

Softcrayons

JAVA FULL STACK

Empowering minds shaping futures







PROFESSIONAL CERTIFICATION IN





Key Advantages of Choosing Softcrayons

FOR STUDENTS

Supplemental Learning Resources: Softcrayons offers offline and online courses, educational materials, and additional resources that can complement and enhance college students' learning.

Skill Development: Softcrayons offer courses and certifications focused on developing specific skills that are in high demand in the job market.

Career Exploration: Softcrayons offer a wide range of courses across various discplines, enabling college students to explore different fields and potential career paths.

Industry Relevance: Softcrayons frequently collaborates with industry professionals and experts to ensure that the knowledge and skills imparted are relevant and aligned with current industry practices and trends.

FOR FREELANCER & JOB SEEKER

Flexibility: Softcrayons offers online courses and programs that can be accessed from anywhere.

Skill Development: To acquire in-demand skills according to the latest industry trends and technologies to stay competitive in the job market.



Key Advantages of Choosing Softcrayons

Certifications: Softcrayons provides you with Professional Certifications and helps you with Resume Enhancement.

Career Support: Softcrayons also offers career counseling and job placement assistance, which can be invaluable for freelancers seeking new projects or job seekers looking for employment.

FOR ENTREPRENEURS AND BUSINESS OWNER

Upskilling and Reskilling: As the business landscape evolves rapidly, Softcrayons ensure that you stay up-to-date with the latest trends, technologies, and best practices.

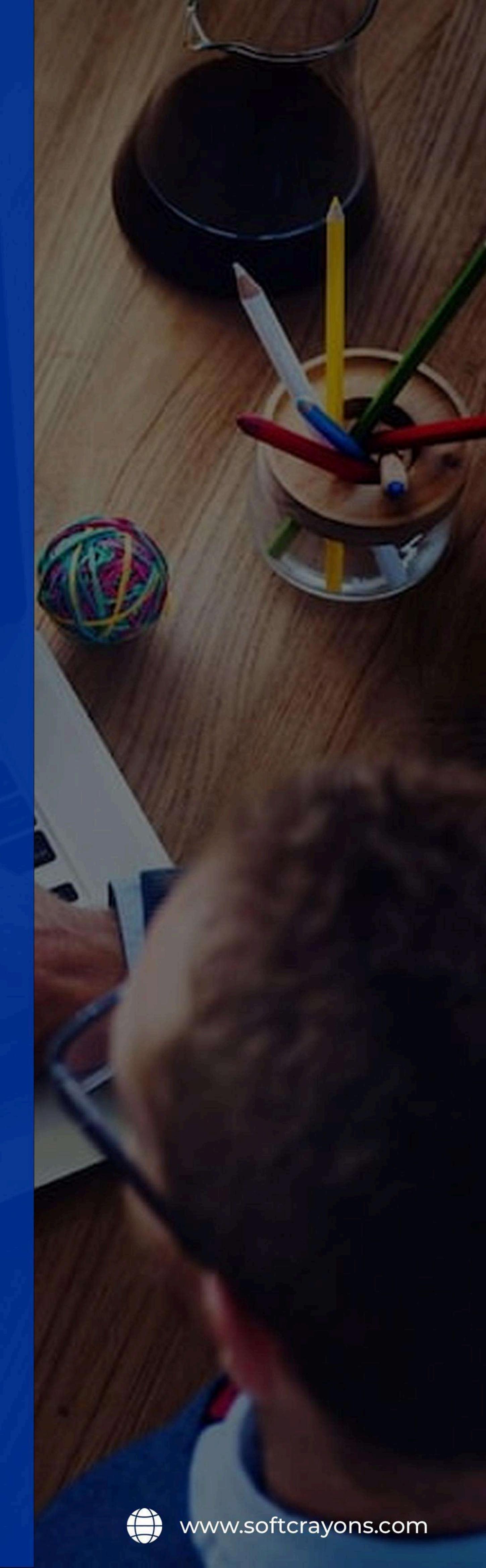
Flexible Learning: Online courses offered by Softcrayons allow you to learn at your own pace, fitting your studies around your busy schedules.

