

# ActiveNET

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## Hibernate & Spring

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Duration:

Fee:

Time:

### Hibernate

- Introduction to ORM – Object Relational Mapping/Model/Management, ORM Frameworks, ORM/Hibernate Features
- Hibernate first application using hibernate.cfg.xml, Class.hbm.xml, Java Bean Class and client programs for save(), update(), delete(), get(), load(), list() and iterate() methods
- **ORM relationships –**
  - **IS-A relationship**
    - Table-per-class (TPC)
    - Table-per-sub class (TPSC)
    - Table-per-concrete class (TPCC)
  - **HAS-A relationship**
    - One-To-Many-To-One (OTMTO) with List, Set & Bag
    - Many-To-Many with Set and Map
    - One-To-One
    - Criteria, Criterion, Projections & Restrictions
- TX management, Applying isolation levels to avoid inconsistency
- Lazy & Eager Object Loading, Memory & Disk-level Cache, Connection Pooling

### Spring

- Introduction to Spring, Spring software installation using Maven or adding libraries on Eclipse IDE, STS (Spring Tool Suite), Eclipse with Spring IDE
- Spring in Standalone and Enterprise Applications,
- Various MVC Architectures (MVC1, MVC2, JSP Model 1,2,3,4)
- IoC Module / Core Container Module - What is IoC (Inversion of Control), Difference between Dependency Lookup Vs Dependency Injection
  - Runtime Polymorphism implementation using IoC,
  - Dependency Injection - Constructor and Setter Injections
  - Connection Pooling using IoC – BasicDataSource, DriverManagerDataSource
  - Populating various types of objects in bean using IoC
  - Eager (ApplicationContext) & Lazy loading (BeanFactory) Containers, prototype & singleton

- @AutoWired annotation in IoC byType, byName, by constructor, by autodetect
- AOP (Aspect Oriented Programming) Module
  - What is Aspect, What are middleware services, Core Concerns Vs Cross cutting concerns
  - Advices - MethodBeforeAdvice, AfterReturningAdvice, MethodInterceptor, ThrowsAdvice,
  - Joinpoints
  - Pointcuts - StaticMethodMatcherPointcut, DynamicMethodMatcherPointcut, RegExpMethodMatcherPointcut,
  - AOP Container - ProxyFactoryBean, AOP Proxies
  - LoggingInterceptor using AOP
  - ValidationInterceptor using AOP
- JDBC DAO Module
  - JdbcTemplate methods for CRUD operations, JdbcDaoSupport, StatementCallback, PreparedStatementCreator, PreparedStatementCallback, ResultSetExtractor, RowMapper, CallableStatementCreator, CallableStatementCallback, Custom JdbcDAO Implementation
- ORM DAO Support
  - List of ORMs, HibernateTemplate class methods, HibernateDaoSupport, Custom HibernateDAO Implementation
- Business Logic Component Implementation
  - Adding Logging, Programmatic, Declarative, Schema based, Annotation based TransactionManagement to Business Logic Component
- Spring Web MVC Module
  - Implementing from Controller, SimpleFormController, AbstractController, AbstractUrlViewController, MultiActionController classes)
  - SimpleUrlHandlerMapping, InternalResourceViewResolver, ParameterMethodNameResolver, ModelAndView
  - BeanValidation API, Hibernate Validator
  - @Controller, @Valid, @RequestMapping, @ModelAttribute Annotations
- Spring Web Module (Integration with Struts & JSF)
- Spring Context Module (RMI, JMS, Quartz Services, I18N - Internationalization)
- Securing Spring Components

## **XML & Web Services (SOAP & RESTful, JSON)**

XML Introduction, Well-formed, Valid Documents, DTD, Schema, Validating Parsers – DOM & SAX, Web Services Architecture, Building, Deploying & Consuming SOAP WebServices using JAX-RPC, Document & RPC communication style differences, RESTful Webservice development using JAX-RS (Path Param, Query Param, Matrix Param, Form Param, File upload, File download).

**☺☺☺ Good Day, Best of Luck ☺☺☺**