



## **Business Component Development with EJB Technology, Java EE 6**

- Introduction to Java EE
  - Examine the Java EE application architecture
  - Examine Java EE container services
  - Examine the EJB component types
  - Evaluate the EJB Lite Container
  - Compare Java EE application development with traditional enterprise application development
- Implementing Session Beans
  - Examine session beans
  - Identify the three types of session beans
  - Choose the correct session bean type given a business constraint
  - Create session beans Package and deploy session beans
- Accessing Session Beans
  - Understand the purpose and role of JNDI in relation to EJB components
  - Configure JNDI environment properties
  - Use JNDI to look up a resource
  - Write code that receives a resource reference through injection
  - Create a session bean client
  - Create a session façade
  - Use dependency injection to locate an EJB
- Advanced Session Bean Concepts
  - Understand the relationship between the EJB container and an EJB component
  - Describe the life cycle for stateless and stateful session beans
  - Implement session bean life cycle methods
  - Use a session bean to perform asynchronous communication
  - Have fine-grained control over packaging and deployment
- Singleton Session Bean
  - Understand the advantages and disadvantages of using a singleton session bean
  - Create a singleton session bean
  - Describe the life cycle of a singleton session bean
  - Implement singleton session bean life cycle methods
  - Describe singleton concurrency access
  - Implement a concurrency management strategy
- Developing Java EE Applications Using Messaging
  - Review JMS technology
  - Describe the roles of the participants in the JMS API messaging system
  - Create a queue message producer
  - Create a synchronous message consumer
- Developing Message-Driven Beans

- Understand the short-comings of using session beans as messaging consumers
- Describe the properties and life cycle of message-driven beans
- Create a JMS message-driven bean
- Create life cycle event handlers for a JMS message-driven bean
- Configure a JMS message-driven bean
- Using Timer Services Objectives
  - Describe timer services

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- Create a timer notification callback
- Process a timer notification callback Manage timer objects
- Implementing Interceptor Classes and Methods
  - Describe interceptors and interceptor classes
  - Create a business interceptor method in the enterprise bean class
  - Create an interceptor class
  - Associate multiple business interceptor methods with an enterprise bean
  - Include life cycle callback interceptor methods in an interceptor class
- Implementing Transactions
  - Describe transaction demarcation management
  - Implement CMT
  - Interact programmatically with an ongoing CMT transaction
  - Implement BMT Apply transactions to messaging
- Implementing Security
  - Understand the Java EE security architecture
  - Authenticate the caller Examine Java EE authorization strategies
  - Use declarative authorization
  - Use programmatic authorization Examine the responsibilities of the deployer
  - Using EJB Technology Best Practices
    - Define best practices and state the benefits of using EJB technology best practices
    - Select and apply known patterns to Java EE application design
    - Incorporate effective exception handling into your Java EE application design