Entrepreneurial Skills Development: Softcrayons offers courses and programs specifically designed to help entrepreneurs develop essential skills.

Cost-effective: Softcrayons provides more affordable learning options that help you invest in your professional development without straining your budget.

About The Program

A Java full stack course with Data Structures and Algorithms (DSA) provides a comprehensive understanding of building web applications from the ground up. It starts with Java fundamentals, including object-oriented programming, collections, and multithreading. Front-end development is covered through HTML, CSS, JavaScript, and popular frameworks like React or Angular. For the back-end, you'll delve into Java web technologies like Servlets, JSP, and the powerful Spring or Hibernate framework. Database concepts, SQL, and Java Persistence API (JPA) are also integral parts of the curriculum. The DSA module equips you with problem-solving skills, teaching you time and space complexity analysis, data structures like arrays, linked lists, trees, graphs, and algorithms for sorting, searching, and problem-solving techniques like dynamic programming and greedy algorithms. This well-rounded course prepares you for technical interviews and enables you to develop efficient, scalable, and high-performance web applications using Java.



HTML (HYPER TEXT MARKUP LANGUAGE):

- Introduction to HTML
- Basic HTML Structure
- Text Formatting
- Lists
- Links
- Images
- Tables
- Forms
- Multimedia
- Transitioning to HTML5
- Basic HTML5 Structure
- HTML5 Best Practices
- Integrating with CSS3 and JavaScript

2 CSS (CASCADING STYLE SHEETS):

- Introduction to CSS
- CSS Selectors
- CSS Box Model
- CSS Colors
- CSS Backgrounds
- CSS Text
- CSS Layout
- CSS Transitions
- CSS Transformations
- CSS Animations
- CSS Responsive Design
- CSS Frameworks, Preprocessors & Tools
- CSS Best Practices





3 JAVASCRIPT

- Introduction to JavaScript
- JavaScript Basics
- DOM Manipulation
- JavaScript Objects
- JavaScript Data Structures
- Asynchronous JavaScript
- ES6 and Beyond
- Functions and Functional Programming
- DOM Events and Browser APIs
- JavaScript Tooling and Ecosystem
- Advanced JavaScript Concepts

BOOTSTRAP

- Introduction to Bootstrap
- Bootstrap Grid System
- Bootstrap Content
- Bootstrap Components
- Building Responsive Designs with Bootstrap
- Customizing Bootstrap with Sass

5 TAILWIND CSS

- Introduction to Tailwind CSS
- Tailwind CSS Fundamentals
- Layout and Flexbox
- Grid and Box Alignment
- Typography and Backgrounds
- Borders, Effects, and Transitions



- Forms and Interactive Elements
- Customizing Tailwind CSS
- Integrating Tailwind CSS
- 6 REACT.JS
 - Getting Started with React
 - React Fundamentals
 - React Components
 - React State Management
 - React Hooks
 - React Router
 - React Forms and Validation
 - React and API Integration
 - State Management with Redux
 - Advanced React Concepts
 - React Testing
 - React Ecosystem and Tooling
 - React for Mobile Development
 - Real-World React Projects

ANY ONE DATABASE (MONGODB OR MYSQL)

- 7 MONGODB
 - Introduction to NoSQL and MongoDB
 - MongoDB Installation and Setup
 - MongoDB Data Model
 - CRUD Operations





- Indexing and Performance
- Aggregation Framework
- Data Modeling and Schema Design
- Replication and Sharding
- MongoDB Integration
- Administration and Security
- Advanced Topics (Optional)

8 MYSQL

- Introduction to Databases and SQL
- MySQL Installation and Setup
- SQL Basics
- SQL Queries and Operators
- Database Design and Normalization
- Advanced SQL Topics
- MySQL Administration
- MySQL Programming
- Advanced MySQL Topics (Optional)

9 JAVA LANGUAGE

- Introduction to Java
- Basics of Java Programming
- Data Types and Variables
- Operators
- Control Flow Statements
- Java Functions
- Arrays
- Object-Oriented Programming Concepts





