



Training

## **Module 2: SOA Technology Concepts (1 day)**

This module focuses on the industry standards that are establishing the foremost means of building services today.

It first covers XML and XML Schema as foundational technologies that can be positioned to create a data architecture in support of SOA. Next, concepts associated with Web services in general and specific first-generation Web services technologies are discussed to define the basic dynamics and industry specifications that comprise the fundamental Web services platform.

The latter half of the module is dedicated to exploring a series of WS-\* specifications that build upon and extend the framework established by XML and first-generation Web services technology. Specifically, this part concentrates on the various WS-\* activity and transaction management layers provided in support of complex service compositions and cross-service context management.

The module then delves into the numerous messaging and service interface-related WS-\* extensions that enable key quality of service functionality, including industry standard routing, reliable messaging, policies, and metadata retrieval.

Students are asked to complete several hands-on exercises and also use the provided text book to read a set of case study examples that show how some of these technologies can be applied in real world environments.

The following primary topics are covered:

- A Brief History of XML and Web Services
- How XML is used by Web services and SOA
- Basic XML Concepts (data representation and document structure)
- Basic XML Schema Concepts (validation, data types, and document definition)
- Introduction to XSLT, XPath and XQuery
- Overview of Standards Organizations
- Contrasting Component-Based Architecture with Web Services
- Introduction to the Web services Technology Platform
- Web Service Roles (Service Providers, Consumers, Initial Senders and Ultimate Receivers)



## Training

- Intermediary Services and Service Agents
- Basic WSDL and SOAP Concepts
- UDDI, Discovery and Service Registries
- Web Service Anatomy (physical processing layers)
- Primitive and Complex Message Exchange Patterns (MEPs) and Primitive and Complex Service Activities
- Context Management and Coordination
- Cross-Service Atomic Transactions and Business Activities with Compensations
- Orchestration and WS-BPEL Concepts (including Choreography and Collaboration)
- Advanced Messaging and Addressing
- Delivery Acknowledgements and Reliable Messaging
- Policies and Policy Assertions
- Dynamic Metadata Retrieval

Note that the focus of this module is on technology concepts only. Students are not required to learn programming or markup languages.

All course materials are printed in full-color and additional reference textbooks are also supplied, as required.

This is also a credit course for the SOA Certification Program and optional testing is available. For more information about certification and for descriptions of additional courses, visit [www.soaschool.com](http://www.soaschool.com) or [www.soatraining.com](http://www.soatraining.com).

