

## 1.1 SOA and Webservices

<b>Course Overview</b>	This course is for the developer who wants to develop applications using Webservices framework of J2EE.
<b>Target Audience</b>	Java software engineers responsible for writing loosely coupled software components.
<b>Hardware</b>	Networked PCs with access to Minimum 512 MB RAM, 600 MB Hard Disk.
<b>Software</b>	Tomcat 4.0 or J2EE1.5 Server, JDK1.5, Windows XP or Windows 2003 OS, IE 6+.
<b>At the end of the Training you will be able to</b>	<ul style="list-style-type: none"> <li>• Understand the concepts of Service Oriented Architecture.</li> <li>• Understand Webservices and SOAP protocol used for Webservices.</li> <li>• Understand mechanism to transform data from XML to Java objects and vice versa.</li> </ul>
<b>Course Non Goals</b>	Nil

<b>Pre-requisites</b>	<b>Required Proficiency Level</b>
Java	Good
XML	Good
Java with XML	Good

Session wise Break up with references	
<p><b>Session 1:</b> <b>SOA, Webservices Introduction</b></p> <ul style="list-style-type: none"> <li>What is Webservices?</li> <li>What is SOA?</li> <li>Building SOA using Webservices</li> </ul> <p><b>SOA Fundamentals</b></p> <ol style="list-style-type: none"> <li>Fundamental SOA</li> <li>Misperceptions about SOA</li> <li>Benefits of SOA</li> <li>Pitfalls of adopting SOA</li> <li>Comparing SOA to past Architectures</li> <li>Principles of Service-Oriented</li> <li>Service Layers</li> </ol>	<ol style="list-style-type: none"> <li>For further details please refer to :             <ol style="list-style-type: none"> <li><a href="http://www.versata.com/documents/wp-SOA20041015-p.pdf">http://www.versata.com/documents/wp-SOA20041015-p.pdf</a></li> <li><a href="http://java.sun.com/developer/technicalArticles/WebServices/soa/">http://java.sun.com/developer/technicalArticles/WebServices/soa/</a></li> </ol> </li> <li>T1:             <ol style="list-style-type: none"> <li>Chapter 3: Introducing SOA</li> <li>Chapter 5: Web Services and Primitive SOA</li> <li>Chapter 8: Principles of Service-Oriented</li> <li>Chapter 9: Service Layers</li> </ol> </li> <li>T2:             <ol style="list-style-type: none"> <li>Chapter 1: Welcome to Web services</li> </ol> </li> </ol>
<p><b>Session 2:</b> <b>Building SOA (Technology and Design)</b></p> <ul style="list-style-type: none"> <li>Service Oriented Design</li> <li>WSDL, SOAP, WS-BPEL basics</li> <li>Composing SOA</li> <li>SOA Standards</li> <li>Entity-centric business/Application Service Design</li> <li>SOA support in J2EE, .Net</li> </ul>	<ol style="list-style-type: none"> <li>For details please refer to :             <ol style="list-style-type: none"> <li><a href="http://www.oasis-open.org/committees/download.php/15176/Erl_SOA2_Ch16.pdf">http://www.oasis-open.org/committees/download.php/15176/Erl_SOA2_Ch16.pdf</a></li> </ol> </li> <li>T1:             <ol style="list-style-type: none"> <li>Chapter 13: Service Oriented Design (Part I: Introduction)</li> <li>Chapter 14: Service Oriented Design (Part II: SOA Composition guidelines)</li> <li>Chapter 15: Service Oriented Design(Part III: Service Design)</li> <li>Chapter 16: Service Oriented Design(Part IV: Business Process Design)</li> <li>Chapter 18: SOA Platforms</li> </ol> </li> <li>T2:             <ol style="list-style-type: none"> <li>Chapter 3: SOAP: The Cornerstone of Interoperability</li> </ol> </li> </ol>

	<p>b. Chapter 4: SOAP-RPC, SOAP-Faults, and Misunderstandings</p>
<p><b>Session 3:</b></p> <p><b>Web Services</b></p> <ul style="list-style-type: none"> <li>• Developing &amp; consuming Webservices</li> <li>• SOAP</li> <li>• SOAP programming using JAXM</li> <li>• WSDL</li> </ul>	<p>1. For details please refer to :</p> <ol style="list-style-type: none"> <li><a href="http://java.sun.com/webservices/docs/1.6/tutorial/doc/">http://java.sun.com/webservices/docs/1.6/tutorial/doc/</a></li> <li><a href="http://ws.apache.org/axis/">http://ws.apache.org/axis/</a></li> <li><a href="http://java.sun.com/developer/technicalArticles/WebServices/WS-Pack2/">http://java.sun.com/developer/technicalArticles/WebServices/WS-Pack2/</a></li> <li><a href="http://java.sun.com/blueprints/guidelines/designing_webservices/html/">http://java.sun.com/blueprints/guidelines/designing_webservices/html/</a></li> </ol> <p>2. T2 :</p> <ol style="list-style-type: none"> <li>Chapter 5: Web Services Description Language</li> <li>Chapter 7: JAX-RPC and JAXM</li> </ol>
<p><b>Session 4:</b></p> <p><b>Web Services</b></p> <ul style="list-style-type: none"> <li>• UDDI</li> <li>• JAXR API</li> <li>• Publishing &amp; Enquiring API</li> </ul>	<p>1. For details please refer to :</p> <ol style="list-style-type: none"> <li><a href="http://java.sun.com/webservices/docs/1.6/tutorial/doc/">http://java.sun.com/webservices/docs/1.6/tutorial/doc/</a></li> <li><a href="http://java.sun.com/developer/technicalArticles/WebServices/WS-Pack2/">http://java.sun.com/developer/technicalArticles/WebServices/WS-Pack2/</a></li> <li><a href="http://java.sun.com/blueprints/guidelines/designing_webservices/html/">http://java.sun.com/blueprints/guidelines/designing_webservices/html/</a></li> </ol> <p>2. T2 :</p> <ol style="list-style-type: none"> <li>Chapter 6: UDDI : Universal Description, Discover, and Integration</li> <li>Chapter 7: JAX-RPC and JAXM</li> </ol>

**Reference Books :**

T1: Service Oriented Architecture – Concepts, Technology and Design by Thomas Erl,  
PEARSON Education

T2: Java Web Services by David A. Chappell & Tyler Jewell, O'REILLY publication