- Strings
- Exception Handling
- Packages and Access Modifiers
- Interfaces and Abstract Classes
- Collections Framework
- File Handling
- Servlets
- JavaServer Pages (JSP)
- JDBC (Java Database Connectivity)
- Session Management and Cookies
- Filters and Listeners
- File Upload and Download
- Internationalization and Localization
- JavaMail API
- Security in Web Applications
- Web Application Deployment

ANY ONE JAVA FRAMEWORK (SPRING OR HIBERNATE)

10 SPRING FRAMEWORK

- Introduction to Spring Framework
- Core Spring
- Spring AOP
- Spring MVC
- Spring Data
- Spring Security
- Spring Boot
- Advanced Topics







- Introduction to Hibernate
- Hibernate Configuration
- Mapping Entities
- Persistence Operations
- Querying with Hibernate
- Advanced Hibernate Features
- Hibernate Integration
- 2 APIS (APPLICATION PROGRAMMING INTERFACES)
- B DATA STRUCTURES AND ALGORITHMS (DSA)
 - Introduction to Data Structures and Algorithms
 - Fundamental Data Structures
 - Sorting and Searching Algorithms
 - Recursion
- 12) GITAND GITHUB
 - Introduction to Version Control
 - Git Basics
 - Branching and Merging
 - Remote Repositories
 - Collaborative Development
- **B** DEPLOYMENT AND DEVOPS
- 16 FINAL PROJECT





JAVA FULL STACK

TRAINING CURRICULUM

1 HTML (Hyper Text Markup Language)

- Introduction to HTML

- What is HTML?
- HTML Structure and Elements
- HTML Various Versions

- Basic HTML Structure

- HTML document structure
- HTML tags and elements
- HTML attributes
- HTML comments

- Text Formatting

- Headings (h1 h6)
- Paragraphs (p)
- Line breaks (br)
- Horizontal rules (hr)
- Formatting text (b, i, u, mark, small, sub, sup etc)

- Lists

- Unordered lists (ul, li)
- Ordered lists (ol, li)
- Definition lists (dl, dt, dd)

Links

- Anchor links (a)
- Linking to external pages
- Linking within the same page
- Email links



- Images

- Inserting images (img)
- Image attributes (src, alt, width, height)

Tables

- Creating tables (table, tr, th, td)
- Table structure and layout
- Table attributes (border, cellpadding, cellspacing, etc.)
- Table headers and captions

- Forms

- Creating forms (form)
- Form elements (input, textarea, select, option, etc.)
- Form attributes (action, method, name, value, etc.)
- Form validation (client-side and server-side)

- Multimedia

- Video (video, source)
- Audio (audio, source)
- Embedding multimedia (object, embed)
- Media attributes (src, controls, width, height, etc.)

- Transitioning to HTML5

- Introduction to HTML5
- New elements and features in HTML5
- Differences between HTML4 and HTML5

- Basic HTML5 Structure

- HTML5 document structure
- HTML5 semantic elements (header, nav, section, article, aside, footer)
- HTML5 structural elements (div, span)
- HTML5 metadata elements (head, title, meta, link, style)

- HTML5 Best Practices

HTML5 syntax and coding standards



- HTML5 validation and debugging
- Cross-browser compatibility
- Performance optimization

- Integrating with CSS3 and JavaScript

- Styling HTML5 elements with CSS3
- Manipulating HTML5 elements with JavaScript

2 CSS (Cascading Style Sheets)

- Introduction to CSS

- What is CSS?
- CSS syntax and structure
- Ways to include CSS (inline, internal, external)

- CSS Selectors

- Type selectors
- Class selectors
- ID selectors
- Universal selector
- Attribute selectors
- Combinators (descendant, child etc.)
- Pseudo-classes and pseudo-elements

- CSS Box Model

- Content, padding, border, and margin
- Box-sizing property
- Margin collapsing

- CSS Colors

- Pre-Defined Colors Name
- Hexadecimal color codes
- RGB and RGBA colors
- HSL and HSLA colors
- Opacity and alpha transparency



- CSS Backgrounds

- Background color
- Background image
- Background repeat, position, attachment, and size
- Multiple backgrounds & Gradients

