SOAP Web Services

Total Number of Days : 4

Day 1

Introduction to Course

**Elements of SOA**

**Overview of the elements that make up a SOA-based system**

**Web Services**

**Introduce Web Services and their fit with SOA.   
Introduce Core elements of a Web Services SOA.   
SOAP, WSDL, UDD.   
Outline other WS-\* Standards.**   
Consider transactions with SOA and Web Services.   
Discuss WS-Security.

Basic JAX-WS Java Services

Consider how web services can be created in Java.  
Look at the JAX-WS approach in detail.   
Examine how JAX-WS works.   
Look at the JAX-WS Annotations.   
JAX-WS requirements on a POJO.   
Creating JAX-WS services.   
Implementing web service clients

Practical 1: Building a Web Service and client

Day 2

RESTFul Java Services

Introduction REST as a concept   
Present the structure of a RESTFul System.   
Consider how a RESTFul Web Service may be built.   
Look at how JAX-WS supports REST.   
Creating RESTFul services.   
How to implement RESTFul Web service clients

Practical 2: Building RESTful Web Service and client

Data Binding in Java Web Services

Data Transfer in Web Services.   
Mapping Java Objects to XML

Java Architecture for XML Binding (JAXB)

Working with JAXB   
Using JAXB in a WEB Service and its Client

Practical 3: Using JAXB with web services

Day 3

EJB 3.0 based Web Services

Introduce JAX-WS and EJB 3.0.   
Overview of EJB 3.0   
Publishing an EJB Stateless Bean as a JAX-WS Service  
Invoking the service form a client.

Practical 4: Creating an EJB 3.0 based Web Service

Security and Web Services

Introduce security for remote applications.   
Consider Web Service security.   
Examine the differences from traditional web apps.   
Look at the Web Service security specifications.   
Examine how to deploy a secure web service.

Practical 5: Securing a web service

Day 4

Web Services and Registries

What is a service registry? And why have one.   
What is UDDI? What is JAXR   
Implementing a JAXR Client

Practical 7: Exploring JAXR

SOA Design Patterns

Types of SOA interaction   
Design patterns help at architectural level  
SOA Specific Design patterns   
Asynchronous message patterns   
Conversational patterns   
Process Patterns   
Architectural patterns