

The Java APIs for SOAP Messaging (2 Days)

Custom Training Institute
 9085 Coyote Springs Road
 Prescott Valley, AZ 86314
 (928) 772-3811
 FAX (928) 441-6444

The Java APIs for SOAP Messaging (CTI 552)

Students will develop an understanding of the Simple Object Access Protocol (SOAP) 1.1, and skills in using the Java API for XML Messaging (JAXM) and SOAP with Attachments API for Java (SAAJ) 1.1 to build SOAP-based Web services and clients.

Prerequisites: Experience in Java programming, including object-oriented Java and the Java streams model, is required. Some understanding of Web services architecture and XML and XML Schema will be helpful.

Minimum software requirements: Microsoft Windows 2000 or Linux. J2SE 1.4.1 SDK and J2EE 1.4 beta SDK downloads are required.

Minimum hardware requirements: Pentium PC running at 500 MHz; 256 Mb RAM; 500 Mb free hard disk space before installation.

Microsoft PowerPoint and Internet access on instructor's workstation for presentation purposes.

Module 1: The Simple Object Access Protocol (SOAP)

- SOAP Messaging
- SOAP Namespaces
- SOAP Over HTTP
- The SOAP Envelope
- The Message Header
- The Message Body
- SOAP Faults
- Attachments
- XML Schema
- Validating Message Content

Module 2: The Java APIs for SOAP Messaging (SAAJ)

- The SAAJ Object Model
- Parsing a SOAP Message
- Reading Message Content
- Working with Namespaces
- Creating a Message
- Setting Message Content

Module 3: The Java API for XML Messaging (JAXM)

- Messaging Scenarios
- Point-to-Point Messaging
- JAXM Message Providers
- The JAXM Messaging Model
- Creating a Connection
- Sending a Message

Module 4: Parsing and Transformations

- The Java API for XML Processing (JAXP)
- SAX and DOM Parsing
- XSLT Transformations
- Piping Between SAAJ and JAXP
- Streaming Between SAAJ and JAXP
- Validating Request Content

Module 5: Web Services and JSP

- JSP and XML
- The JSTL
- Core and XML Actions
- JSP, JSTL and SOAP
- Reading SOAP Using Xpath
- JSPs as Web-Service Clients
- Custom Tags for JAXM and SAAJ

Module 6: SOAP Attachments

- SAAJ Object Model, Revisited
- The SOAPMessage Class
- MIME
- The Java Activation Framework
- The MimeHeaders Class
- The AttachmentPart Class
- Adding SOAP Attachments
- Identifying Attachments
- Reading Attachments

Module 7: SOAP Encoding

- The Need for a Common Encoding
- The SOAP Section-5 Encoding
- Type Model
- Relationship to XML Schema
- Values
- Accessors
- Structures
- Arrays
- Multiple-Reference Values
- Mapping SOAP Types to Java

Learning Resources

Quick Reference: W3C and Web-Services Namespaces

Basics of XML and XML Schema Using a JAXM Provider