CSS Text

- Font families
- Font size and weight
- Text color and decoration
- Text alignment and indentation
- Line height and spacing
- Text transforms and shadows

- CSS Layout

- Display property (block, inline, inline-block)
- Positioning (static, relative, absolute, fixed, sticky)
- Floats and clearing
- Flexbox layout
- CSS Grid layout

- CSS Transitions

- Transition properties
- Transition timing functions
- Transition delays

- CSS Transformations

- 2D transformations (translate, rotate, scale, skew)
- 3D transformations
- Transform origin

- CSS Animation

- @keyframes rule
- Animation properties
- Animation timing functions



- CSS Responsive Design

- Media queries
- Responsive units (vw, vh, rem)
- Responsive images and media
- Responsive typography

- CSS Frameworks, Preprocessors & Tools

- Introduction to CSS frameworks (Bootstrap, Tailwind CSS etc.)
- Introduction to CSS preprocessors (Sass, Less)
- CSS Tools like: linters and formatters

- CSS Best Practices

- CSS syntax and formatting
- CSS selectors and specificity
- CSS organization and methodologies
- CSS optimization and performance

3 JavaScript

- Introduction to JavaScript

- Overview of JavaScript and its history
- Understanding the role of JavaScript in web development
- Embedding JavaScript in HTML and running it in a web browser

- JavaScript Basics

- Variables, data types, and type conversion
- Operators (arithmetic, assignment, comparison, logical)
- Control flow (if-else, switch, loops)
- Functions (declaration, expression, arrow functions)
- Arrays and array methods

- DOM Manipulation



- Understanding the Document Object Model (DOM)
- Selecting and manipulating DOM elements
- Handling events (click, keypress, submit, etc.)
- Modifying HTML and CSS through the DOM

JavaScript Objects

- Creating objects using object literals
- Accessing and modifying object properties
- Methods and `this` keyword
- Prototype-based inheritance
- Object constructors and classes

- JavaScript Data Structures

- Arrays (indexing, methods, iterating)
- Objects (key-value pairs, nested objects)
- Sets and Maps
- Working with JSON (parsing and stringifying)

- Asynchronous JavaScript

- Callbacks and the event loop
- Promises and async/await
- Handling asynchronous operations (AJAX, fetch API)
- Timeouts and intervals

- ES6 and Beyond

- Introduction to ECMAScript 6 (ES6)
- Let, const, and block-scoped variables
- Arrow functions and lexical `this`
- Template literals and string interpolation
- Destructuring, spread, and rest operators

- Functions and Functional Programming

- First-class functions and higher-order functions
- Callback functions and function composition
- Functional programming concepts (map, filter, reduce)
- Closures and module pattern



- DOM Events and Browser APIs

- Event handling (click, keypress, submit, etc.)
- Event propagation and delegation
- Timers (setTimeout, setInterval)
- Working with the Fetch API and XMLHttpRequest

- JavaScript Tooling and Ecosystem

- Package managers (npm, yarn)
- Module bundlers (Webpack, Rollup, Browserify)
- Transpilers and polyfills (Babel)
- Linters and code formatters (ESLint, Prettier)
- Testing frameworks (Jest, Mocha, Chai)

Advanced JavaScript Concepts

- Prototypal inheritance and the prototype chain
- Scope and closures
- Asynchronous programming patterns
- Design patterns (constructor, module, singleton, etc.)
- Performance optimization techniques

(4) Bootstrap

- Introduction to Bootstrap

- What is Bootstrap?
- Advantages of using Bootstrap
- Bootstrap versions and installation

Bootstrap Grid System

- Grid concepts and layout
- Responsive grid tiers
- Grid examples and practices

- Bootstrap Content



- Typography
- Tables
- Figures and images
- Utilities (spacing, text, etc.)

