

TT7000: Understanding SOA: A Technical Overview (1 day)



Understanding Service-Oriented Architectures is a one-day, dynamic seminar geared for managers and project stakeholders who need to understand the impact of SOA, what is different about SOA and what is an incremental step from IT practices and approached of the past.

► Course Objectives: What You'll Learn

Organizations are struggling with how to translate SOA's vision into practical terms and concepts. Designed for enterprise managers and stakeholders who wish to understand what services and service-oriented architectures are and how implementing a SOA system will impact their projects. This course focuses on what separates an ad hoc set of web services (NOT SOA) from a managed, vibrant, reusable catalog of enterprise services (definitely SOA).

While our training is "technology centric", it is vendor independent, meaning that the content is not clouded by sales and marketing messages. Although a specific SOA product can be discussed, the comprehensive lessons are geared towards teaching the practical application of SOA, rather than focusing on the finer points of the tools in use. Of course, SOA is not a technology but a set of practices and concepts that hold the promise of more closely aligning business with IT applications.

► What You'll Learn

Understanding SOA: A Technical Overview provides coverage of practical issues for enterprise applications relative to SOA. The goal of this course is to empower students with the knowledge and foresight they need to lead and participate in the implementation of realistic SOA-based business application projects. In addition, there is an extensive review of topics such as Enterprise Service Bus (ESB), the Business Process Execution Language (BPEL), SOAP, Web Services Description Language (WSDL), and Web Services.

Working in a dynamic learning environment, students will be able to:

- Explain the concepts behind a SOA
- Discuss how a common framework is embodied in both a technical infrastructure and an organizational entity in the form of governance
- Understand the history of services-oriented architecture and what design processes led up to SOA

COURSE SNAPSHOT

Duration: 1 day
Skill Level: Introductory
Focus: Practical SOA
Audience: Technical managers, stakeholders, executives and developers, architects and analysts.
Hands-On: Expert lecture combined with open discussions and high-level demonstrations
Delivery Format: Available for onsite private classroom presentation, or live online / virtual presentation
Customizable: Yes

- Discuss the challenges to adopting SOA in the enterprise
- Understand the various standards, conventions, and best practices in implementing and supporting SOA
- Explain how Enterprise Application Integration affects the reuse of existing applications
- List the various roles involved in Service-oriented Analysis and Design (SOAD)
- Understand the importance of business process modeling
- Relate a SOA maturity model and adoptance process to where an organization currently is and where they are trying to go
- Discuss business process analysis and its relation to BPEL
- Understand the difference between OO analysis and design and SOA analysis and design
- Compare SOA best practices
- Understand the responsibilities crucial to governance
- Explain what an Enterprise Service Bus is and its relationship to SOA
- Discuss ESB security and roles
- Understand the relationship between SOA and web services.
- Discuss how the concept of event-driven processing relates to business processes, workflow, and service orchestration

If your team requires more advanced materials or custom topics, this course may be easily adjusted to accommodate.

We offer many additional SOA classes which may be blended with this course for a track that best suits your development objectives.

► **Experiential Learning – Course Structure**

Attending students will be led through a series of advanced topics comprised of integrated lectures, group discussions and comprehensive demonstrations. The course provides a solid foundation in basic terminology and concepts, extended and built upon throughout the engagement.

► **Audience & Pre-requisites: Who Should Attend**

This an **overview level** SOA training course, designed for people who need to understand and manage existing or upcoming SOA projects. Experience with managing and working with enterprise applications will be helpful. We will explore the terminology, the specification, the processes and technologies specific to SOA.

Attendees should have a minimum of 2 years working knowledge in the IT industry. A basic understanding of software development and web-based applications is necessary. Actual development working knowledge is helpful but not necessary.

► **Related Courses – Suggested Learning Path**

Take Before: Students should have basic understanding and a working knowledge in the following topics, or attend these courses as a pre-requisite:

- **TT4000 Understanding Internet Architectures**
- **TT5000 Understanding J2EE: A Technical Overview**

Take Instead (or After): We offer other courses that provide different levels of knowledge or focus:

- SOA Seminar Series: **TT7015 SOA Leadership**
- SOA Seminar Series: **TT7020 SOA Processes**
- If your team needs in-depth SOA training, the **TT7100 Service-Oriented Architectures Analysis and Design** or **TT7110 SOA Analysis** course may be more appropriate.
- For those members of your team that are focusing on using SOA and Web Services, consider **TT7150 Mastering Service-Oriented Architecture (SOA) and Web Services**.

