



PROFESSIONAL TRAINING PROGRAM

JAVA

FULL STACK

with **GenAI** **DSA** **AWS** **AI Tools**

Master Java Full Stack Development with industry-relevant skills and real-world projects.



BUILD

Strong concepts & scalable apps



INNOVATE

Solve problems & create solutions



DEPLOY

Launch, scale & make an impact

WHAT YOU WILL MASTER



Java



DSA



Database



React JS



Spring Boot



REST API



Microservices



AWS



GenAI



AI Tools

WHAT YOU'LL BUILD



E-commerce Platform



AI-Powered Chat Application



Task Management System



Blog / Content Management System



Real-time Collaboration App



Cloud-Ready Scalable Applications



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Hyderabad 500016

COURSE OVERVIEW

Full Stack Java with GenAI, DSA, AWS & AI Tools

RaiseTech's Full Stack Java program is aligned to industry standards and designed by experienced Java professionals. It takes you from Core Java fundamentals to building, securing and deploying AI-enabled, cloud-ready full stack applications.

150 DAYS
COURSE DURATION

450 HOURS
SESSION HOURS

12 MODULES
INCLUDING CAPSTONE

TRAINING HIGHLIGHTS

- ✓ Industry-ready curriculum designed by experienced professionals
- ✓ Learn-by-doing methodology with hands-on assignments
- ✓ Subject matter experts as trainers
- ✓ Access to recorded live class videos
- ✓ Personalized attention and guidance to accelerate learning
- ✓ Private group for instant doubt clarification
- ✓ Guest lectures from industry professionals
- ✓ Real-time projects and practical, detailed approach

TECHNOLOGIES YOU WILL WORK WITH



COURSE ROADMAP

01	Core Java Syntax, OOPs, exceptions, collections, threads, Java 8	02	Oracle SQL & PL/SQL Queries, joins, constraints, procedures, triggers
03	Advanced Java JDBC, Servlets, JSP, Tomcat, Git, Maven, JUnit	04	Spring Boot IoC, Spring Web, Thymeleaf, Spring Data JPA
05	Microservices & Security Eureka, API Gateway, Feign, Mockito, Spring Security	06	Web Development HTML5, CSS3, JavaScript, Bootstrap 4
07	ReactJS Components, Hooks, Router, Redux, Axios	08	AWS Cloud EC2, EBS, RDS, S3, Elastic Beanstalk, deployment
09	Data Structures & Algorithms Searching, sorting, linked lists, trees, graphs, DP	10	GenAI with Spring AI OpenAI, chatbots, text-to-image, text-to-audio
11	AI Tools for Developers Prompting, AI pair programming, testing, debugging	12	Capstone Project Employee Management System with ReactJS, Spring Boot, MySQL

MODULE 01 • CORE JAVA

Core Java

Build a rock-solid foundation in Java syntax, OOP principles and the language internals every professional developer relies on.

JVM

OOPs

Strings

Packages

Enums



a) Basic Introduction of Java

20 topics

- Programming Language
- Modules in Java
- History of Java
- Internal Architecture of JVM
- Naming Conventions
- Identifiers
- Reserved Words
- Data Types
- Types of Variables
- Var-arg Method
- Main Method
- System.out.println()
- Command Line Arguments
- Java Source File Structure
- Types of Blocks in Java
- Type Casting in Java
- Fully Qualified Name
- Import Statements
- Control Statements
- Arrays



b) OOPs

26 topics

- Class
- Object
- Data Hiding
- Abstraction
- Encapsulation
- Is-A Relationship
- Has-A Relationship
- Types of Inheritance
- Method Overloading
- Method Overriding
- Method Hiding
- Polymorphism
- Constructors
- this Keyword
- super Keyword
- Interfaces
- Abstract Classes
- Wrapper Classes
- What is API?
- Packages
- Enum
- Inner Classes
- String
- StringBuffer
- StringBuilder
- StringTokenizer

**WHAT YOU WILL
BE ABLE TO DO**


Write clean, object-oriented Java programs



Understand JVM architecture and internals



Work confidently with Strings, Packages and Enums

MODULE 01 • CORE JAVA (CONTINUED)

Core Java: Advanced Concepts

Handle errors gracefully, work with files and collections, write concurrent programs and use modern Java 8 features.