Bootstrap Components

- Buttons
- Navigation (navbars, dropdowns, etc.)
- Forms and inputs
- Alerts, badges, and progress bars
- Cards and modals
- Carousels and slideshows

- Building Responsive Designs with Bootstrap

- Responsive utilities
- Responsive breakpoints
- Responsive examples and practices

- Customizing Bootstrap with Sass

- Introduction to Sass
- Compiling Sass files
- Overriding Bootstrap variables
- Creating custom styles and components

(3) Tailwind CSS

- Introduction to Tailwind CSS

- What is Tailwind CSS?
- The utility-first approach
- Benefits of using Tailwind CSS
- Setting up Tailwind CSS in a project

- Tailwind CSS Fundamentals

Utility classes



- Responsive utilities
- Hover, focus, and state utilities
- Composition and combining utilities

Layout and Flexbox

- The Tailwind CSS layout system
- Flexbox utilities
- Alignment and justification
- Responsive layouts

- Grid and Box Alignment

- Grid utilities
- Box alignment utilities
- Spacing utilities

- Typography and Backgrounds

- Text styling utilities
- Font families and sizes
- Background utilities
- Opacity and shadows

- Borders, Effects, and Transitions

- Border utilities
- Filter and blend mode utilities
- Transform utilities
- Transition utilities

- Forms and Interactive Elements

- Form input styling
- Form validation utilities
- Interactivity utilities

- Customizing Tailwind CSS

- Configuration files
- Defining custom utilities
- Extending and overriding default styles



Working with plugins

Integrating Tailwind CSS

- Using Tailwind CSS with React/ Vue.js/ Angular
- Combining Tailwind CSS with other CSS frameworks
- Integrating Tailwind CSS with build tools and frameworks

(6) React.js

- Getting Started with React

- Overview of React and its key features
- Setting up a React development environment
- Creating a basic React application

- React Fundamentals

- React components (functional and class-based)
- JSX syntax and expressions
- Props and state management
- Lifecycle methods

- React Components

- Composing components
- Styling components with CSS
- Handling user input and events
- Conditional rendering

- React State Management

- State manipulation and updates
- Lifting state up and down the component tree
- Handling asynchronous state changes
- Introduction to React Hooks

- React Hooks



- useState, useEffect, useContext
- Custom hooks and their use cases
- Hooks for data fetching and side effects

- React Router

- Setting up client-side routing
- Handling dynamic routes and parameters
- Implementing navigation and link management

- React Forms and Validation

- Controlled and uncontrolled form components
- Handling form submission and validation
- Integration with third-party form libraries

- React and API Integration

- Fetching data from APIs
- Handling loading and error states
- Optimizing network requests

- State Management with Redux

- Introduction to Redux and its core concepts
- Setting up a Redux store and connecting components
- Reducers, actions, and middleware

- Advanced React Concepts

- Higher-Order Components (HOCs)
- Render props pattern
- Code splitting and lazy loading
- Performance optimization techniques

- React Testing

- Unit testing with libraries like Jest and Enzyme
- Integration testing with tools like React Testing Library
- End-to-end testing with Cypress



- React Ecosystem and Tooling

- Popular React libraries and frameworks (Material-UI, Ant Design, NextJS, etc.)
- Build tools (Webpack, Rollup, Parcel)
- Deployment strategies and hosting options

React for Mobile Development

- Introduction to React Native
- Building native mobile apps with React
- Platform-specific considerations and APIs

- Real-World React Projects

- Hands-on development of complex React applications
- Utilizing best practices and design patterns
- Incorporating state management, routing, and API integrations

Any One Database (MongoDB or MySQL)

7 MongoDB

- Introduction to NoSQL and MongoDB

- Overview of NoSQL databases
- MongoDB's advantages and use cases
- MongoDB architecture and components

- MongoDB Installation and Setup

- Installing MongoDB on different platforms
- MongoDB shell and GUI tools
- Connecting to a MongoDB instance

- MongoDB Data Model

- JSON and BSON data formats
- Documents and collections
- Schema design considerations



- CRUD Operations

- Inserting, querying, updating, and deleting documents
- Query operators and expressions
- Projections and embedded documents

Indexing and Performance

- Understanding indexes in MongoDB
- Creating and managing indexes
- Query optimization techniques

Aggregation Framework

- Introduction to the Aggregation Pipeline
- Aggregation stages and operators
- Data transformations and analytics

- Data Modeling and Schema Design

- Embedded vs. referenced data models
- Schema validation and data governance
- Case studies and best practices

