Document Generated: 04/04/2026

Learning Style: Virtual Classroom

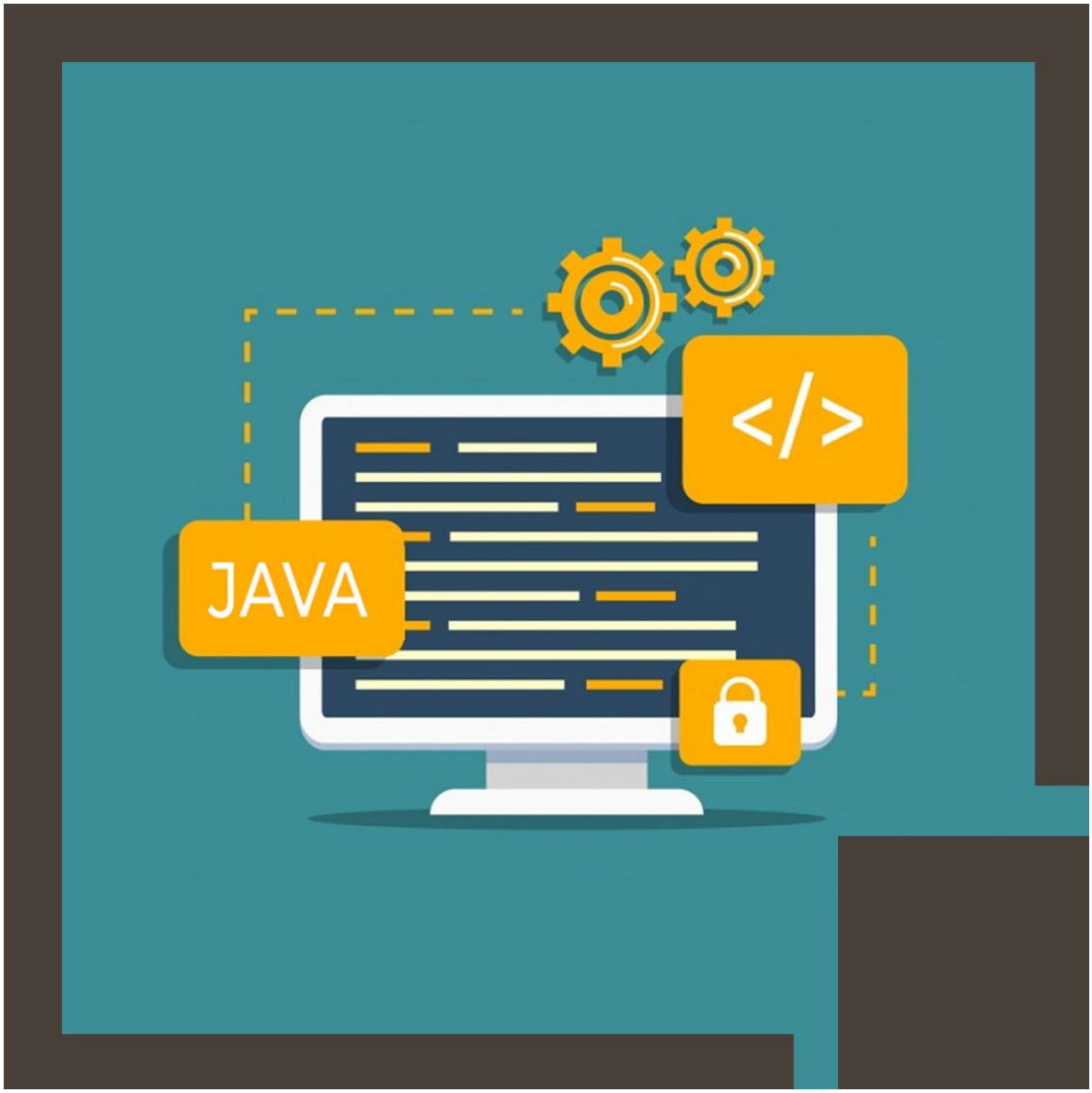
Technology: Java

Difficulty: Intermediate

Course Duration: 4 Days

Next Course Date: July 27, 2026

Java Secure Coding Camp | Attacking and Securing Java Web Applications (TT8320-J)



