

Course code: **BPEL**

Course title: **Practical aspects of WS-BPEL**

Days: 2

Description:

Course intended for:

The training is aimed at Java programmers, system analysts, and architects who want to create advanced web services and learn techniques of orchestrating these services using BPEL.

Course objective:

The goal of the training is to familiarize its participants with advanced techniques of building web services. Trainees will learn business aspects of using advanced capabilities of web services, learn techniques used to orchestrate web services.

The training is carried out in several variants - for programmers, system analysts, architects. Depending on the training group, the main emphasis is on theoretical issues or practical implementation and integration solutions.

Course parameters:

2*7 hours of lectures and workshops at a ratio of 1:3. During workshops, examples illustrating advanced capabilities and WS-BPEL flexibility are implemented.

Group size: max. 8-10 people

Requirements:

Participants are required at least basic programming skills in Java, at least a basic knowledge of web services and XML processing technologies.

Course curriculum:

1. Introduction

I. Basic concepts and standards: XML, DTD, XSD, XSLT, SOAP, WSDL, WADL,

JAX-RPC, JAX-WS, JAX-RS, JAXP, SAX, StAX, DOM, JAXB, JAXR, UDDI, SAAJ, JSON, REST, WS-* standards etc.

2. Discussion of the chosen platform on which training will be implemented::

- I. Basic concepts and terminology for chosen platform
- II. Basic components and architecture of the platform
- III. Similarities and differences to other platforms
- IV. Compliance with standards
- V. Sources of knowledge

3. Business aspects of web services and BPEL

- I. Modeling and implementation
 - i. Business process
 - ii. Business rule
 - iii. Human behavior
 - iv. SOA, EAI, ESB
 - v. design patterns

4. Web services organization

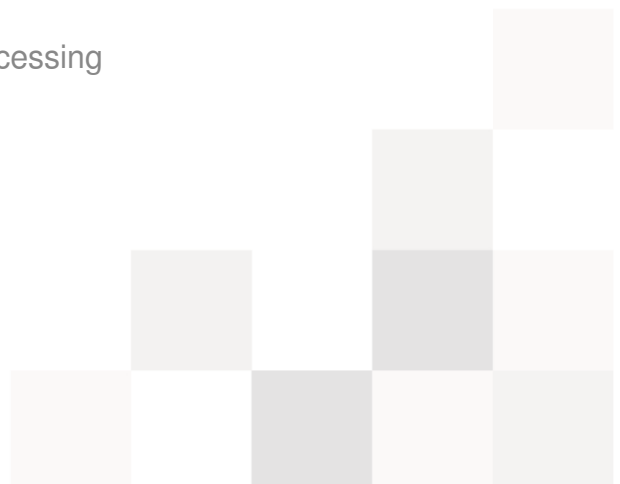
- I. Orchestration, arrangement, choreography, composition
- II. Standards: BPEL4WS, WS-BPEL 2.0, WS-CDL, WSCI, WSCL, WSFL, XLANG, BPMN 1 & 2 etc.

5. BPEL

- I. Basics, history
- II. Syntax
- III. BPMN versus BPEL
- IV. Tools



- V. Extensions and satellite standards; extensions contributed by a given platform runtime
- VI. Persistence and management of process instances
- VII. BPEL scopes
 - i. Scopes in BPE
 - ii. Variables in scopes
 - iii. Error scope, rollback and compensation
 - iv. Concurrent processing
- VIII. Error handling
 - i. Fault handlers
 - ii. Error signal
 - iii. Suspending and terminating process
- IX. Compensation
 - i. Compensation handlers
 - ii. Compensation scenario
 - iii. Rollback
- X. Correlation
 - i. Need of correlation
 - ii. Manual and automatic correlation
 - iii. Multiple correlation
- XI. Synchronous and asynchronous processing
 - i. Sync vs asynch
 - ii. Timeouts
 - iii. Multiple answers for process



iv. Events, alarms, errors

XII. Concurrent processing

XIII. Dynamic partners

XIV. Human actors in BPEL, BPEL4People, WS-Human Task etc.

XV. Others

