Software Quality Assurance

Duration: 3 Days

Course Content

This two days' course is designed to educate participants about application security, secure programming and software quality assurance by integrating security in software development phases, which starts from Training, Requirement, Design, Implementation, Verification, Release and Response or known as Security Development Lifecycle (SDL).

Who Should Attend

- QA Team
- Web App Developers
- Security Consultants

Course Objectives

After completing this course the student should be able to:

- Key SQA concepts
- How Software is conceived, specified, designed, developed, integrated and tested
- Where and how to apply SQA concepts to achieve maximum quality benefit
- Quality factors that must be considered on every project
- Project and quality metrics
- Detailed analysis of the Software Engineering Institute's concepts for SQA and how to apply

Course Outline

Software Development Process

- Introduction to Application Security
- Introduction to Secure Programming
- Introduction to SDLC

Securing Engineering

- Lifecycle Integration
- Security Activities
- Types of Security Objectives
- Top Web Application Security Issues
- Architecture Diagram
- UML Diagram
- Application Decomposition
- Security Architecture and Design Review
- Security Code Review Activity
- Server Security Categories

Web Application Attacks & Weaknesses

- Web Application Attacks:
- Application Weaknesses
- Real-life Attack Examples
- Web Application Security Statistics

OWASP Top 10 Vulnerabilities

- Cross-site Scripting (XSS)
- Injection Flaws
- Malicious File Execution
- Insecure Direct Object Reference
- Cross-site Request Forgery (CSRF)
- Information Leakage and Improper Error Handling
- Broken Authentication and Session Management
- Insecure Cryptographic Storage
- Insecure Communication
- Failure to Restrict URL Access

Security Development Lifecycle (SDL)

- Security Concern in Development
- Security Training for Developers
- SDL Optimization Model
- SDL Security Activities
- SDL Process Illustration
- Tools Used by Organization in SDL
- Activities Uses in SDL
- Results of Implementing SDL

Application Security Best Practices

- Input Validation
- Authentication
- Authorization
- Configuration Management
- Sensitive Data
- Session Management
- Parameter Manipulation
- Exception Management
- Cryptography
- Auditing and Logging

Automation Testing

- Web testing with Katalon
- API testing with Postman