SOA Training Course Content

Module 1

Fundamental SOA & Service-Oriented Computing

- Strategic Goals of Service-Oriented Computing
- Fundamental Service-Oriented Computing Terms
- Concepts relating to Services, Service-Oriented Architecture and Service Compositions
- Introduction to the Service-Orientation Design Paradigm and related Principles and Concepts
- SOA Project Delivery Approaches and Planning
- Introduction to the Service Delivery Lifecycle, including Service-Oriented Analysis, Service-Oriented Design and Service Modeling
- SOA Adoption Impacts and Requirements
- Enterprise Service Bus, Web Services, REST Services
- Service Grids and Service Virtualization
- Cloud Computing and SOA Connection Points

Module 2

SOA Technology Concepts

- Basic XML and XML Schema Concepts
- Overview of Standards Organizations
- Contrasting Component-Based Architecture with Web Services and REST Services
- Service Roles, Service Agents, Message Exchange Patterns (MEPs) and Service Activities
- Basic WSDL, SOAP and REST Concepts plus UDDI, Discovery and Service Registries

- Basic REST Service Concepts
- Web Service Anatomy (physical architecture)
- Context Management and Coordination
- Atomic Service Transactions and Compensations
- Orchestration and WS-BPEL
- Enterprise Service Bus (ESB) Topics
- Advanced Messaging, Reliable Messaging and Policies
- REST Services, Contracts, Resources and Messaging
- REST Constraints and Architectural Goals

Module 3

SOA Design & Architecture

- History of Service-Orientation and SOA
- SOA Theory Fundamentals
- Service-Orientation vs. "Silo" based Design
- Distinguishing Characteristics of the SOA Model
- Understanding Services and Service Capabilities
- Complex Service Composition Design, Composition Runtime Roles and Responsibilities
- The Eight Design Principles of Service-Orientation
- Contract First Design, Standardized Service Contracts, and Uniform Contracts
- Service Loose Coupling and Coupling Types, Service Abstraction and Information Hiding
- Service Reusability and Agnostic Design
- Service Autonomy and Runtime Control
- Service Statelessness and State Deferral
- Service Discoverability, Interpretability
- Introduction to SOA Design Patterns

Module 4

SOA Project Delivery & Methodology

- Planning SOA Projects
- Managing Service Delivery Lifecycles

- SOA Delivery Strategies
- Service-Oriented Analysis and Service Modeling Processes
- Conceptual Services and Service Candidates
- Service-Oriented Design Processes for Different Types of Services
- Post-Design Project Phases (Service Development, Service Testing, Service Deployment & Maintenance, Service Discovery)
- SOA Project Roles (including Service Analyst, Service Architect, Service Custodian, Schema Custodian, Policy Custodian, Service Registry Custodian, Governance Specialist, Security Specialist and others)
- Authoring and Maintaining Service Profiles

Module 5

SOA Technology Lab

- Fundamental XML Syntax and Application
- XML Schema Structure
- Fundamental XML Schema Language Elements
- WSDL Definition Structure and How WSDL Relates to XML Schema and WS-Policy
- Namespaces and XML Schema and WSDL Definitions
- Fundamental WSDL Language Elements
- SOAP Message Structure and How SOAP Relates to WSDL and XML Schema
- Fundamental SOAP Language Elements
- WS-BPEL Process Definition Structure and How WS-BPEL Relates to WSDL
- HTTP Methods and Uniform Contracts and Web-Centric Architecture
- REST Conventions and Resources
- REST Syntax and Data Exchange