Course : RESTful Web Services, advanced Java development

Practical course - 2d - 14h00 - Ref. WER
Price : 1370 € E.T.

Web services conforming to the REST architecture style establish interoperability between computers on the Internet. You'll be able to expand your REST knowledge and develop complete RESTful solutions in Java with JAX-RS. In particular, you'll learn about the WADL specification, JSON and OAuth.

Teaching objectives

At the end of the training, the participant will be able to:

- Mastering the Jersey Plant
- Invoking a RESTful service in Java
- Handling JSON data in Java
- Securing a REST service with JAX-RS

Intended audience
Developers, project managers.

Prerequisites
Basic knowledge of Web architecture and applications. Good knowledge of XML. Very good knowledge of Java programming. Experience in JAX-RS and JAXB development required.

Course schedule

1 Reminders on REST and JAX-RS

- Review of Representational State Transfer and RESTful architecture concepts.
- JAX-RS API reminder.
- Reminders on XML and JAXB.

Hands-on work
Jersey installation, development of a resource class. Development of a complete service.

PARTICIPANTS
Developers, project managers.

PREREQUISITES
Basic knowledge of Web architecture and applications. Good knowledge of XML. Very good knowledge of Java programming. Experience in JAX-RS and JAXB development required.

TRAINER QUALIFICATIONS
The experts leading the training are specialists in the covered subjects. They have been approved by our instructional teams for both their professional knowledge and their teaching ability, for each course they teach. They have at least five to ten years of experience in their field and hold (or have held) decision-making positions in companies.

ASSESSMENT TERMS
The trainer evaluates each participant's academic progress throughout the training using multiple choice, scenarios, hands-on work and more.
Participants also complete a placement test before and after the course to measure the skills they've developed.

(2) Invoking a RESTful service in Java

- Use the basic Java API to retrieve a resource.
- Use Jersey's client API to invoke a RESTful service.
- Jakarta Commons HTTP Client.

Hands-on work
Invocation of RESTful services by various Java methods.

(3) Describing a REST service with WADL or WSDL

- Introduction to the Web Application Description Language (WADL) specification.
- Positioning in relation to WSDL 2.0, usable with REST services.

Hands-on work
Analysis of a WADL description of RESTful services. Use of the wadl2java tool.

(4) JavaScript Object Notation

- The benefits of JSON flows in RESTful architectures.
- JSON data manipulation in Java.

Hands-on work
Development of a RESTful service returning a JSON stream. Invocation of the service and parsing of the result in Java.

(5) Securing a REST service

- Reminders of possible actions at HTTP transport level.
- Introducing the OAuth protocol for Internet authentication, used by Google, Flickr, Yahoo...
- Implementation with JAX-RS.

Hands-on work
Securing REST services with OpenAM, OAuth and JAX-RS.

(6) Architectural elements

- The different ways in which REST can be used in an open architecture.

TEACHING AIDS AND TECHNICAL RESOURCES

• The main teaching aids and instructional methods used in the training are audiovisual aids, documentation and course material, hands-on application exercises and corrected exercises for practical training courses, case studies and coverage of real cases for training seminars.

• At the end of each course or seminar, ORSYS provides participants with a course evaluation questionnaire that is analysed by our instructional teams.

• A check-in sheet for each half-day of attendance is provided at the end of the training, along with a course completion certificate if the trainee attended the entire session.

TERMS AND DEADLINES

Registration must be completed 24 hours before the start of the training.

ACCESSIBILITY FOR PEOPLE WITH DISABILITIES

Do you need special accessibility accommodations? Contact Mrs. Fosse, Disability Manager, at psh-accueil@orsys.fr to review your request and its feasibility.