- Replication and Sharding

- MongoDB replication architecture
- Setting up and managing replica sets
- Sharding for horizontal scaling

- MongoDB Integration

- Integrating MongoDB with programming languages (e.g., Python, JavaScript, Java)
- MongoDB drivers and ODM (Object-Document Mapping) libraries
- Using MongoDB in web applications

- Administration and Security

- User management and authentication
- Backup and restore strategies
- Performance monitoring and optimization



- Advanced Topics (Optional)

- MongoDB Atlas (cloud-hosted MongoDB service)
- Change streams and oplog
- MongoDB Stitch (serverless platform)

(B) MySQL

- Introduction to Databases and SQL

- Overview of database management systems
- Relational database concepts
- Introduction to SQL (Structured Query Language)

- MySQL Installation and Setup

- Installing MySQL on different platforms
- MySQL command-line client and GUI tools
- Connecting to a MySQL server

- SQL Basics

- Creating and managing databases
- Data types and table definition
- Inserting, querying, updating, and deleting data

- SQL Queries and Operators

- SELECT statements and filtering data
- Joins (inner, outer, cross, and self)
- Aggregate functions and grouping
- Subqueries and derived tables

- Database Design and Normalization

- Entity-Relationship (ER) modeling
- Normalization forms and principles
- Indexing and performance optimization

Advanced SQL Topics



- Views and materialized views
- Stored procedures and functions
- Triggers and events
- Transactions and concurrency control

MySQL Administration

- User management and security
- Backup and restore strategies
- Monitoring and performance tuning

- MySQL Programming

- Integrating MySQL with programming languages (e.g., Python, Java, PHP)
- MySQL drivers and connectors
- Object-Relational Mapping (ORM) tools

- Advanced MySQL Topics (Optional)

- Replication and high availability
- Partitioning and sharding
- MySQL in cloud environments

9 JAVA Language

- Introduction to Java

- What is Java?
- History and evolution of Java
- Features of Java
- Installing Java Development Kit (JDK)
- Setting up Java Development Environment (IDE)

- Basics of Java Programming

- Structure of a Java program
- Writing and running your first Java program
- Basic syntax and rules
- Comments in Java



Data Types and Variables

- Primitive data types: int, double, char, boolean
- Reference data types: String
- Declaring variables
- Initializing variables
- Scope and lifetime of variables

- Operators

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Bitwise operators

- Control Flow Statements

- if statement
- else-if ladder
- switch statement
- while loop
- do-while loop
- for loop
- break and continue statements

- Java Functions

- Declaring and defining functions (methods)
- Method parameters and return types
- Method overloading
- Recursion and its applications

Arrays

- Declaring and initializing arrays
- Accessing elements of an array
- Multidimensional arrays
- Array manipulation

Object-Oriented Programming Concepts



- Classes and objects
- Constructors
- Methods
- Encapsulation
- Inheritance
- Polymorphism

Strings

- String class and its methods
- String concatenation
- String comparison
- String manipulation

Exception Handling

- Understanding exceptions
- try-catch blocks
- Handling exceptions with multiple catch blocks
- finally block
- Custom exceptions

- Packages and Access Modifiers

- Creating and using packages
- Importing packages
- Access modifiers: public, private, protected, default

- Interfaces and Abstract Classes

- Declaring and implementing interfaces
- Abstract classes and methods
- Differences between interfaces and abstract classes

- Collections Framework

- ArrayList
- LinkedList
- HashMap
- HashSet
- Iterator

File Handling



- Reading from and writing to files
- File class
- FileReader and FileWriter
- BufferedReader and BufferedWriter

Servlets

- Introduction to Servlets
- Servlet Lifecycle
- Handling HTTP Requests and Responses
- Working with Form Data
- Servlet Collaboration and Communication
- Session Management
- Servlet Filters

- JavaServer Pages (JSP)

- Introduction to JSP
- JSP Architecture
- JSP Syntax and Directives
- Scripting Elements: Scriptlets, Expressions, Declarations
- Implicit Objects
- JSP Actions: Include, Forward
- Expression Language (EL)
- JSP Standard Tag Library (JSTL)