[Exceptions](#)
[java.io](#)
[Collections](#)
[Threads](#)
[Java 8](#)


c) Exception Handling

9 topics

- Exception vs Error
- Types of Terminations
- Exception Hierarchies
- try block
- catch block
- finally block
- throw statement
- throws statement
- Custom exceptions in Java



d) java.io Package

7 topics

- File
- FileWriter
- FileReader
- BufferedWriter
- BufferedReader
- PrintWriter
- Various ways to provide inputs



f) Multi-Threading

12 topics

- Thread vs Process
- Multi-Tasking
- Multi-Threading
- Ways to start a thread in Java
- Setting and getting thread name
- Thread priority
- Methods to prevent thread execution
- Daemon thread
- Synchronization
- Types of synchronization
- Inter-thread communication
- Deadlock in Java



e) Collections

5 topics

- What is Collection?
- List Interface
- Set Interface
- Map Interface
- Types of cursors in Java



g) Java 1.8 Features

5 topics

- Functional Interface
- Lambda Expression
- java.time package
- Default and static methods in interface
- Stream API

MODULE 02 • DATABASE

Oracle SQL & PL/SQL

Master relational database concepts, write powerful SQL queries and build stored logic with PL/SQL.

DDL / DML

Joins

Constraints

Cursors

Triggers



a) SQL

19 topics

- Types of Data
- Introduction to Oracle
- Tables, DBMS, RDBMS
- DDL commands
- DML commands
- DRL commands
- DML commands with where clause
- TCL commands
- DCL commands
- Operators in SQL
- Group by, Having and Order by
- Integrity constraints
- Types of constraints
- Joins
- Sub Queries
- Sequences
- Synonyms
- Pseudo columns
- Indexes



b) PL/SQL

11 topics

- Introduction to PL/SQL
- Control statements in PL/SQL
- Loops in PL/SQL
- SQL operations in PL/SQL
- DML operations in PL/SQL
- Exception Handling
- Cursors
- Procedures
- Functions
- Packages
- Triggers

RELATIONAL MODEL

EMPLOYEE

emp_id	PK
emp_name	
dept_id	FK

INNER JOIN

DEPARTMENT

dept_id	PK
dept_name	
location	

JOIN • GROUP BY • SUB QUERY

WHAT YOU WILL BE ABLE TO DO



Design tables and write complex SQL queries



Build procedures, functions and triggers



Keep data accurate with constraints

MODULE 03 • ADVANCED JAVA

Advanced Java

Connect Java to databases, build web applications with Servlets and JSP, and learn the real tools used on the job.

JDBC

Servlets

JSP

Tomcat

Git

Maven



a) JDBC

14 topics

- Introduction to JDBC
- JDBC Drivers Architectures
- Files vs Database
- Connection object
- Types of Statement objects
- Types of ResultSet objects
- Select query executions
- Non-select query executions
- Working with Date values
- Working with LOB values
- DatabaseMetadata
- ResultSetMetaData
- Batch Processing
- Transaction Management



b) Servlets

13 topics

- What is web application?
- What is web resource program?
- What is web container?
- Sample web application creation
- Types of URL patterns
- MIME Types
- Types of Communications
- Servlet Filters
- Servlet life cycle methods
- ServletConfig object
- ServletContext object
- Stateless behavior of web application
- Session Tracking



d) Servers

2 topics

- Tomcat Server
- WebLogic Server



c) JSP

9 topics

- Introduction to JSP
- JSP life cycle
- JSP Tags
- JSP to Database communication
- JSP to Java Bean communication
- JSP implicit objects
- JDBC Connection pooling
- JSP MVC Architecture
- Working with IDEs



f) Real Tools

3 topics

- Git / GitHub
- Maven / Gradle
- JUnit



g) SDLC

2 topics

- What is SDLC
- Types of phases in SDLC



e) IDEs

2 topics

- Eclipse
- NetBeans



h) Project

2 topics

- Module 1
- Module 2

MODULE 04 • JAVA FRAMEWORKS

Spring Boot

Go from the Spring Framework basics to production-style REST applications using Spring Boot.

