SOA, Design of a service Oriented Architecture

Hands-on course of 4 days - 28h
Ref.: SOB - Price 2025: 3 050 (excl. taxes)

This training shows how to design a service oriented architecture by using the principles of the method PRAXEME. You will understand the structure of the Web Services, the orchestration of the services and the relationship with the component approaches. The products of the market and the open source solutions will be detailed.

THE PROGRAMME

last updated: 01/2024

1) Introduction

- The stakes of companies and the MDA approach of OMG.
- Multi-tiers architecture, business components: interoperability limits of classical middleware.
- Web services and SI interoperability.
- From components to services oriented architectures (SOA): Limits of the SI's management by projects, introduction to ser

2) The concepts of SOA

- Conceptual model of a SOA.
- Business service concepts: Service exposition, loose-coupling, synchronous vs asynchronous model, service provider and c
- Business components: Exploitation unit, contract implementation, components dependency and orchestration.

3) Introduction to the methodological approach

- The different approaches and Meta models: the Zachman framework, the methodological axes of the RUP, the PRAXEME approac
- Life cycle of a SOA project: strategically vision and organisational macro process, organisational process, technical im

4) Semantic model of the domain

- Analyse of the business domain.
- Modeling of the reference objects and their life cycle, model structuring and relationship with urban planning.

5) Business process and SI use cases

- Introduction to the pragmatic model.
- Business process analyse: use of activity diagrams, relation with the semantic model, pragmatic classes.
- The SI's use cases.
- The geographic model.

6) Definition of the logical architecture

- Derivation of the semantic and pragmatic models to the logical architecture: management of navigation, 1..n, n..m relati
- Specification of the logical engines and the logical services: use of the MDA approach, grouping in logical workshop and
- Logical services definition: pre-condition, post-condition, exception or signals, input and output messages, definition

PARTICIPANTS
Project managers, architectes.

PREREQUISITES
Good knowledge of multilevel architectures, software design and UML

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.

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.

- Using contracts, QoS specification, metrics of Quality.
- Integration of existing applications.

7) Technical architecture definition

- Implementation of the logical model with components: components of the layers of a SOA, process components, service faça
- Versions management, interactions mode and input/output messages, transactions management and compensation service.
- Description of services with WSDL, SOAP invocation: building interoperable XML schemas, service web design patterns.
- Service web infrastructure (WS-*), management of security, transaction, reliability, use of UDDI repository.
- Service web orchestration and integration of business process: presentation of the BPEL, BPMN standards: creation of vis
- Composite application management: introduction to the Service Component Architecture (SCA) standard.
- The Enterprise Service Bus (ESB): concepts of ESB, introduction to the JBI.

8) Market actors and products

- Typology of the existing products and selection criteria.
- The SOA products of the main actors.
- Open Source products.

DATES

REMOTE CLASS
2025 : 23 sept., 02 déc.