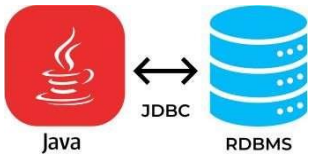
Java

Maven


JDBC
Java
RDBMS

AI

Apache
LOG4J

React

spring

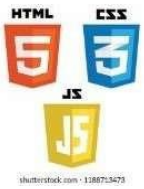
JUnit

mongoDB.

Plan
Design
Develop
Test
Release
Feedback
AGILE

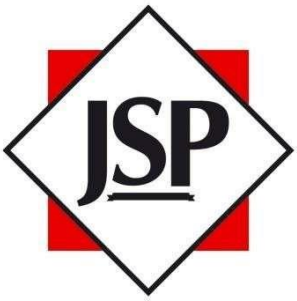
GitHub

amazon
web services

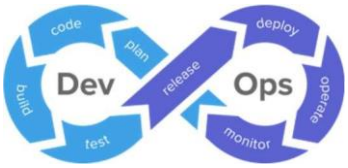

HTML
CSS
JS

Apache Tomcat

MySQL


JSP

JIRA


code
plan
build
test
release
deploy
operate
monitor
Dev
Ops

Servlets

eclipse

HIBERNATE
JAVA ORM

spring
BOOT

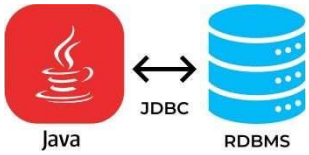
{ REST:API }

JAVA COURSE CONTENT

Core Java

- Introduction to Java
- Data Types and Variables
- Classes and Objects
- Object Oriented Programming
- Constructors
- Control Statements
- Abstract Classes
- Interfaces
- Packages
- Exception Handling
- Multi-threading
- Collection Framework
- Generics
- Input Output Streams
- Java 8 Features

JDBC



- Introduction to SQL
- Introduction to JDBC
- Architecture of JDBC
- Types of Drivers
    - JDBC-ODBC Bridge Driver
    - Native-API Driver
    - Network Protocol Driver
    - Thin Driver
- CRUD Operations using JDBC in Java
- Batch Processing
- Transaction Management

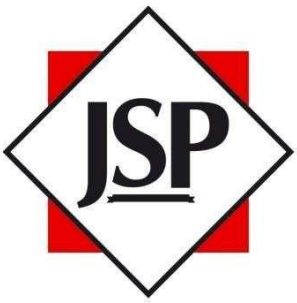
Servlets

- Introduction to Web Technologies
- Ways to create a Servlet
    - Implementing Servlet Interface
    - Extending GenericServlet
    - Extending HttpServlet
- Html with Servlet Communication
- Html with Servlet and Database Communication

- Servlet with Servlet Communication
- ServletConfig & ServletContext
- Session Tracking

JSP

- Introduction to JSP
- Architecture of JSP
- JSP Scripting Elements
    - Scriplet Tag
    - Expression Tag
    - Declaration Tag
- JSP Directive Elements
    - page Directive
    - include Directive
    - taglib Directive
- JSP Action Elements
    - forward
    - include
    - bean
    - setProperty
    - getProperty
- JSP Implicit objects
    - request
    - response
    - config
    - application
    - session
    - pageContext
    - page
    - exception
- JSP and JDBC



Hibernate

- Introduction to Hibernate
- Architecture of Hibernate
- Database CRUD Operations
- Inheritance
    - Table per Hierarchy
    - Table per Sub Class
    - Table per Concrete Class
- Hibernate Relationships
    - One-to-one
    - One-to-many
    - Many-to-one
    - Many-to-many

- HQL and Restrictions
- Criteria in Hibernate

Spring

- Introduction to Spring
- Spring Core (Basic Concepts)
- Spring Core (Advanced Concepts)
- Spring Core (3.0 Annotations)
- Spring MVC
- Spring AOP
- Spring ORM
- Spring Transaction
- Spring JDBC
- Creating Views in Spring MVC

Spring Boot & REST API

- Spring Boot Introduction
- Spring Boot + Maven – Hello World Example
- Creating a RESTful Web Service Example
- Common Application Properties
- How to Change Default Tomcat Server Port
- How to Change Default Context Path
- How to Reload Changes Without Restarting the Server
- How to Create/Configure a Data Source
- How to Configure Multiple Data Source
- Spring Boot + Spring Security – RESTful Web Service with basic Authentication
- Spring Boot + Spring Security – RESTful Web Service with Database Authentication
- Spring Boot + Spring MVC + JSP Hello World Example
- Spring Boot - RESTful Web Service with POST Request in JSON Example

Micro Services

- Introduction to Microservices Architecture
- Fundamentals of RESTful Services
- Java Microservices with Spring Boot
- Building and Deploying Microservices
- Communication Between Microservices
- Microservices Data Management
- API Gateway and Service Discovery
- Security in Microservices
- Monitoring and Logging
- Testing Microservices
- Scaling Microservices
- DevOps and CI/CD for Microservices

Agile Methodology

- Agile Methodology Introduction
- Advantages & Disadvantages of Agile
- Agile Manifesto
- Agile Characteristics
- Agile SDLC
- Agile Scrum
- Agile Daily stand-up
- Product Management

Tools

- Maven
- JUnit
- Log4J
- GitHub
- Jira

Databases

- MongoDB
- MySQL

UI Technologies

- Html
- JavaScript
- TypeScript
- React JS

Softwares required

- JDK 1.8
- Eclipse
- Apache tomcat
- MySQL database

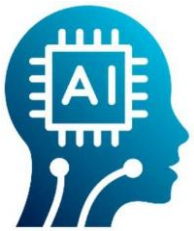
React JS

- Introduction to React JS
- JSX
- Components
- State and Props
- React Hooks

- Forms in React
- React Router
- Redux for State Management
- API Integration
- Performance Optimisation
- Testing React Apps

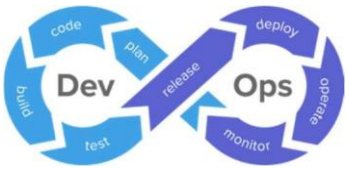
AI for Java

- Introduction to AI
- Why use Java for AI?
- Machine Learning Basics
- Data Handling and Preprocessing
- Building Machine Learning Models in Java
- Neural Networks in Java
- Natural Language Processing (NLP) with Java
- AI in Real-Time Applications
- AI and Java for Image Recognition



AWS Cloud Fundamentals

- AWS Cloud Practitioner Essentials
- Introduction to Amazon web services
- Compute in the Cloud
- Global Infrastructure and Reliability
- Networking
- Storage and Databases
- Security

DevOps Fundamentals

- Introduction to DevOps
- DevOps Architecture
- DevOps Lifecycle
- Pipeline and Methodology
- Jenkins