

# SOA for Service Designers

SE003

## Objectives

- *Understand the elements: clients, services, composites, and skeletons*
- *Understand how to identify clients and services*
- *Understand how to design reusable services*
- *Understand when and how to use policies*
- *Understand the use for composite & process services*
- *Understand issues related to testing services*
- *Understand the issues of versioning and preparing a service for production*

## Introduction

'SOA for Service Designers' is at the heart of the MomentumSI curriculum on SOA. At the end of the day, SOA comes down to defining services that are part of the business solution. In SOA, the 'Service' is the new unit of work.

## Overview

Service designers must learn to think in terms of clients, service, policies, composites, and application skeletons. This course is designed to teach traditional designers (object oriented, database, etc.) the necessary skills to be an effective member of an SOA solution team.

## Audience

This two-day course is designed for software designers who need to define services. Architects and programmers may also find this course valuable to understand the upstream & downstream deliverables.

## Prerequisites

None.

## Class Size and Duration

This two-day course can accommodate up to 12 students.

## Course Outline

1. The Role of the Service Designer
  - Service: The new unit of work
  - Describing the Enterprise as a series of Services
  - A look at upstream analysis (SOA Analysis)
2. Clients, Services, Composites, and Skeletons
  - Overview: Elements of Service Oriented Definition & Composition
    - 1 The client/service relationship
    - 2 Introducing service types
    - 3 Skeletons: Stringing services into applications
3. Identifying Clients
  - Overview: What are clients?
  - Finding clients
  - Defining the needs of a client
  - Defining future needs of existing clients
  - Review: loose coupling clients and services

#### 4. Defining Services and Operations

- Overview: What are services and operations?
- Using clients to find operations
- Review: levels of granularity
- Grouping operations into services
- Identifying messages
- Defining message exchange patterns
- Defining message response
- Specifying constraints & validations
- Dealing with errors & exceptions
- Specifying the binding
- Advanced topics [stateful services & correlation tokens, Moving large payloads (BLOB)]

#### 5. Creating Policies

- Overview: What are policies?
- Defining reliable policies
- Defining security policies
- Defining transactional integrity policies
- Utilizing internal EA policies (XML & structural policies)
- Attaching policies to services
- Creating policy profiles & SLAs

#### 6. Creating Service Test Cases

- Overview: Test driven SOA
- Planning the tests
- Designing the tests
- Implementing test cases
- Creating a testing environment (building mock services)
- Coordination with quality assurance

#### 7. Custom Design Based on Service Type

- Creating a service taxonomy
- Business services, process services, technical services, and data services
- Tailoring the service to the service type

#### 8. Defining Composites & Process Services (introduction)

- Overview: What is composite service?
- Service layers and abstraction
- Combining services vs. chaining services
- Master/Slave (BPEL) vs. distributed
- State management
- Capturing and reporting business state

#### 9. Defining & Simulating Application Skeletons

- Moving from clients & services to applications
- The application skeleton
- Defining the skeleton, overlays, and simulation
- Finding service holes

#### 10. Service Refactoring & Versioning

- Iterating on a service design
- Client requirements expressed as Venn diagrams
- Refactoring services (operation bundles)
- Moving functionality to intermediaries
- Refactoring operation functionality to increase reusability
- Versioning a service/operation

#### 11. Specifying the Inside of the Service

- Overview: What is inside of a service?
- What is a Domain Specific Language?
- Specifying DSLs inside of services (data services, process & Composite services, 3GL/OO/dynamic languages)

#### 12. Documentation & Publishing

- Overview: Who needs service documentation?
- Documenting for the 'Service Constructor'
- Documenting for the 'Service Integrator'
- Publishing the documentation (Web pages & registries)

##### Corporate Headquarters:

12710 Research Blvd, Suite 120  
Austin, TX 78759

##### Regional offices:

New York  
San Francisco  
Washington D.C.  
Sydney

##### Contact Information:

512-236-1517 (Main)  
888-886-8560 (Toll Free)  
sales@momentumsi.com  
www.momentumsi.com

##### About MomentumSI

MomentumSI is a leading boutique IT consultancy focused on enterprise transformation. We are known for helping large enterprises quickly and cost-efficiently adopt innovative, agile practices to align business needs with IT processes. We specialize in helping companies incorporate disruptive technologies, including Cloud Computing, DevOps, BPM and SOA.

