



## Enterprise Java with Spring Boot Tech Neuron

### Description:

Java is one of the most widely used programming languages, owing to its versatility and compatibility. Java can be used for a variety of purposes, including software development, mobile application development, and large-scale system development. This Java course will teach you all you need to know to get started with Java.

### Start Date:

### Doubt Clear Time:

Wednesday: 2:00 pm to 4:00 pm (IST) Saturday :

### Course Time:

### Features:

- # Course material
- # Course resources
- # On demand recorded videos
- # Practical exercises

# Quizzes

# Assignments

# Course completion certificate

## **What we learn:**

# Java Basics

# Loops

# OOP

# Java Projects

# Exception Handling

# Blockchain Project

# MultiThreading

# Collection Framework

# Junit

# MySQL

# NoSQL

# JDBC

# Hibernate

## **Requirements:**

# System with Internet Connection

# Interest to learn

# Dedication

## **Instructor:**

**>Welcome to the Course:**

>>Course Introduction

## **>Java Basics:**

>>Introduction to Java

>>Setup

>>Getting Started

>>How Java Works

>>Variables

>>Data Types

>>Naming Conventions

>>Operators

>>Conditional Statements

>>If Else

>>Ternary

>>Switch

## **>Loops:**

>>While

>>For

>>Nested Loops

>>Break and Continue

## **>OOP:**

>>Introduction to Object Oriented Programming

- >>Class and Object
- >>Constructor
- >>This Keyword
- >>Method and Constructor Overloading
- >>Static Keyword
- >>Inner Class
- >>Arrays
- >>Enhanced for loop
- >>Varargs
- >>Inheritance
- >>Super Method
- >>Multiple Inheritance
- >>Method Overriding
- >>Super Keyword
- >>Multiple Inheritance
- >>Encapsulation
- >>Wrapper class | Autoboxing
- >>Abstract Keyword
- >>Final Keyword
- >>Interface
- >>Anonymous Inner class
- >>Functional Interface
- >>Lambda Expression
- >>Package

