

Using SOAP

A Two Day Training Course

Course Aims:

This is an introductory course for IT professionals (developers, analysts or managers) who require an understanding of SOAP, SOAP-related technologies like WSDL and UDDI, and their importance within the web services development environment.

The format of the course is a mix of lectures and practical work. As SOAP is an XML application, the emphasis is on understanding how SOAP works, rather than on the programming requirements of any applications which surround it (see [XML Development: Manipulating XML Data with DOM and SAX](#) and [XML Development: XML Transformations with XSLT and XPATH](#)).

Course Outline:

SOAP Introduced

- Web Services Explained
- Where SOAP Fits In
- The Role of XML
- Short History of SOAP
- Current Development Status
- SOAP, the W3C and Microsoft
- SOAP Benefits and Limitations

The Role of HTTP

- An overview of HTTP
- Statelessness, Connections
- Request, Response
- Benefits, Limitations
- SOAP, HTTP and Other Protocols

The Structure of a SOAP Message

- The SOAP Envelope
- Using the Header
- The Role of Namespaces
- Using the Body
- Dealing with Errors
- The Role of Actors

Data Types and SOAP

- The Role of XML Schema
- Simple and Compound Types
- Dealing with Enumerations
- Including Byte Arrays
- Polymorphism Implications
- Compound, Structures and Arrays

SOAP and Security

- SOAP and SSL
- Introducing XML Signature
- XML Signature in SOAP Messages
- Core Generation and Validation
- Key Elements

SOAP and Web Services

- WSDL Explained
- WSDL Structure
- Data Types
- Messages
- Part Names
- Operations
- Port Types
- Binding
- SOAP Extensions
- HTTP Extensions
- MIME Extensions

About UDDI

- UDDI Introduced
 - UDDI Business Registry
 - Security Issues
 - Data Types
- Inquiry and Publishing Functions

A Simple Web Service

- The Role of IIS
- What You Need
- Web Service Client

Target Audience:

Attendees should have a good understanding of XML basics, in particular the concept of well-formedness and XML namespaces (see [XML Development: A Foundation Course](#)). Some experience with XML Schema would be highly beneficial (see [XML Development: Data Modelling with W3C Schema](#)).

Assumed Knowledge:

HTML or XML experience is assumed (see: [HTML / XHTML Development](#) and [XML Development: A Foundation Course](#)).