About this course:

Discover the cutting-edge of cybersecurity and elevate your skills as a Java Web developer with our comprehensive Bug Hunting and Application Security course. Designed specifically for experienced Java web developers, our Java Secure Coding Camp | Attacking and Securing Java Web Applications is an immersive, hands-on training program that delves deep into the world of bug hunting, ethical hacking, and web application security. Through real-world case studies, engaging labs, and expert instruction, you'll gain the knowledge and skills needed to fortify your applications, stay ahead of emerging threats, and protect your organization from costly security breaches.

Upon completing this course, you will not only acquire a profound understanding of application security concepts and best practices but also enhance your problem-solving, debugging, and overall software development prowess. Empowered with these new skills, you'll be well-prepared to identify, address, and prevent security threats in your Java Web applications, ensuring a robust and secure digital environment for your organization.

Course Objective:

- Master the fundamentals of secure coding and understand the stages of an exploit, focusing on defensive techniques.
- Establish foundational axioms for analyzing and addressing security in web applications, guiding your approach through this course and future endeavors.
- Learn responsible ethical hacking methods, including defect detection, bug reporting, and ensuring all activities are executed in a safe environment.
- Recognize and sidestep frequent pitfalls in vulnerability testing and bug hunting, leveraging best practices.
- Gain insight into the significance of multilayered defense strategies, evaluating the effectiveness of layered defenses through hands-on testing.
- Identify and handle untrusted data sources, understanding the associated risks like denial of service, cross-site scripting, and injections.
- Dive deep into authentication and authorization, pinpointing vulnerabilities and learning how to fortify these crucial security areas.
- Understand and counteract web-specific threats such as Cross-Site Scripting (XSS) and Injection attacks, mastering both offensive and defensive techniques.
- Examine risk factors in XML processing, file and software uploads, and deserialization, along with strategies for risk mitigation.
- Get acquainted with key security tools, from code scanners to web application firewalls, while also exploring server and infrastructure hardening techniques.

Audience:

- This is an intermediate level Java programming course, designed for experienced Java Web developers, software engineers, and architects who are seeking to enhance their knowledge and skills in application security, bug hunting, and secure software development. The course would also be well-suited for IT professionals, such as security analysts, security engineers, and DevOps team members, who are responsible for ensuring the security and integrity of web applications in their organizations.

Prerequisite:

- Practical hands-on Java web development experience. This is java coding class that requires intermediate Java developer skills to complete the lab work.

- Web Application Security Essentials

- Securing Databases: Practical Database Security Skills for Safer Systems

- AI & Web Application Security: A Practical Guide to Risks & Responses

Course Outline:

Why Hunt Bugs?

- The Language of Cybersecurity
- The Changing Cybersecurity Landscape
- AppSec Dissection of SolarWinds
- The Human Perimeter
- First Axiom in Web Application Security Analysis
- First Axiom in Addressing ALL Security Concerns

Safe and Appropriate Bug Hunting/Hacking

- Warning to All Bug Hunters
- Working Ethically
- Respecting Privacy
- Bug/Defect Notification
- Bug Hunting Pitfalls

Moving Forward From Hunting Bugs

Removing Bugs

- Open Web Application Security Project (OWASP)
- OWASP Top Ten Overview
- Web Application Security Consortium (WASC)
- Common Weaknesses Enumeration (CWE)
- CERT Secure Coding Standard
- Microsoft Security Response Center
- Software-Specific Threat Intelligence

Bug Stomping 101

Unvalidated Data

- CWE-787, 125, 20, 416, 434, 190, 476 and 119
- Potential Consequences

- Defining and Defending Trust Boundaries
- Rigorous, Positive Specifications
- Allow Listing vs Deny Listing
- Challenges: Free-Form Text, Email Addresses, and Uploaded Files