>>Access Modifier

## **>Java Projects:**

>>Number Guessing Game

>>Java Object to JSON Convertor

## **>Exception Handling:**

>>Exceptions

>>Try Catch

>>Finally

>>Multiple Catch Blocks

>>Checked Exceptions

>>User Defined Exception

## **>Blockchain Project:**

>>Building Blockchain using Java

## **>MultiThreading:**

>>Introduction

>>Thread Class

>>Runnable

>>Lambda Expression

>>Thread Priority

>>Synchronized

## **>Project:**

>>Chatting Application

## **>Collection Framework:**

>>Introduction

>>Iterator and List Interface

>>Set

>>Map

>>Comparator, Comparable

>>Generics

## **>Projects:**

>>Online Voting System

>>Work Scheduler

## **>Junit:**

>>Introduction

>>Unit Testing

>>Test Exceptions

>>Multiple Assertions

>>Annotations

## **>Junit Project:**

>>Test Cases for Online Voting System

## >MySQL:

>>Introduction to SQL

>>Setup

>>What is Database

>>Creating, Dropping Databases

>>Introduction to Tables

>>Creating, Dropping, Altering the Tables

>>CRUD

>>Select, Insert, Update, delete Queries

>>Where, groupby, having

>>Aggregate Functions

>>One to many, many to one, many to many relationship

## >Sql with Java Projects:

>>Indexing for Blockchain Project

>>Online Course Management

## >NoSQL:

>>Introduction to NoSQL

>>Categories

>>NoSQL vs RDBMS

>>Couch DB

>>Mongo DB

>>Cassandra

>>Redis

## **>NoSql with Java Projects:**

>>IPL Stats

## **>JDBC:**

>>Introduction

>>CRUD Operations

>>ResultSet

>>Connection Pooling

## **>JDBC Project:**

>>Book My Calendar

## **>Hibernate:**

>>Introduction to Hibernate

>>Setup

>>Configuration File

>>SQL Property

>>Annotation

>>CRUD

>>Embeddable Object



>>Mapping Relations

>>EAGER LAZY

>>Caching

>>HQL

>>Object States Persistence Life Cycle

>>Get vs Load

>>JPA

## **>Hibernate Project:**

>>Hall of Fame

## **>Servlets and JSP:**

>>Introduction

>>Setup

>>Creating First project

>>Creating Servlet and XML

>>Get vs Post

>>RequestDispatcher

>>HttpServletRequest and HttpServletResponse

>>RequestDispatcher and sendRedirect

>>HttpSession and Cookie

>>ServletConfig and ServletContext

>>Servlet Annotation Configuration

>>JSP

>>JSP to Servlet

>>Tags, Scriptlet, Declaration, Directive, Expression

>>Implicit Objects

>>Exception handling in JSP

>>JDBC in JSP

>>Servlet Filters

**>JSP Project:**

>>Stock Broker

**>Spring:**

>>Introduction

>>Dependency Injection

>>BeanFactory

>>ApplicationContext

>>Spring Container

>>Singleton vs Prototype

>>Setter Injection

>>Ref Attribute

>>Constructor Injection

>>Autowire

>>Primary Bean

**>Spring Boot:**

>>Introduction

## **>Spring MVC:**

>>Introduction

>>Creating Controller

>>Accepting User Input

>>@RequestParam

>>@ModelAttribute

>>Prefix and Suffix

>>Model and ModelMap

>>ModelAttribute

>>GetMapping and PostMapping

## **>Spring Project:**

>>Quiz Application

## **>Spring ORM:**

>>Introduction

>>Spring Hibernate Config

>>MySQL and DAO

>>DAO Creation

>>Add and Fetch

## **>Spring Data JPA:**

>>Spring Data JPA Configuration

>>JpaRepository

>>JpaRepository Add and Fetch

>>Query DSL

>>Query Annotation

## **>Spring REST:**

>>Introduction

>>REST GetMapping

>>Jackson

>>PathVariable

>>RestController

>>PostMapping

>>Jackson XML

>>Produces Attribute

>>RequestBody and Consumes Attribute

## **>Spring AOP:**

>>Why AOP

>>AOP Terms

>>Aspect and Before Annotation

>>Logger

>>After Finally

>>AfterReturning and Throwing

## **>Spring Security:**

- >>Introduction
- >>Implementation
- >>Managing Users
- >>Passwords
- >>Authentication
- >>Authorization
- >>CSRF and CORS
- >>OAuth2
- >>JWT

## **>Spring Mega Project:**

- >>Secure Stock Broker App

## **>Agile and Scrum (Optional):**

- >>Agile Values
- >>12 Agile Principles
- >>Scrum Overview
- >>Scrum Values
- >>Concept of Sprints
- >>Scrum Roles
- >>Role of Scrum Master
- >>Role of Product Owner

- >>Role of Development Team
- >>Daily Stand-up
- >>Sprint Planning
- >>Sprint Review
- >>Sprint Retrospective
- >>Backlog Refinement
- >>User Stories
- >>Product Backlog and Sprint Backlog
- >>Working Agreements
- >>Definition of Ready, Done
- >>Team Velocity
- >>Burndown Chart

## **>Docker Installation Basics:**

- >>What is Docker?
- >>How to install Docker and Hello World
- >>What is container in Docker
- >>Docker vs Virtual Machine
- >>First interaction with busy box image

## **>Fundamentals of docker:**

- >>Docker lifecycle and PS
- >>Start and delete a container
- >>Getting a mongodb container for fun

>>Exploring exec command

>>Multiple ways to get inside a container

### **>Custom Docker images:**

>>Analogy for custom docker image

>>Our first base image and custom image

>>Behind the scene for custom image

>>Creating a custom mongodb image

>>Concept of caching in docker

>>Provide a custom name for your image

### **>Project and Docker:**

>>Introduction to node project for docker

>>Introduction to node project for docker part 2

>>Containerize a node application

>>Performance upgrade in node project container

### **>Multi container setup:**

>>Introduction to multi docker container

>>A mini mongo connector project

>>Put your node code in a container

>>Introduction to docker compose

>>Connect 2 compose images in docker

>>Access the compose container app with browser

## **>Ngnix - production grade deployment:**

- >>Ngnix A production grade docker
- >>Attaching volumes in Docker
- >>Types of docker files
- >>Dev test and production stages
- >>Understand react project for docker deployment
- >>Docker for development
- >>Docker for testing
- >>Docker for production

## **>Docker AWS and Travis CI:**

- >>Docker CI and AWS
- >>What is CI CD Jenkins vs Travis CI
- >>Moving to AWS Elastic Beanstalk
- >>Moving project to github repo
- >>Reading Travis CI documentation
- >>Writing our 1st travis CI config file
- >>AWS IAM user generation
- >>Elastic Beanstalk and S3 bucket
- >>Finally hosting app on AWS with CI integrated with docker
- >>TURN OFF those AWS apps