- JDBC (Java Database Connectivity)

- Introduction to JDBC
- JDBC Drivers
- Establishing Database Connection
- CRUD Operations: Creating, Reading, Updating, Deleting data
- Prepared Statements and Stored Procedures
- Batch Processing
- Transaction Management

- Session Management and Cookies

- Overview of Session Management
- Using Cookies for Session Tracking
- Hidden Form Fields for Session Management
- URL Rewriting



- Filters and Listeners

- Introduction to Filters and Listeners
- Writing and Implementing Filters
- Writing and Implementing Listeners
- Servlet Context and Servlet Context Listeners

- File Upload and Download

- Uploading Files in Servlets
- Downloading Files from Servlets
- Working with File Streams

- Internationalization and Localization

- Introduction to Internationalization and Localization
- Using Resource Bundles
- Locale and ResourceBundle classes

- JavaMail API

- Sending Email using JavaMail
- Configuring Mail Sessions
- MIME Messages

- Security in Web Applications

- Authentication and Authorization
- Securing Web Applications
- SSL Configuration

- Web Application Deployment

- Packaging and Deploying Servlets and JSP
- Deployment Descriptors (web.xml)
- Deployment in Servlet Containers like Apache Tomcat

Any One Framework (Spring or Hibernate)

10 Spring Framework



- Introduction to Spring Framework

- Overview of Spring Framework
- Inversion of Control (IoC) and Dependency Injection (DI)
- Spring Modules and Architecture

- Core Spring

- Spring IoC Container
- Bean Scopes and Lifecycle
- Dependency Injection Techniques
- Spring Annotations

- Spring AOP

- Aspect-Oriented Programming (AOP) Concepts
- Implementing AOP with Spring AOP
- Pointcut Expressions and Advice Types

Spring MVC

- Web Application Architecture with Spring MVC
- Request Handling and Controller Methods
- View Resolution and Model Binding
- Form Handling and Validation

- Spring Data

- Overview of Spring Data
- Connecting to Databases with JDBC and JPA
- Object-Relational Mapping (ORM) with Hibernate
- Spring Data Repositories

- Spring Security

- Authentication and Authorization Concepts
- Configuring Spring Security
- User Management and Role-based Access Control
- OAuth 2.0 and OpenID Connect

- Spring Boot



- Introduction to Spring Boot
- Building Production-ready Applications
- Auto-configuration and Starter Dependencies
- Embedded Servers and Actuator

- Advanced Topics

- Spring Batch
- Spring Cloud
- Spring Integration
- Spring WebFlux (Reactive Programming)

(I) Hibernate Framework

- Introduction to Hibernate

- Overview of Object-Relational Mapping (ORM)
- Benefits of Hibernate
- Hibernate Architecture and Components

- Hibernate Configuration

- Setting up the Development Environment
- Configuring Hibernate SessionFactory
- Database Connections and Dialect

- Mapping Entities

- Understanding Entities and Persistence
- Mapping Java Classes to Database Tables
- Annotations and XML Mappings

- Persistence Operations

- Persisting Entities (Save, Update, and Delete)
- Loading and Retrieving Entities
- Handling Associations (One-to-One, One-to-Many, Many-to-Many)

- Querying with Hibernate

- Hibernate Query Language (HQL)
- Criteria API



- Native SQL Queries
- Query Optimization

- Advanced Hibernate Features

- Caching Strategies (First-Level and Second-Level Caching)
- Lazy Loading and Fetching Techniques
- Inheritance Mapping
- Hibernate Events and Interceptors

- Hibernate Integration

- Integrating with Spring Framework
- Using Hibernate with Java EE Applications
- Hibernate and Web Frameworks (e.g., Spring MVC, JSF)

(2) APIs (Application Programming Interfaces)

- Introduction to APIs
- RESTful APIs
- Web Services APIs
- API Security
- API Testing
- Java APIs
- API Integration

B Data Structures and Algorithms (DSA)

- Introduction to Data Structures and Algorithms

- What are Data Structures and Algorithms?
- Importance of DSA in Software Development
- Time and Space Complexity Analysis (Big O Notation)