- We offer a wide range of development and design courses that integrate SOA with Web Services, J2EE, XML and more. Please ask for details.

Take After: We offer a variety of introductory through advanced development, project management, engineering, architecture and design courses. Students may want to consider the following topics as a follow-on to this course.

- Additional Service-Oriented Analysis and Design topics for laymen, managers, analysts, developers and designers – introductory through advanced
- Web Services and XML - Intro through Advanced
- Architecture & Analysis courses
- Software design and application development security
- Software Engineering, Design or Project Management tracks
- Application development topics for Java, J2EE, JavaEE and more, introductory/overview through advanced
- Web Development and design topics

Please note all development courses may also be offered in other programming languages or environments, as well as tailored to best suit your needs. Please contact us for details. Please contact us for recommended next steps tailored to your longer term education, project or development objectives.

► **Student Materials: What You'll Receive**

Our robust course materials include much more than a simple slideshow presentation handout. Trivera Technologies Student materials include a comprehensive hard-copy course manual, complete with detailed course notes, code samples, diagrams and current reference materials, all directly related to the course at hand, indexed for ease of use. Step-by-step lab instructions and project descriptions are clearly illustrated and commented for maximum learning and ease of use.

Our course kits are designed to serve as an excellent and useful reference set, long after we leave your classroom.

Workshop Topics Covered

Session 1: SOA Overview

- Introduction to SOA
- Business impact/ROI
- History
- Myths/Reality
- SOA and client/server
- SOA and web services
- Adoption issues

Session 2: SOA: the Business Proposition

- Leveraging business processes

- Challenge to adoption
- The SOAD Process
- Roles and Skills
- Web services standards
- ESBs

Session 3: Service-oriented Architecture

- Principles
- Business Process-driven development
- Roles

- Messaging
- Transactions
- Security
- Business modeling
- Design issues
- EAI
- ESB
- Web services
- RPC vs. REST
- Web services, SOAP, and WSDL
- Integrating legacy applications

- Extending the lifetime of legacy apps
- External integration
- Governance
 - What needs to be governed and what is already governed?
 - Governing IT vs. SOA
 - Continuous improvement
- Strategies

Session 4: Defining Business Processes

Using BPEL

- BPEL Overview
- Top-down Process Design
- Bottom-up Process Design
- Using WSDL
- Process Elements and Properties
- Select Expression Language
- Partner Links
- Variables
- Fault Handler
- Compensation Handlers
- BPEL Process as a Service

Session 5: Service-oriented Analysis and Design

- OOAD vs. SOAD
- Analysis
- Design
- Implementation
- Process

Session 6: SOA Best Practices

- Planning
- Standardizing
- Designing
- Managing
- Implementing

Session 7: Common Framework: Governance

- Governance Overview
- Importance
- Responsibilities
- Implementation

Session 8: Common Framework: Infrastructure

- Overview
- Role in SOA

- Security Issues
- Scenarios and Analysis
- ESB Issues

Session 9: Web Services

- W3C standards
- WSDL
- UDDI
- Tools
- Implementation technologies

Need more details? Please note that a more detailed outline of the course table of contents, lists of lab exercises and project descriptions is available. Please contact us at Training@triveratech.com for info.

Need courseware? This course is fully customizable, and also available for license with complete support for qualified organizations. Please contact Courseware@triveratech.com for details

► Why Work With Trivera Technologies?

