DevOps for Banking

DURATION: (4 days)

PROGRAM CONTEXT

This program provides a **practical, hands-on introduction to DevOps in the banking and financial services context**, enabling technology, security, and risk professionals to deliver digital solutions **faster without compromising security or regulatory compliance**.

Covering **secure SDLC, regulatory requirements, automated security testing, and compliant CI/CD pipelines**, the program emphasizes a **shift-left approach** to embed security and compliance throughout the software lifecycle. Through **real-world banking use cases**, participants learn to reduce vulnerabilities, manage regulatory risk, and improve time-to-market in highly regulated environments.

PROGRAM OBJECTIVES

- Enable participants to understand and apply DevOps and DevSecOps principles
- Align application development and delivery with key banking regulations
- Develop the capability to align application development and delivery with key banking regulations
- Build proficiency in secure coding, code review, and automated application security testing

PROGRAM MODULES
Day 1: Foundation

Session 1: DevOps & DevSecOps Intro

DevOps evolution, principles, and shift to DevSecOps with "shift-left" security to embed checks early. Benefits of DevOps like faster releases and reduced vulnerabilities in banking contexts.

Session 2: Secure SDLC (SSDLC)

Secure Software Development Lifecycle
Threat modelling and discussion on-STRIDE, PASTA

Session 3: Banking Regulations Overview

PCI DSS for payments, SOX, GLBA for data protection
Automation of audits and avoidance of fines

Session 4: Application Security Risks

OWASP (injection, XSS, broken access control) relevant to banking apps.
Secure design principles.

Session 5: Threat Modelling Practice

STRIDE modelling for a banking app, financial threats
Strategies for risk evaluation and mitigation

Day 2: Secure Coding & CI/CD

Session 1: Secure Coding Practices

Input validation, output encoding, encryption for banking data
CWE , SCA for third-party libraries in finance

Session 2: Code Review & Branching

Secure code reviews and Git branching strategies
SonarQube for static analysis

Session 3: CI/CD Fundamentals

GitLab/Jenkins CI/CD pipelines
Jira for project tracking.
Secure pipelines compliant with banking standards

Session 4: SAST Integration

SonarQube in CI/CD for code scanning
Non-compliant code in financial workflows

Session 5: SCA & Dependency Checks

CVEs in libraries, critical for banking's regulated ecosystems.
Automate SCA in pipeline

Day 3: Testing & Deployment

Session 1: DAST & IAST Testing

Dynamic testing tools (DAST)
Banking app simulations

Session 2: Container Security

Docker basics, image scanning, secrets management for secure containers.
Kubernetes deployment with network policies for isolated banking services.

Session 3: IaC & Config Management

AWS/Azure for banks
Scanning IaC for misconfigurations per compliance rules

Session 4: Deployment Strategies

Blue-green/canary deployments with security gates for zero-downtime in finance
Environment variables and staging/prod separation.

Session 5: VAPT & Pen Testing

Integrating vulnerability assessments and pen tests into CI/CD release stages

Day 4: Monitoring, Compliance & Capstone

Session 1: Monitoring & Logging

Prometheus/Grafana/ELK for CI/CD and app metrics.
Audit logs for SOX/GLBA.

Session 2: Compliance as Code

Policy-as-code (OPA) for automated PCI DSS/SOX checks
Continuous compliance monitoring to streamline audits

Session 3: Incident Response in Pipelines

Feedback loops, alerting, and rollback for breaches
Banking case studies on rapid response

Session 4: ChatOps & Collaboration

Integrating Teams/Slack for security alerts and team workflows
Building DevSecOps culture in banking teams

Session 5: Capstone Project & Review

Build end-to-end secure pipeline for a banking app (code to deploy)
Q&A, maturity assessment, and implementation roadmap

TARGET AUDIENCE: Working professionals, middle-to-senior managers, and business leaders.

Commercial Details:

Cost : INR 1,20,000/ per participant (for 4 days on campus residential program) excluding GST for a batch of 25 participants.

Note: On successful completion of the program, the participants will be awarded a Certificate of participation from the Institute.

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