Service Technology Concepts

OEM: Arcitura • Duration: 3 Days (24 hrs) • Code: S90.02B

COURSE MODULES & TOPICS

Module 1: Fundamental SOA, Services & Microservices

- Business and Technology Drivers for SOA, Services and Microservices
- Strategic Goals and Benefits of Service-Oriented Computing
- Plain English Introduction to Services and Microservices
- Fundamental Characteristics of a Service-Oriented Architecture
- Understanding Service-Orientation as a Design Paradigm, including coverage of the Four Pillars of Service-Orientation
- Introduction to Service Layers, Service Models and Service Compositions
- Service Inventories, Service Layers and Service API Governance and Management
- Introduction to Common Service Technologies, including API Gateways, Virtualization, Containerization
- Introduction to Cloud Computing and Cloud Services
- Adoption Impacts and Requirements, including considerations for Governance, Infrastructure, Performance and Standardization

Module 3: Design & Architecture with SOA, Services & Microservices

- Fundamental Application Design with SOA
- Service-Orientation vs. “Silo”-Based Design
- Service-Oriented Application Design with Microservices
- Understanding Services and Service Capabilities
- Understanding the Functional Context of Microservices
- Complex Service Composition Design, Composition Runtime Roles and Responsibilities
- Composition with Microservices
- Distinguishing Characteristics of the SOA Model
- 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 Agwnostic Design, Service Autonomy and Runtime Control
- Service Statelessness and State Deferral, Service Discoverability and Interpretability
- Design Guidelines for REST Services
- Design Guidelines for Web Services
- Design Guidelines for Microservices

Module 4: Fundamental SOA Analysis & Modeling with Services & Microservices

- Introduction to SOA Analysis
- Roles of Service Analysts, Service Architects and Service Custodians
- Service, Capability, Data and Constraint Granularities
- Service Models and Service Layer Abstraction
- Business and Utility Services
- Agnostic and Non-Agnostic Services
- Service Inventory Definition Basics
- Domain and Enterprise Service Inventories
- Service Normalization and Logic Centralization
- Service Modeling Basics
- Service Modeling and the Separation of Concerns
- Functional Decomposition and Service Encapsulation
- Entity, Utility and Task Abstraction
- Micro Task Abstraction for Microservice Modeling
- Composition and Recomposition
- Service API Modeling
- Service Decomposition, Proxy Capability and Decomposed Capability
- Endpoint Redirection, Lightweight Endpoint and Entity Linking

Module 5: Advanced SOA Analysis & Modeling with Services & Microservices

- SOA Project and Lifecycle Stages
- SOA Adoption Planning and Service Profiles
- Service-Oriented Analysis and Service Modeling
- Analysis and Modeling with REST Services and Microservices
- Resource Identification and REST Composition Modeling
- Modeling REST Services as Microservices
- Uniform Contract Modeling and REST Capability Granularity
- Understanding Resources vs. Entities
- Analysis and Modeling with Web Services and Microservices
- Modeling Utility and Entity Web Services
- Modeling Web Services as Microservices
- Service Modeling with BPMN and DMN
- BPMN Process Modeling for Service Modeling
- Decision Modeling with DMN

Module 6: SOA Analysis & Modeling Lab with Services & Microservices

- Reading Exercise 6.1: Property and Casualty Insurance Company Mini Case Study
- Lab Exercise 6.2: Process Models vs. Service Models
- Lab Exercise 6.3: Granularity and Microservices
- Lab Exercise 6.4: Reusable Contract and DMN
- Reading Exercise 6.5: E-Commerce Assist (ECA) Mini Case Study Background

- Lab Exercise 6.6: Service Candidate Modeling
- Lab Exercise 6.7: Service Candidate Re-Modeling
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