloud vulnerabilities

Tools for Cloud Security Testing

⇨ ScoutSuite
⇨ Prowler
⇨ CloudSploit

Performing Cloud Security Assessments

⇨ Cloud configuration review
⇨ Identifying mis configurations & vulnerabilities
⇨ Best practices for cloud security

Secure Development Practices

Secure Software Development Lifecycle (SDLC)

⇨ Integrating security into the SDLC
⇨ Secure coding practices
⇨ Code review and static analysis

DevSecOps

⇨ Understanding DevSecOps principles
⇨ Tools for integrating security into CI/CD pipelines
⇨ Automated security testing in DevOps

Advanced Topics

Advanced Penetration Testing Techniques

⇨ Red teaming and adversary simulation
⇨ Advanced exploitation techniques
⇨ Post-exploitation and lateral movement

Incident Response and Forensics

⇨ Basics of incident response
⇨ Digital forensics techniques
⇨ Handling security breaches and incidents

Preparation for the Job Market

Building a Portfolio

⇨ Documenting security assessments and projects
⇨ Creating a professional portfolio

Mock Interviews and Resume Preparation

⇨ Conducting mock interviews
⇨ Preparing a professional resume highlighting relevant skills and experience

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