IoC

Spring Web

Thymeleaf

Spring Data JPA

H2



1. Introduction

13 topics

- Introduction
- Limitations with Spring Framework
- IOC Container
- Dependency Injection
- Types of Dependency Injection
- What is Spring Boot
- Advantages of Spring Boot
- Components of Spring Boot
- Spring Initializr
- First Spring Boot Application
- @SpringBootApplication Annotation
- Spring Boot Starter
- Spring vs Spring Boot



2. Spring Web

6 topics

- Introduction to Spring Web
- Web Application Development
- application.properties File
- Web Annotations
- Spring Boot Thymeleaf
- Thymeleaf with H2 Database

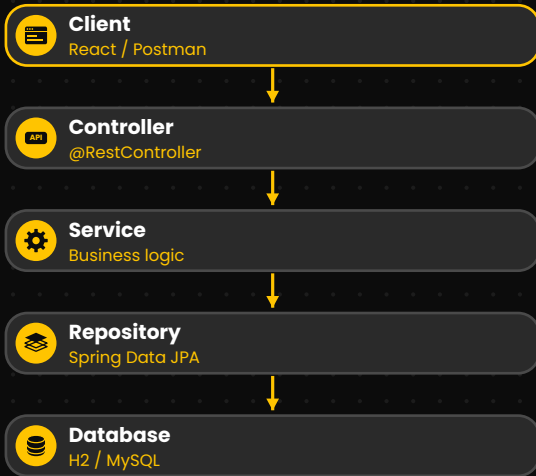


3. Spring Data JPA

7 topics

- Introduction to Spring Data JPA
- Types of Repositories
- Spring Boot Layered Architecture
- Spring Boot with H2 Database
- @RestController
- @Controller vs @RestController
- Reading Data from Properties File

LAYERED ARCHITECTURE



YOUR FIRST SPRING BOOT APP

- 1 Generate with Spring Initializr
- 2 Add starter dependencies
- 3 Annotate @SpringBootApplication
- 4 Configure application.properties
- 5 Build REST endpoints
- 6 Connect to H2 database

WHAT YOU WILL BE ABLE TO DO



Create Spring Boot apps from scratch



Build REST APIs with layered architecture



Persist data using Spring Data JPA

MODULE 05 • ARCHITECTURE & SECURITY

Microservices & Spring Security

Design scalable distributed systems with Spring Cloud and protect them with authentication and authorization.

REST

Eureka

API Gateway

Feign

Security



1. Introduction

3 topics

- Monolithic vs Microservice Architecture
- What is Microservice
- Project Lombok



2. Microservice

16 topics

- HTTP Methods (GET, POST, PUT, DELETE, PATCH)
- Exception Handling
- Custom Queries in Spring Boot
- Spring Boot Actuator
- Eureka Server
- Spring Cloud API Gateway
- Types of APIs
- API Validation
- Spring Cloud Hystrix
- Multiple Database Software
- Rest Template
- Feign Client
- Unit Testing using Mockito
- POSTMAN Tool
- Load Balancer
- Spring Boot Cache

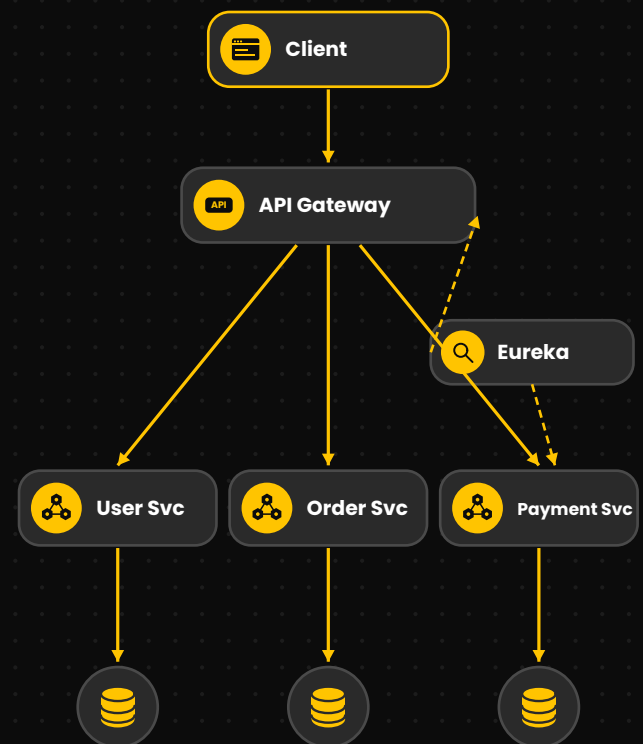


3. Spring Security

5 topics

- What is Spring Security
- Authentication
- Authorization
- Building First Spring Security Application
- Building Authentication-Based Application

MICROSERVICES ARCHITECTURE



Each service owns its data

WHAT YOU WILL BE ABLE TO DO



Split monoliths into microservices



Secure applications with Spring Security



Test services with Mockito and Postman

MODULE 06 • WEB DEVELOPMENT

HTML5 & CSS3

Learn how the web is built: structure pages with HTML5 and style them beautifully with CSS3.

