

**Price:** R3,200.00 excl. VAT  
**Duration:** 1 day  
**Delivery:** Virtual classroom or  
on-site training

## Web Services Architecture

### Description

A web service is a software program that makes itself available over the internet for another system to use. Web services make it faster and easier to share data between different systems. Web services can be used with any technology stack, including legacy systems.

This one-day course will introduce you to the essential architecture of web services. You will learn how web services work and what standards are used. You will learn about the difference between SOAP and RESTful web services, and data representations like XML and JSON.

This course is not specific to a particular platform or programming language.

### Objectives

After you have attended the Web Services Architecture course, you will be able to:

- Recognise the advantages and disadvantages of implementing web services.
- Be aware of the technologies available and the differences between SOAP and REST web services.
- Understand the requirements for implementing web services at your organisation.

### Intended Audience

You should attend the Web Services Architecture course if:

- You are a programmer and you need to understand the role and requirements for web services.
- You are a project leader and you need to understand the role of web services in your projects.
- You are a technical manager and you want to evaluate the role of web services for your organisation.

### Prerequisites

There are no prerequisites for the Web Services Architecture course. A familiarity with systems and programming will, however, be beneficial.

### Course Contents

#### Web Services Overview.

- Why use web services in enterprise applications.
- Service-oriented architectures (SOA) vs resource-oriented architectures (ROA).
- SOAP web services as service oriented architectures (SOA).
- REST web services as resource oriented architectures (ROA).
- SOAP vs REST.
- Choosing the correct web service technology.
- Best practices.

#### SOAP Web Services.

- SOAP web service architecture and specifications.
- Web Service Interoperability (WS-I) initiative.
- Second generation WS-\* initiatives.
- Web Service Description Language (WSDL).
- Code-first vs contract-first approaches.
- Exposing SOAP endpoints in JSE applications, servlets and EJBs.
- SOAP message envelope.
- Consuming SOAP web services.
- Java APIs - JAXB, JAX-WS.

**REST Web Services.**

- REST architecture and specifications.
- Review of HTTP features - HTTP methods, headers, query strings, status codes.
- HTTP methods and CRUD systems.
- Designing REST URLs.
- Data representations - XML, JSON, text.
- OpenAPI and RAML for describing REST APIs.
- Consuming REST web services.
- Java APIs - servlet API, JAX-RS, @WebServiceProvider.

*\*\* The lecturer reserves the right to modify the contents of the course to suit the needs of the delegates.*