Designing Java Web services

Varighed: 2 Days      Kursus Kode: DWS-4112-EE5

Beskrivelse:

The Designing Java Web Services course provides business component developers with the information they need to understand and appreciate web services as a realization of Service Oriented Architecture (SOA). This course elaborates on the use of the Java Platform, Enterprise Edition (Java EE) technology design patterns in designing web services and discusses various web services features, such as Exception Handling and Security provided by the Java Platform, Enterprise Edition 5 (Java EE 5). The students implement the course lab exercises using the NetBeans Integrated Development Environment (IDE) and deploy the web services and applications on the Sun Java System Application Server Platform Edition.

Målgruppe:

Students who can benefit from this course:

Business component developers interested in leveraging the various web services technologies available in the Java EE5 platform.

Students preparing for the Sun Certified Developer for Java Web Services (SCDJWS) examination.

Agenda:

- Describe Service-Oriented Architecture (SOA) and web services as a realization of SOA
- Describe Java technologies for web services development
- Implement a servlet endpoint as a web service using Java API for XML Web Services
- Implement an Enterprise JavaBeans (EJB) endpoint as a web service using JAX-WS
- Describe and implement various web services-based design and deployment patterns
- Describe and apply various best practices for designing web services
- Handle exceptions in web services using SOAPFaultException
- Implement user-defined exceptions in web services
- Identify web services security requirements and solutions
- Secure a web service using basic authentication
- Implement message-layer security in web services
- Describe and implement various web services-based design and deployment patterns
- Describe and apply various best practices for designing web services

Forudsætninger:

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

- Describe web services specifications and Application Programming Interfaces (APIs)
- Implement a Java EE web service
- Implement a web service client that accesses the functionality provided by a Java EE web service
- Implement a web service using Java technology components
- Overview of XML (WJO-1115)
- Web Services Enabling Technologies (WJO-1118)
- Web Services Infrastructure and Organizations (WJO-1114)
**Indhold:**

### Analyzing Web Services Opportunities
- Describe Service Oriented Architecture
- Discuss web services as a realization of SOA
- Explain the advantages of web services-based SOA approach
- Examine the Java technologies for web services development
- Discuss typical web services scenarios
- Implement a servlet endpoint as a web service using Java API for XML Web Services (JAX-WS)
- Implement an Enterprise JavaBeans (EJB) endpoint as a web service using JAX-WS

### Handling Exceptions in Web Services
- Describe exception generation and handling
- Describe the JAX-WS API exception classes, such as SOAPFaultException and HTTPException
- Use pre-defined exception classes in web services
- Use custom-defined exception classes in web services
- Describe exception management in web services
- Handle exceptions in web services using SOAPFaultException
- Implement user-defined exceptions in web services

### Design Patterns and Best Practices for Web Services
- Describe design patterns in the context of web services
- Describe web services-based design patterns, such as Asynchronous Interaction, JMS Bridge, Web Service Cache, Web Service Broker, and Web Service Logger
- Implement web services-based design patterns as part of an application
- Describe web services-based deployment patterns, such as HTTP load balancing and container cluster
- Describe best practices for designing web services, such as proper styles to instantiate SOAP messages or strategies for organizing

### Securing Web Services
- Describe web services security requirements
- Discuss cryptography techniques and digital signatures
- Examine web services security solutions
- Secure a web service using basic authentication
- Implement message-layer security in web services

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**Flere Informationer:**

For yderligere informationer eller booking af kursus, kontakt os på tlf.nr.: 44 88 18 00

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