HTML5

Forms

Tables

CSS3

Layouts



HTML-5 • a) Introduction

24 topics

- What is HTML5?
- Types of Search Engines?
- What is Web page?
- Comments in HTML
- HTML Basic Tags
- HTML Colors
- HTML Tables
- HTML Forms
- HTML datalist Tag
- <iframe> tag
- HTML Video
- Graphics in HTML
- HTML Layouts
- Types of Browsers?
- What is Web site?
- Simple HTML skeleton program
- HTML5 Meta Tags
- Phrase Tags in HTML5
- HTML Images
- Lists in HTML
- Block vs Inline Elements
- GET vs POST methodology
- Frames
- HTML Audio



b) Editors

2 topics

- NotePad
- NotePad++



CSS-3 • a) Introduction

19 topics

- What is CSS?
- Types of CSS?
- CSS background property
- CSS borders
- CSS margins
- CSS paddings
- CSS ID selector
- CSS Class selector
- CSS Height and Width
- CSS overflow property
- CSS border-radius property
- CSS box-shadow property
- CSS float property
- CSS list property
- CSS tables
- CSS display property
- CSS transform property
- CSS transition property
- CSS position property



b) CSS Design Work

3 topics

- CSS Design 1
- CSS Design 2
- CSS Design 3



c) Editors

1 topics

- Sublime

MODULE 06 • WEB DEVELOPMENT (CONTINUED)

JavaScript & Bootstrap 4

Bring pages to life with JavaScript and build responsive, professional interfaces using Bootstrap 4.

JavaScript

DOM Events

Validation

Bootstrap 4

Responsive



JavaScript • a) Introduction

12 topics

- Introduction to JavaScript
- Types of JavaScript
- JavaScript variables
- JavaScript strings
- JavaScript operators
- JavaScript validation
- JavaScript loops
- JavaScript arrays
- JavaScript functions
- JavaScript events
- JavaScript form validation
- JavaScript regular expression



Bootstrap 4 • a) Introduction

14 topics

- What is Bootstrap
- Advantages of Bootstrap
- Bootstrap buttons
- Bootstrap alerts
- Bootstrap badges
- Bootstrap dropdown
- Bootstrap grid system
- Bootstrap navbar
- Bootstrap tables
- Bootstrap cards
- Bootstrap forms
- Bootstrap pagination
- Bootstrap progress bar
- Bootstrap carousel



b) Editor

1 topics

- VSC (Visual Studio Code)



c) Task

3 topics

- Task 1
- Task 2
- Task 3



b) Design

3 topics

- Designs 1
- Designs 2
- Designs 3

WHAT YOU WILL BE ABLE TO DO



Add interactivity with JavaScript



Build responsive layouts with Bootstrap 4



Complete hands-on tasks and design practice

MODULE 07 • FRONT-END

React / ReactJS

Build fast, component-driven single page applications and connect them to real back-end services.

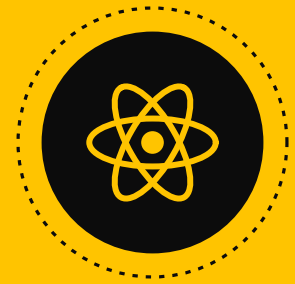
JSX

Hooks

Router

Redux

Axios



a) Getting Started

9 topics

- React Introduction
- Advantages of React
- JSX Introduction
- Expressions in JSX
- JSX elements
- React virtual DOM
- First application development in React
- React project structure explanation
- React Fragment



b) Components & Data Flow

9 topics

- Components in React
- Function vs Class component
- Props
- State
- Composing component
- CSS in React
- Type checking in props
- ReactJS vs React Native
- ReactJS vs AngularJS



c) Events, Lifecycle & Hooks

7 topics

- Event Handling in React
- Update state using event handling
- Phases of components in React
- Life cycle methods in React
- Hooks introduction
- Predefined hooks
- Custom hooks