- Fundamental Data Structures

- Arrays and Array Lists
- Linked Lists (Singly and Doubly Linked Lists)
- Stacks and Queues
- Trees (Binary Trees, Binary Search Trees, AVL Trees)
- Hash Tables and Maps



Sorting and Searching Algorithms

- Sorting Algorithms (Bubble Sort, Insertion Sort, Selection Sort, Merge Sort, Quick Sort)
- Searching Algorithms (Linear Search, Binary Search)

- Recursion

Recursive Problem Solving



Introduction to Version Control

- Understanding version control systems
- Benefits of using Git and GitHub
- Setting up Git and GitHub accounts

- Git Basics

- Git repositories and workflow
- Initializing a Git repository
- Staging and committing changes
- Viewing commit history

Branching and Merging

- Understanding branches in Git
- Creating, switching, and merging branches
- Resolving merge conflicts

- Remote Repositories

- Working with remote repositories on GitHub
- Pushing and pulling code
- Cloning existing repositories

Collaborative Development

- Contributing to open-source projects on GitHub
- Creating and managing pull requests
- Code reviews and discussions



B Deployment and DevOps

- Introduction to cloud platforms (AWS, Heroku, etc.)
- Containerization with Docker
- Continuous Integration and Continuous Deployment (CI/CD)
- Monitoring and logging

Final Project: Students will work on a full-stack project incorporating the concepts learned throughout the course. This project will include both front-end and back-end components, database integration, user authentication, and deployment.

This syllabus covers the fundamentals of Java Full Stack Development, with a strong emphasis on Data Structures and Algorithms (DSA). Students will gain a deep understanding of Java programming, web development, databases, and cloud technologies, while also mastering essential DSA concepts and their application in real-world scenarios. The course prepares students for successful careers as full stack developers, equipping them with the skills to design, develop, and deploy robust and scalable applications.





PLACEMENT COMPANIES



















































































































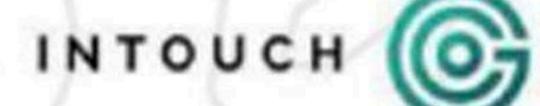














GROUP























Testimonials of Students



Sukhpreet Kaur

2 reviews

*** 2 weeks ago NEW

HIo mam I'm Sukhpreet your Softcrayons tarining institute in student my training is digital marketing course U'm very becoz I'm digital marketing beginner but my experience to much becoz my trainer is very intelligent and supportive and nature is very friendly



Manish Malik

1 review

*** 2 weeks ago NEW

I'm new student in softcrayons my starting classes all gud my softcrayons experience to much better becoz my trainer is very experienced



Aman Bhardwaj

2 reviews

** * * 5 months ago

I am Aman Bhardwaj, Recently I completed a Digital Marketing course from Softcrayons. After completing my course I got a placement at SNVA Ventures with a good salary package. If you want to do a course and boost your career in the Digital Marketing field. I will recommend you visit Softcrayons. If I talk about the environment and faculty then Softcrayons have a very good and friendly environment and their faculty is highly experienced in the Digital Marketing field. Specifically, Yashvant sir is one of the best trainer and they have great experience in the Digital Marketing field.

Thank you Softcrayons and all staff who helped me boost my career in the Digital Marketing field.



Shivam Sharma

1 review

*** 2 months ago

I got the chance to study with the best teacher and they provided me a good career guidance, a veryb great place to learn programming and start your career.



Lalita Tiwari

review

*** 5 months ago

I heared about softcrayons through friends and I enroll myself here, and done my course. I suggest you all to join softcrayons. Hope you do great.



Tanish Chandrawal

5 reviews

★★★★★ 5 months ago

It is good institute, practical oriented practice is very good. This institute is very useful for graduate students to make carrier in IT. 100% job guarantee is available for all students. Very good Institute for Cloud Computing like Azure, AWS, GCP.



Aman Vishwakarma

2 reviews

** * * 2 months ago

Hie guys I'm aman softcrayrons institute students for AutoCAD.. softcrayrons institute is best training institute sarfaraz sir is best teacher for softcrayrons. And best institute softcrayrons









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