

## Synopsis

The Web Services for Java[tm] Technology Programmers course provides students with the ability to develop new web services from existing Java[tm] technology components, expose legacy applications as web services, or work with a combination of new and legacy components.

The tools used in this course include the Sun[tm] Open Net Environment (Sun ONE) Studio software and Sun[tm] ONE Application Server. Additional work might be done with the command line interface and the Java[tm] Web Services Developer Pack (WSDP) tools and runtime environment as appropriate.

## Who Can Benefit

Java[tm] 2 Platform, Standard Edition (J2SE[tm] platform) programmers and J2EE software developers planning on implementing web services. Students are not expected to know web or J2EE component development, assembly, and deployment prior to attending this course.

## Prerequisites

To succeed fully in this course, students should be able to:

Students who have obtained their Sun Certified Programmers for Java technology certification are considered to have met the prerequisites for the course.

- Use Java technology syntax fluently
- Code a Java technology class and methods
- Understand the Java technology interface construct
- Write a Java technology program

## Skills Gained

Upon completion of this course, you should be able to:

- Develop and deploy new application functionality as web services
- Expose existing legacy applications as web services
- Publish web services to an UDDI registry
- Develop clients that access published web services
- Develop web services using best practices

## Related Courses

- Before: SL-275: Java[tm] Programming Language
- After: FJ-310: Developing J2EE[tm] Compliant Applications
- After: SL-385: Managing XML with the Java[tm] Platform



## Course Outline

### Module 1 - Exploring Web Services

- Justify the need for web services
- Describe the characteristics of a web service
- List the primary web service initiatives, specifications, and application programming interfaces (APIs)
- Describe the methods and tools available for creating web services

### Module 2 - Creating a Web Service

- Describe the different approaches that can be taken when creating a web service
- Describe and compare the two different communication models that can be used by a web service
- Describe and compare the two different data information models that can be used when creating a web service
- Explain the considerations for developing a robust web service model
- Create a Java[tm] API for XML-based Remote Procedure Call (JAX-RPC) web service

### Module 3 - Creating a Web Service Description

- Create a service description
- Describe the function of the Web Service Description Language (WSDL) in the web service model
- Use the WSDP toolset to generate a service interface and stub factory from a WSDL file

### Module 4 - Publishing a Web Service

- Describe the function of a business service registry
- List the functionality defined by the Universal Description, Discovery, and Integration (UDDI) specification
- Describe the function of the two UDDI programming APIs
- Describe the function of Electronic Business using eXtensible Markup Language (eXML)

### Module 5 - Creating a Web Service Client

- Describe how a web service client participates in a web service exchange
- Create a web service client that implements the JAX-RPC client programming model

### Module 6 - Introducing the Simple Object Access Protocol

- Describe the Simple Object Access protocol (SOAP)
- Create a Java technology component that uses the SOAP with Attachments API for Java (SAAJ) to access the elements of a SOAP message

### Module 7 - Exploring Web Service Security

- List and describe the primary elements and concepts of application security
- Describe the issues that must be considered when designing a web service security solution
- List and describe the primary security solutions currently available as well as those in development for web services

## REGISTRATION AND INFORMATION

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