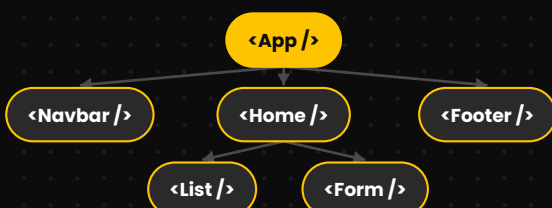


d) Routing, Forms & Integration

9 topics

- React Router
- Lists in React
- Key in React
- Assets in React
- Bootstrap in React
- React Forms
- Axios
- ReactJS + NodeJS + MySQL integration
- React Redux

COMPONENT TREE



WHAT YOU WILL BE ABLE TO DO



Build component-driven single page apps



Manage state with Hooks and Redux



Connect React to back-end APIs and MySQL

MODULE 08 • CLOUD

AWS – Amazon Web Services

Understand cloud infrastructure and deploy web and Spring Boot applications on Amazon Web Services.

EC2

EBS

RDS

S3

Elastic Beanstalk



a) Cloud Fundamentals & Linux

10 topics

- Types of Applications
- PC vs Server
- Need of Cloud Infrastructure
- What is Cloud Computing
- What is AWS? And why choose AWS
- How to create an account in AWS
- What is an Operating System and its types
- Importance of Linux in Cloud Environment
- How to create a Linux server in AWS
- Putty vs Xshell

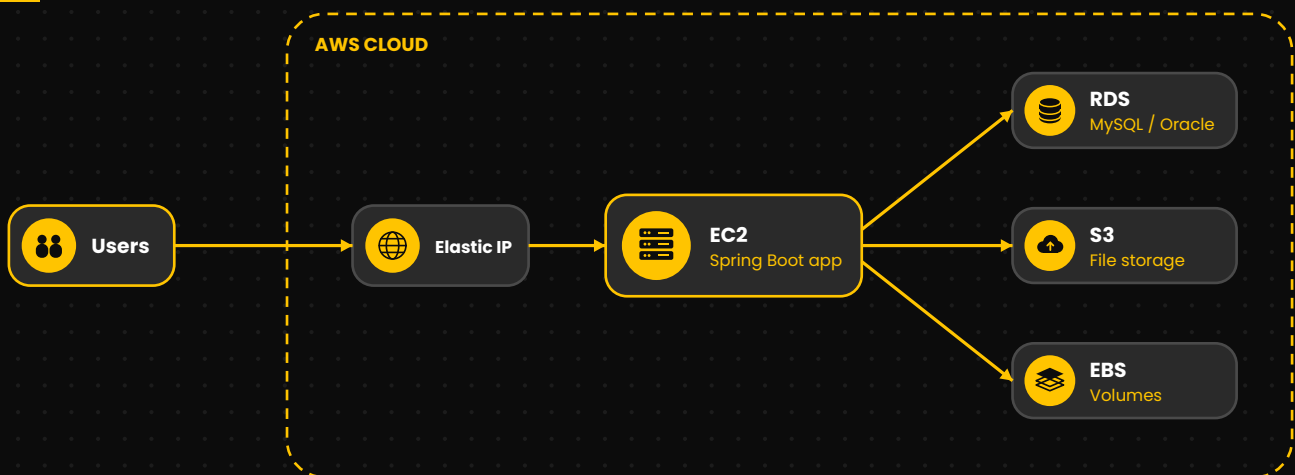


b) AWS Services & Deployment

10 topics

- AWS EC2 Instance
- Types of instances in AWS
- AWS Tenancy
- AWS Launch Template
- AWS EBS volumes
- Need of Elastic IP Address
- AWS RDS service for JDBC Application
- Deploy web application in Elastic Beanstalk
- AWS S3 service
- Deploy Spring Boot application in AWS Cloud

DEPLOYMENT ON AWS



WHAT YOU WILL BE ABLE TO DO



Launch and manage Linux servers on EC2



Use RDS and S3 for data and storage



Deploy Spring Boot apps on AWS Cloud

MODULE 09 • PROBLEM SOLVING

DSA (Data Structures & Algorithms)

Sharpen your problem-solving skills with the data structures and algorithms behind every coding interview.

