JAVA FRAMEWORKS

SPRING FRAMEWORK

Spring Introduction:

- Spring modules
- Dependency injection
- Spring containers (Bean Factory, Application Context)
- Basic bean wiring
- Bean life cycle

Spring Data Access:
- Using JDBC with spring
- Working with Data sources
- Working with JDBC templates
- DML operations on data

Spring web-MVC:
- Controllers
- Types of controllers
- Handling web requests
- Mapping requests to controllers
- Handler Mappings
- Processing commands, form submissions
- Views
- Resolving text messages (property files)
- View resolvers
- Validations
- Working with throw away controllers
- ContextLoaderListener for loading configuration files

Aspect Oriented Programming:
- Join points, point cuts, advice, aspects
- AspectJ syntax for AOP
- AOP configuration elements

Spring Transactions:
- The meaning of transaction
- Transaction attributes
- Spring transaction management support
- Choosing a transaction manger
- Declarative transaction management

Spring Messaging:
- Messaging overview (JMS)
- Using Messages with Spring

Advanced Bean Wiring:
- Parent and child beans
- Inner beans
- Bean wiring with property files

Spring Web

Spring ORM

HIBERNATE

Overview:
- Overview of O/R mapping
- Overview of Hibernate architecture
- Setting up and running your first Hibernate application.

Configuring Hibernate:
- Hibernate configuration property file
- Hibernate configuration XML file
- Database dialects
- Obtaining a Session Factory
- User-provided JDBC connection
- Using code generation tool
- Using schema generation tool
- Using mapping file generation tool

O/R Mapping:
- Overview of the mapping file
- The id element and primary key
- Id generation methods
- Composite id
- Hibernate data types
- Custom value types
- Mapping for collections and associations

- Mapping for rich associations
- Component mapping
- Inheritance mapping

Manipulating and Querying Persistent Data:
- Persistent classes
- Loading an object
- Find methods
- The Query interface
- Performing CRUD operations
- Criteria Queries
- Using native SQL query
- Using lifecycle and interceptor callbacks
- Transactions and concurrency

The Hibernate Query Language (HQL):
- The select clause
- The from clause
- The where clause
- Expressions
- Aggregate functions
- Sorting, grouping, etc.
- Subqueries