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| 1. | SPRING FRAMEWORK |
| | What is Spring Framework? |
| | Spring Modules |
| | What is Maven? |
| | Steps to Create a Maven Spring Project |
| | Catalog and Archetype in POM.XML |
| | Spring Core Module: |
| | <ul style="list-style-type: none"> • Inversion Of Control(IOC) • ApplicationContext Interface • BeanFactory vs ApplicationContext • Creating Beans in Spring • Dependency Injection(DI) • Autowiring • Modes of Autowiring • Autowiring using Annotations • Stereotype Annotations • Bean Inheritance |
| | Spring AOP Module: |
| | <ul style="list-style-type: none"> • AOP Terminologies • Types Of Advice • Steps to Create a Spring AOP project • Pointcut Expressions |
| | Spring JDBC Module: |
| | <ul style="list-style-type: none"> • Steps to Create a Spring JDBC project • JDBC v/s Spring JDBC Connections • Spring JDBC Configuration |
| | Spring MVC Module: |
| | <ul style="list-style-type: none"> • What is Spring MVC? • Spring MVC Architecture • Front Controller(Dispatcher Servlet) • Steps to create Spring MVC project • Solving Common Project Errors • Basic Configuration Steps • Useful Annotations • Useful Objects (To Send Model to View) |
| | Spring ORM Module: |
| | <ul style="list-style-type: none"> • What is Spring ORM? • Steps to create Spring ORM project • An ORM Tool: Hibernate • Useful Classes and Their Properties • Java to Jakarta Migration • Compatibility Matrix(For, Spring, Hibernate, Java, Tomcat versions) • Dependency List • Schema List |
| 2. | HIBERNATE FRAMEWORK |
| | What is Hibernate Framework? |
| | POJO to Table Mapping |

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| | Steps to create Hibernate project |
| | Hibernate Advantages |
| | Hibernate Configurations |
| | Useful Classes and Interfaces |
| | Useful Annotations |
| | Useful methods for DB Operations |
| | get() v/s load() |
| | Table Relationship: One to One, One to Many, Many to One, Many to Many |
| | Bidirectional Mapping |
| | Bidirectional Mapping Drawback |
| | Mapping Rules |
| | Useful Mapping Annotations |
| | Cascading |
| | HQL |
| | CRUD operations using HQL |
| | Criteria API |
| | Criteria API Useful Classes |
| | Pagination |
| | Caching: First level cache, Second level cache |
| 3. | SpringBoot framework |
| | What is Spring Boot? |
| | Spring Boot Advantages |
| | Spring Boot Dependency Management |
| | Spring Boot Auto Configuration |
| | Steps to create first Spring Boot App |
| | Spring Data JPA |
| | CrudRepository v/s JpaRepository |
| | ReSTful API |
| | Steps to create ReST API |
| | Types of Http Requests for Rest API |
| | Useful Annotations |
| | Postman |
| | JSON Object |
| | ReST API v/s SOAP API |
| | MicroServices Basics |
| | MicroServices Advantages |
| | Steps to create a MicroService |
| | Rest Template |
| | Eureka Server |
| | Steps to create Eureka Server |
| | Properties file for Eureka Server |
| | Register MicroService with Eureka Server |
| | Spring Boot Security |