

# Application Security in the Cloud

Learn via: **Classroom**

Duration: **3 Days**

## Overview

Migrating to the cloud introduces immense benefits for companies and individuals in terms of efficiency and costs. With respect to security, the effects are quite diverse, but it is a common perception that using cloud services impacts security in a positive manner. Opinions, however, diverge many times even on defining who is responsible for ensuring the security of cloud resources.

Covering IaaS, PaaS and SaaS, first the security of the infrastructure is discussed: hardening and configuration issues as well as various solutions for authentication and authorization alongside identity management that should be at the core of all security architecture. This is followed by some basics regarding legal and contractual issues, namely how trust is established and governed in the cloud.

The focus of the course is on application security issues, dealing both with data security and the security of the applications themselves. From the standpoint of application security, cloud computing security is not substantially different than general software security, and therefore basically all OWASP-enlisted vulnerabilities are relevant in this domain as well. It is the set of threats and risks that makes the difference.

## Prerequisites

There are no prerequisites for this course.

## Who Should Attend

Developers, architects, testers and cloud applications.

## What You Will Learn

- Understand basic concepts of security, IT security and secure coding
- Understand major threats and risks in the cloud domain
- Learn about elementary cloud security solutions
- Understand security concepts of Web services
- Learn about XML security
- Have a practical understanding of cryptography
- Learn Web vulnerabilities beyond OWASP Top Ten and know how to avoid them
- Learn about denial of service attacks and protections
- Learn typical input validation mistakes
- Understand data security challenges in the cloud
- Learn about NoSQL security
- Learn about MongoDB security
- Understand the challenges of auditing and evaluating cloud systems for security
- Learn how to secure the cloud environment and infrastructure
- Learn how to set up and operate the deployment environment securely
- Get sources and further readings on secure coding practices

## Outline

- IT security and secure coding
- Cloud security basics
- Threats and risks in the clouds
- Cloud security solutions
- Practical cryptography
- Web application security
- Denial of service

- Input validation
- Data security in the cloud
- Security audit in the cloud
- Testing the implementation
- Securing the cloud environment
- Knowledge sources