UNDERSTANDING SERVICE-ORIENTED ARCHITECTURE (TT7000)

Course Code: 1043

In this course, you will learn the impact of Service-Oriented Architecture (SOA), what is different about SOA, and the overall process of adoption and implementation. You will focus on what separates an ad hoc set of web services (NOT SOA) from a managed, vibrant, reusable catalog of enterprise services (definitely SOA). You will cover the entire spectrum from the promise of cloud computing to the grit of XML content. You will get a clear picture of how a service orientation can fundamentally change the dynamics of how software is developed and “lives” within an enterprise.

You will cover practical issues for enterprise applications relative to SOA and gain the knowledge and foresight to lead and participate in the implementation of a realistic SOA-based business application project. You will also examine advanced topics like Enterprise Service Bus (ESB), the Business Process Execution Language (BPEL), SOAP, Web Services Description Language (WSDL), and web services.

What You’ll Learn

• Concepts behind a SOA
• Common framework embodied in both a technical infrastructure and an organizational entity in the form of governance
• History of SOA and what design processes led up to SOA
• Challenges to adopting SOA in the enterprise
• Standards, conventions, and best practices in implementing and supporting SOA
• Enterprise Application Integration affects the reuse of existing applications
• Roles involved in Service-Oriented Analysis and Design (SOAD)
• 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
• Business process analysis and its relation to Business Process Execution Language (BPEL)
• Difference between object-oriented (OO) analysis and design and SOA analysis and design
• Compare SOA best practices
• Responsibilities crucial to governance
• Enterprise Service Bus and its relationship to SOA
• ESB security and roles
• Relationship between SOA and web services
• How the concept of event-driven processing relates to business processes, workflow, and service orchestration

Who Needs to Attend

Managers and project stakeholders who need to understand and manage existing or upcoming SOA projects.
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Virtual Classroom Live Outline

1. Service-Oriented Architecture (SOA)
   - Service Defined
   - SOA
   - Organizational Framework
   - Technical Framework
   - Orchestration
   - Reusability
   - Services vs. SOA
   - SOA in the past
   - New in SOA
   - Business Impact/ROI
   - Myths/Reality
   - Adoption Issues

2. The Business Proposition
   - Motivation for SOA
   - Typical Software Project
   - Business Logic Gets Replicated Over Time
   - Unique Interfaces Build Up Over Time
   - Unique Technologies Build Up Over Time
   - Unique Data Representations Build Up Over Time
   - Service Model
   - Service Consumer
   - Service Bus
   - Commonality is Critical Element of SOA
   - Service Provider
   - Business Process - OpenCheckingAcct
   - SOA Addresses
• How Does SOA Help Deal with Change?
• Leverage SOA
• Potential Benefits of SOA
• Benefits of a Well-Designed SOA
• SOA Maturity Models Abound
• Incremental Adoption of SOA

3. Service-Oriented Architecture
   • Principles
   • Business Process-Driven development
   • SOA Team
   • Messaging
   • Orchestration
   • Business Modeling
   • Integrating Legacy Applications
   • Governance

4. Modeling Business Processes
   • Top-Down Process Design
   • Bottom-Up Process Design
   • WSDL as Service Description
   • Identifying Services
   • Identifying Messages
   • Identifying Collaborations
   • BPEL

5. Service-Oriented Analysis and Design (SOAD)
   • Process
   • Analysis
   • Design
   • Implementation
   • Process

6. SOA Best Practices
   • Planning
   • Standardizing
   • Designing
   • Managing
   • Implementing

7. Web Services
   • XML - Technical Foundation
   • W3C Standards
   • Binding - SOAP/REST
   • WSDL
   • Discovery
   • Tools
   • Implementation Technologies
8. Mapping Frameworks to SOA
   • SOA Concepts and .Net
   • SOA Concepts and JEE
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