A01: Broken Access Control

- CWE-22, 352, 862, 276, and 732
- Elevation of Privileges
- Insufficient Flow Control
- Unprotected URL/Resource Access/Forceful Browsing
- Metadata Manipulation (Session Cookies and JWTs)
- Understanding and Defending Against CSRF
- CORS Misconfiguration Issues

A02: Cryptographic Failures

- CWE-200
- Identifying Protection Needs
- Evolving Privacy Considerations
- Options for Protecting Data
- Transport/Message Level Security
- Weak Cryptographic Processing
- Keys and Key Management
- NIST Recommendations

A03: Injection

- CWE-79, 78, 89, and 77
- Pattern for All Injection Flaws
- Misconceptions With SQL Injection Defenses
- Drill Down on Stored Procedures
- Other Forms of Server-Side Injection
- Minimizing Server-Side Injection Flaws
- Client-side Injection: XSS
- Persistent, Reflective, and DOM-Based XSS
- Best Practices for Untrusted Data

A04: Insecure Design

- Secure Software Development Processes
- Shifting Left
- Principles for Securing All Designs
- Leveraging Common AppSec Practices and Control
- Paralysis by Analysis
- Actionable Application Security
- Additional Tools for the Toolbox

A05: Security Misconfiguration

- System Hardening: IA Mitigation
- Risks with Internet-Connected Resources
- Minimalist Configurations
- Application Allow Listing
- Secure Baseline
- Segmentation with Containers and Cloud
- CWE-611
- Safe XML Processing

Bug Stomping 102

A06: Vulnerable and Outdated Components

- Problems with Vulnerable Components
- Software Inventory
- Managing Updates: Balancing Risk and Timeliness
- Virtual Patching
- Dissection of Ongoing Exploits

A07: Identification and Authentication Failures

- CWE-306, 287, 798 and 522
- Quality and Protection of Authentication Data
- Anti-Automation Defenses
- Multifactor Authentication
- Proper Hashing of Passwords
- Handling Passwords on Server Side

A08: Software and Data Integrity Failures

- CWE-502
- Software Integrity Issues and Defenses
- Using Trusted Repositories
- CI/CD Pipeline Issues
- Protecting Software Development Resources
- Serialization/Deserialization

A09: Security Logging and Monitoring Failures

- Detecting Threats and Active Attacks
- Best Practices for Logging and Logs
- Safe Logging in Support of Forensics

A10: Server Side Request Forgeries (SSRF)

- CWE-918
- Understanding SSRF
- Remote Resource Access Scenarios
- Complexity of Cloud Services
- SSRF Defense in Depth

- Positive Allow Lists

Moving Forward with Application Security

Applications: What Next?

- Common Vulnerabilities and Exposures
- CWE Top 25 Most Dangerous SW Errors
- Strength Training: Project Teams/Developers
- Strength Training: IT Organizations

Secure Development Lifecycle (SDL)

SDL Overview

- Attack Phases: Offensive Actions and Defensive Controls
- Secure Software Development Processes
- Shifting Left
- Actionable Items Moving Forward

SDL In Action

- Risk Escalators
- Risk Escalator Mitigation
- SDL Phases
- Actions for each SDL Phase
- SDL Best Practices

Next Steps

- Your Secure Coding Action Plan
- Key Resources

Credly Badge:

Display your Completion Badge And Get The Recognition You Deserve.

Add a completion and readiness badge to your Linkedin profile, Facebook page, or Twitter account to validate your professional and technical expertise. With badges issued and validated by Credly, you can:

- Let anyone verify your completion and achievement by clicking on the badge
- Display your hard work and validate your expertise
- Display each badge's details about specific

skills you developed.

Badges are issued by QuickStart and verified through Credly.

Find Out More or See List Of Badges