Searching

Sorting

Recursion

Trees

Graphs



1. Introduction

7 topics

- What is Data
- What is Data Structure
- Types of Data Structures
- Pseudo Code
- Flow Chart
- Time complexity
- Space complexity



2. Searching

2 topics

- Linear Search
- Binary Search



3. Dynamic Programming

3 topics

- Recursion
- LCS Longest Common Subsequence
- Interview Programs



4. Sorting

6 topics

- Bubble Sort
- Selection Sort
- Insertion Sort
- Divide and Conquer
- Quick sort
- Merge Sort



5. LinkedList

4 topics

- What is LinkedList
- Singular LinkedList
- Doubly LinkedList
- Circular LinkedList



6. Stack and Queue

2 topics

- Stack Implementation
- Queue Implementation



7. Trees

2 topics

- Binary Tree
- BST Binary Search Tree



8. Graphs

6 topics

- What is Graph
- Types of Graphs
- Directed graph to adjacent matrix
- Directed graph to adjacent list
- Depth First Search (DFS)
- Breadth First Search (BFS)

DATA STRUCTURES AT A GLANCE



ARRAY



LINKED LIST



BINARY TREE



GRAPH

MODULE 10 • GENERATIVE AI

GenAI with Spring AI

Add intelligence to your Java applications by integrating generative AI models through Spring AI.

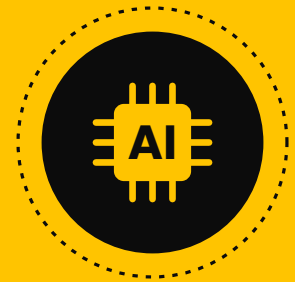
AI / ML / DL

Spring AI

OpenAI

Chatbots

RAG



a) Spring AI: Introduction

9 topics

- What is AI
- Types of AI
- AI vs ML vs DL vs Generative AI
- Real-time AI Applications
- What is Spring AI
- OpenAI
- Chatbot Application using OpenAI
- Text to Image using OpenAI
- Text to Audio using OpenAI



b) Building GenAI Applications

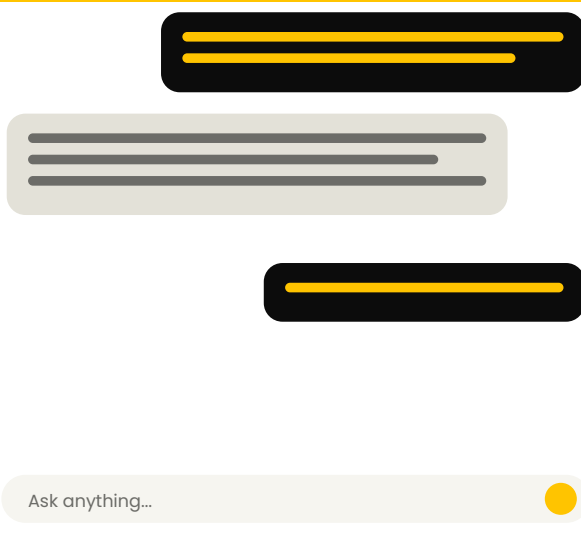
4 topics

- Prompt engineering basics
- Chat models and embeddings
- Retrieval-Augmented Generation (RAG)
- Integrating AI APIs with React front-end

AI-POWERED CHAT APPLICATION



AI Assistant



React UI
Chat interface



Spring Boot API
REST endpoint



Spring AI
Prompt & model client



OpenAI
Chat / Image / Audio

WHAT YOU WILL BE ABLE TO DO



Build an AI chatbot with Spring AI and OpenAI



Generate images and audio from text



Tell AI, ML, DL and Generative AI apart

MODULE 11 • AI TOOLS

AI Tools for Developers

Work faster and smarter by using AI assistants for coding, debugging, testing and documentation.

Prompting

AI Pair Programming

Debugging

Testing



a) AI-Assisted Development

7 topics

- Prompt engineering for developers
- AI pair programming in the IDE
- Code generation and refactoring
- Debugging with AI
- Unit test generation (JUnit / Mockito)
- SQL query generation and optimization
- Documentation and code review with AI