- **Our courses are focused - no "fluff" included.** We offer more than a “laundry list” approach to teaching. All lessons have clear objectives, are fundamental to learning core defensive programming practices, and are reinforced by hands-on code labs and solid practical examples. Each lesson has performance driven objectives that ensure students will learn technologies and skills core to fundamental SOA concepts – nothing more, nothing less. Students will learn the importance of developing well-designed applications.
- **Our materials are comprehensive, and current.** Each lesson has performance driven objectives that ensure students will learn technologies and hands-on skills core to Java development – nothing more, nothing less. Progressive labs are designed in such a way that students get a firm grasp on fundamental skills while they work toward building a complete solution. All lessons have clear objectives, are fundamental to learning core design principles, and are reinforced by dynamic demos, group labs and solid real-world practical examples.
- **Our materials are robust.** Our comprehensive manuals include not only a hard copy of the course presentation, but also detailed reference notes, pertinent diagrams and charts, current lists of suggested online resources and articles, and often technical tutorials or white papers geared to the topics at hand. Hands-on courses also include our unique materials for each student, complete with course set up, software, and a multitude of learning resources that complement the course.
- **We provide a solid foundation.** Students will learn how to use (and reuse!) essential SOA skills and concepts properly, using best practices, grounding them for advanced curriculum, and will be prepared for designing and implementing solutions.
- **We foster "Learning by Doing".** Progressive labs are designed in such a way that students get a firm grasp on fundamental skills while they work toward defending a complete application. All labs are take-home, and all solution code (if applicable) is presented in an easy to use self-study format for future use and review.
- **True content ownership gives us flexibility & quality above the rest.** These course materials are wholly-owned by our company and fully customizable, at little or no cost, to help you best meet your learning objectives. We have many dedicated experts available worldwide to instruct your team, and can provide services around the globe, either locally or virtually. We work closely with you to produce the most effective events and materials for your team, within your desired timeframe and budget.
- **We have to adhere to higher standards.** As a courseware provider, our content and hands-on lab materials are licensed internationally by dozens of firms, and are therefore subject to very stringent quality requirements. Not only will your organization benefit from our own

technical team’s technical expertise, but also the feedback of hundreds of students and trainers using these materials, worldwide, on a regular basis. This unique fact guarantees that our materials are not only robust and interesting, but also technically correct, current and of the highest quality and usability.

- **We bring years of practical, current experience into the classroom and content.** Our instructors and course authors are also skilled mentors, Java, J2EE, .Net, SOA, web development and web services developers, architects and security-oriented professionals. We believe that learning, using and maintaining solid software execution and delivery methods are as important as gaining sharp coding skills. Best Practices for software development and execution, beyond technical coding skills, are enforced throughout all of our courses and discussions. Our team brings this extensive experience into every classroom and engagement.
- **We’re skills-centric.** Although our team has extensive experience using a variety of tools and solutions, our core content is “technology-centric”. Our aim is to teach you the best skills and solutions out there – not to sell you software from any particular vendor.
- **We’re authors.** Our team was selected to write the online *J2EE, EJB, EJB CMP-CMR and Web Services Tutorial Series for IBM developerWorks®* (www.ibm.com) These are the same instructors who train our classes and author the courseware. Most of our trainers/consultants have also authored additional articles on web services, EJB< Struts, J2EE and advanced Java topics, and are recognized speakers and presenters on the industry technical seminar circuit. Our team is comprised on several successful published authors. Members of our team have written or contributed to: *Eclipse Kick Start, Mastering Eclipse; Professional Jakarta Struts; Using Java Tools for Extreme Programming; Mastering Resin; Mastering TomCat and others.*
- **Our services are guaranteed.** Whether you’re a stakeholder organizing your firm’s educational services, a student in our live or virtual classroom or a trainer using our materials to educate your own client or team – **Our core mission is to make YOU a success in the classroom.**

► **For Additional Information**

Need dedicated training? All courses can be brought onsite for a **private presentation**, customized to suit your unique requirements or goals. Please contact Training@triveratech.com for course details, Public Schedule dates and locations, and Special Discount Offers.

Need courseware? Let us take the risk out of your classroom delivery! All materials are also available for corporate license with complete instructor support and free corporate branding. We guarantee our pricing and service. Samples of our course materials, as well as live client references for all of our services are available upon request. Please contact Courseware@triveratech.com for details.

For more information about our training, mentoring or courseware licensing options, or to see our complete list of course offerings and services, please visit us at www.triveratech.com, email Training@triveratech.com or call 609.953.1515.



Trivera Technologies is a 100%
Female-Owned Small Business Concern
GSA # GS35F-0188T
Please contact us for details & pricing.