Building Database Driven Applications with JPA, Java EE 6

- Overview of the Java Persistence API
- Introducing the Auction Application
- Java Persistence API Entities
  - Describe the difference between objects and entities
  - Describe the difference between persistent fields and properties
  - Identify and use common Java Persistence API annotations, such as @Entity, @Id, @Table, and @Column
- Understanding the Entity Manager
  - Describe the relationship between an entity manager, a persistence context, and a persistence unit
  - Describe the difference between a container-managed entity manager and an application-managed entity manager
  - Describe the entity life cycle
- Modeling Entity Relationships
  - Examine association relationships in the data and object models
  - Use relationship properties to define associations
  - Implement one-to-one unidirectional associations
  - Implement one-to-one bidirectional associations
  - Implement many-to-one/one-to-many bidirectional associations
  - Implement many-to-many bidirectional associations
  - Implement many-to-many unidirectional associations
  - Examine fetch and cascade mode settings
- Entity Inheritance and Object-Relational Mapping
  - Examine entity inheritance
  - Examining object/relational inheritance hierarchy mapping strategies
  - Inherit from an entity class
  - Inherit using a mapped superclass
  - Inherit from a non-entity class
  - Examine inheritance mapping strategies
  - Use an embeddable class
- Persisting Enums and Collections
  - Persist entities that contain enums with @Enumerated
  - Persist entities that contain lists with @ElementCollection
  - Persist entities that contain maps with @ElementCollection
- Introduction to Querying
  - Find an Entity by its primary key
  - Understand basic Java Persistence API query language queries
  - Understand native SQL queries
  - Understand basic Criteria API queries
- Using the Java Persistence API Query Language
  - Examine the Java Persistence API query language
  - Create and use the SELECT statement
  - Create and use the UPDATE statement

- Create and use the DELETE statement
- Using the Java Persistence API Criteria API
  - Contrast queries that use the Criteria API with queries that use the Java Persistence query language
  - Describe the metamodel object approach to querying
  - Create Criteria API queries
- Using the Java Persistence API in a Container
  - Use the Java Persistence API from a servlet
  - Use the Java Persistence API from a stateless session bean
- Implementing Transactions and Locking
  - Describe the transaction demarcation management
  - Implement container-managed transactions (CMT)
  - Interact programmatically with an ongoing CMT transaction
  - Implement bean-managed transactions (BMT)
  - Apply transactions to the Java Persistence API
- Advanced Java Persistence API Concepts
  - Specify composite primary keys
  - Override mappings with the @AttributeOverride and @AssociationOverride annotations
  - Understand entity listeners and callback methods