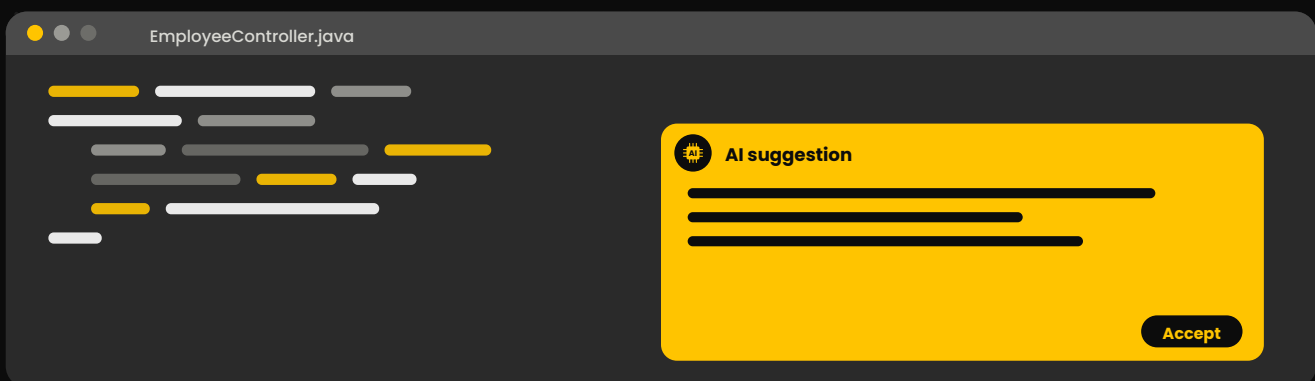


b) Responsible AI Use

3 topics

- Limitations and hallucinations
- Validating AI-generated code
- Data privacy and secure usage

AI-ASSISTED DEVELOPMENT WORKFLOW



Idea



Prompt



AI Draft



Review & Test



Ship

WHAT YOU WILL BE ABLE TO DO



Write effective prompts for development tasks



Speed up coding, testing and debugging with AI

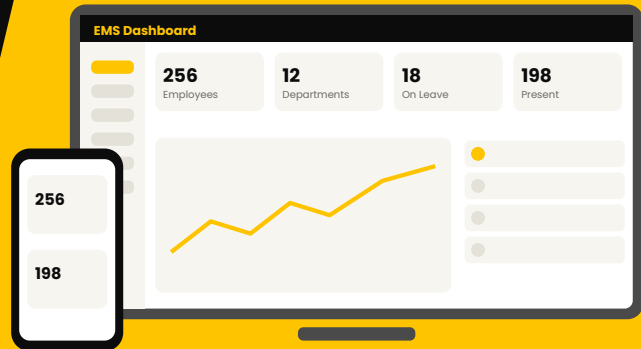


Review and validate AI-generated code

FEATURED PROJECT

EMPLOYEE MANAGEMENT SYSTEM

A secure and efficient web application to manage employees, departments, attendance, leaves and performance – all in one place.



KEY MODULES



Employee Management

Add, update, view & manage employee details



Attendance Tracking

Track daily attendance records



Leave Management

Track leave requests with real-time status



Reports & Analytics

Generate insights and visual reports



Role & Access Control

Secure role-based access for users

TECH STACK



ReactJS

A JavaScript library for building fast, interactive and responsive user interfaces.



Spring Boot

A powerful Java framework for building robust and scalable backend services.



MySQL

A reliable relational database management system for storing and managing data.

CORE FEATURES



User Authentication

Secure login & role-based access



Employee CRUD

Add, edit, delete & view records



Attendance

Mark, update & view records



Leave Workflow

Apply, review & approve requests



Dashboard & Reports

Visual insights & analytics



Responsive Design

Works seamlessly on all devices

WHAT YOU'LL BUILD



E-commerce Platform



AI-Powered Chat Application



Task Management System



Blog / Content Management System



Real-time Collaboration App



Cloud-Ready Scalable Applications



EMPOWERING FUTURE TECH LEADERS

At RaiseTech, we transform beginners into industry-ready professionals through practical learning, real-world projects and expert mentorship.

WHY CHOOSE RAISETECH?

- **INDUSTRY RELEVANT CURRICULUM**
Designed as per the latest industry standards.
- **HANDS-ON EXPERIENCE**
Practical skills through real-time projects and assignments.
- **CAREER FOCUSED TRAINING**
Job-ready skills and career growth.
- **GROW WITH CONFIDENCE**
From basics to advanced, step by step.

OUR COURSES

-  Java Full Stack Development
-  Python Full Stack Development
-  MERN Stack Development
-  Data Science & Machine Learning
-  Cyber Security
-  Cloud Computing (AWS)
-  UI/UX Design
-  Data Analytics

WHAT YOU WILL LEARN



PROGRAMMING
FUNDAMENTALS



WEB
DEVELOPMENT



DATABASE
MANAGEMENT



REAL-WORLD
PROJECTS



DEPLOYMENT
& DEVOPS

START YOUR JOURNEY TODAY

Talk to our counsellors and book a free demo session.



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