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Register

SOAP Web Services Essentials Training
2 days (14 hours)

Overview

SOAP Web Services are an essential technology for communication and integration of enterprise applications. Based on the SOAP (Simple Object Access Protocol) protocol, they enable the exchange of structured data via XML messages in distributed and heterogeneous environments.

This training will provide you with the knowledge you need to understand, create, and effectively use SOAP Web Services in a Java environment.

You will learn how to manipulate SOAP messages, manage advanced security using WS-Security, and optimize the performance of your services. At the end of this hands-on training course, you will be able to develop robust, secure, and high-performance Web Services that are ready for production deployment.

Like all our training courses, this one will introduce you to **the latest stable version** of the technology and its new features.

Objectives

- Understand the architecture and operation of SOAP Web Services
- Develop SOAP services and clients with Java
- Secure Web Services with WS-Security
- Optimize and monitor the performance of SOAP Web Services

Target audience

- Web developers who want to master SOAP Web Services

Prerequisites

- Basic knowledge of Java development
- Familiarity with XML and HTTP
- Understanding of general concepts of distributed web architectures

Training Program: SOAP Web Services Essentials

Introduction to SOAP Web Services

- Understanding the basic principles of Web Services
- Architecture and operation of the SOAP protocol
- Discovering SOAP messages and their structures (envelope, header, body)
- Differences between SOAP and REST
- Discovering the WSDL description language

XML and SOAP: Technical fundamentals

- Mastering XML data structure
- Validation and XML schemas (XSD)
- Processing SOAP messages with XML
- Using message analysis and validation tools
- Workshop: Creating and validating XML documents for SOAP

Developing SOAP Web Services with Java

- Discovering Java APIs for Web Services (JAX-WS)
- Creating and publishing a simple service
- Implementing complex operations and data types
- Error and exception handling in SOAP
- Basic Web Services Security

Consuming SOAP Web Services on the client side

- Generating a SOAP client from a WSDL
- Synchronous and asynchronous calls to services
- Managing sessions and authentication
- Best practices for client-side integration
- Workshop: Consuming an existing SOAP service and managing responses

Advanced security for SOAP web services

- Implementing security with WS-Security
- Managing authentications (tokens, certificates)
- Protecting exchanges (digital signatures, encryption)
- Best practices in Web Services security

- Monitoring and logging of service access

Optimization, monitoring, and best practices

- SOAP performance optimization techniques
- Effective resource and exception management
- Web service supervision with specialized tools
- Deployment and management in production
- Checklist for a high-performance, secure SOAP service
- Workshop: Implementation of a complete, secure, high-performance, and monitored Web Service

Target companies

This training course is aimed at both individuals and companies, large or small, wishing to train their teams in new advanced IT technology or to acquire specific business knowledge or modern methods.

Positioning at the start of training

The placement test at the start of the training course complies with Qualiopi quality criteria. Once they have finalized their registration, learners receive a self-assessment questionnaire that allows us to gauge their estimated level of proficiency in different types of technologies, as well as their expectations and personal goals for the upcoming training course, within the limits imposed by the selected format. This questionnaire also allows us to anticipate certain connection or internal security issues within the company (intra-company or virtual classroom) that could be problematic for the monitoring and smooth running of the training session.

Teaching methods

Practical training: 60% practical, 40% theory. Training materials distributed in digital format to all participants.

Organization

The course alternates between theoretical input from the trainer, supported by examples and reflection sessions, and group work.

Assessment

At the end of the session, a multiple-choice questionnaire is used to verify that the skills have been correctly acquired.

Certification

A certificate will be issued to each trainee who has completed the entire training course.