

# Course : REST architecture, developing Web Services in PHP

**Practical course - 2d - 14h00 - Ref. STE**

**Price : 1340 € E.T.**

Web services conforming to the REST architecture style (also known as RESTful web services) establish interoperability between computers on the Internet. You'll learn how to implement a REST architecture, use HTTP protocol methods and implement a REST service using a PHP framework.

## Teaching objectives

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

- ✓ Creating classes to feed Web Services
- ✓ Create various functions returning data in XML and JSON formats
- ✓ Implementing a REST Web service in CRUD mode
- ✓ Design web pages that use Web services
- ✓ How to implement a REST service using a PHP framework

## Intended audience

PHP developers, project managers.

## Prerequisites

Good knowledge of PHP in a Web context (procedural and object-oriented). Basic knowledge of XML and JavaScript desirable.

## Practical details

### Hands-on work

Development of a CRUD web application in REST mode.

## Course schedule

### PARTICIPANTS

PHP developers, project managers.

### PREREQUISITES

Good knowledge of PHP in a Web context (procedural and object-oriented). Basic knowledge of XML and JavaScript desirable.

### 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.

## 1 A reminder of Object-Oriented Programming

- Class, instance, properties and methods, visibility.
- Inheritance, interface, abstract classes.
- Automatic methods and overload.

### Hands-on work

Creation of the ADO (Abstract Data Object) class that will feed the Web Services.

## 2 XML, JSON, DOM, SAX and XPath

- Well-formed XML document, basic rules.
- Valid XML document: DTD or XSL.
- The PHP DOM (analysis and creation).
- XPath with PHP and validation with PHP.
- SAX approach: XSLT transformers.
- PHP functions for manipulating JSON format.

### Hands-on work

Create a recursive DOM parsing function. Creation of an encoding/decoding function. Creation of an ADO class method, returning data in XML and JSON format.

## 3 REST approach

- HTTP basics and reminders.
- Other exchange formats: JSON, serialized PHP, MessagePack.
- REST architecture components.
- REST architecture design guides.
- Logical versus physical URLs.
- Error code definition.
- Document a REST Web service.
- ROA versus SOA / REST versus SOAP.

### Hands-on work

Design a Web Service.

## 4 Implementing a REST Web service

- Write Web Services: read, insert, update and delete data.
- Transaction security.
- The problem of hiding.
- Mashup.
- Testing a REST service: browser and testing tools.

### Hands-on work

Create a Web Service in CRUD mode and secure critical operations.

Configure feedback types. Creation of an RSS feed.

## 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](mailto:psh-accueil@orsys.fr) to review your request and its feasibility.

## 5 Implementing a REST Client

- Invoke a Web Service in GET mode from PHP.
- Use sockets and cURL to create a call context with other methods (PUT/DELETE/POST).
- Error handling.
- Specific features of the AJAX approach in XML and JSON mode.
- Specific features of the AJAX approach.
- Mashup insertion in DOM HTML mode.

### Hands-on work

Implementation of a Web page consuming Web Services from several sources and presentation of aggregated results.

## 6 PHP frameworks

- What is a framework?
- Frameworks for creating REST APIs in PHP.
- Setting up a Web Service with a framework.

### Demonstration

Implementing a REST service using a framework.