



START *coding* TODAY



**A PROVEN PATH TO GET A JOB
IN 6 TO 8 MONTHS OR LESS**



course designer

I am a teacher and entrepreneur for the past 12 years, I am managing the Software development company Kangaroo Software PVT LTD and the best Software Education Institute SHIVA CONCEPT SOLUTION. I am very much passionate about teaching and helping students.



shiva gautam

PART 1: INTRODUCTION TO WEB DEVELOPMENT & VERSION CONTROL

1. Web Development Basics:

- Understand the client-server model.
- Explore HTTP, URLs, and web browsers.
- Learn about front-end vs. back-end development.

2. Version Control with Git:

- Introduction to Git and its importance.
- Setting up a Git repository.
- Basic Git commands (commit, push, pull).

PART 2: ADVANCED HTML, CSS, AND JAVASCRIPT FUNDAMENTALS

1. HTML5 and CSS3:

- Semantic HTML tags.
- Styling with CSS (selectors, properties, values).
- Responsive design and media queries..

2. JavaScript Essentials:

- Variables, data types, and operators.
- Functions and scope.
- Event handling and DOM manipulation.

PART 3: JAVASCRIPT DOM MANIPULATION & REACT BASICS

1. DOM Manipulation:

- Accessing and modifying DOM elements.
- Event listeners and handling user interactions.
- Creating dynamic web content.

2. Introduction to React:

- Components and JSX.
- State and props.
- Rendering components.

PART 4: REACT JS

1: Getting Started

- Introduction to React.js
- Setting up the development environment
- JSX syntax and creating components

4: Forms and Events

- Controlled vs. Uncontrolled components
- Form submission and validation
- Event handling in React

7: State Management with Redux

- Introduction to Redux
- Setting up Redux in React
- Actions, reducers, and the Redux store

10: Testing

- Introduction to testing libraries
- Writing unit tests
- Snapshot testing

2: Components and Props

- Understanding components
- Creating and using props
- PropTypes and defaultProps

5: React Router

- Setting up routing
- Creating nested routes
- Navigation with Link and NavLink

8: Asynchronous Data Fetching

- Fetching data from APIs
- Using async/await
- Handling loading states and errors

11: Advanced Topics

- Context API
- Performance optimization
- Error boundaries

3: State and Lifecycle

- Working with component state
- Lifecycle methods
- Handling events

6: Styling

- CSS Modules
- Styled-components
- Using third-party UI libraries

9: React Hooks

- Introduction to Hooks
- useState, useEffect
- Custom hooks

PART 5: REACT LIFECYCLE, HOOKS & NODE.JS INTRODUCTION

1.React API Methods:

- Fetch , CRUD Operation
- AXIOS in REACT and CRUD Operation
- API Authentication in React JS
- Asynchronous API Calling

2.Exploring React Hooks:

- useContext, useReducer, and custom hooks.
- Simplifying component logic
- How to call API under Hooks

3.Introduction to Node.js:

- Basics of Node.js.
- Setting up a Node.js project.
- Understanding the event-driven, non-blocking architecture.

PART 6: RESTFUL APIS AND MONGODB

1.Building RESTful APIs with Express:

- Creating routes and handling requests.
- Middleware for authentication and validation.
- Error handling.
- Create API using MVC design pattern
- Test API using Swagger & Postman
- Check API Security & Performance

2.Connecting to MongoDB:

- Setting up MongoDB locally or using cloud services.
- CRUD operations with Mongoose.
- what is collection & documents
- Mongo db query for insert, update, delete
- Data Section in mongo db

PART 7: ADVANCED TOPICS

1. Error Handling and Middleware:

- Custom error handling middleware.
- Authentication middleware (JWT).

2. Authentication and Authorization:

- Implementing user authentication (login, signup).
- Role-based access control.

3. Real-time Communication with WebSockets:

- Introduction to WebSockets.
- Building chat applications.

PART 8: DEPLOYMENT AND BEST PRACTICES

1. Deploying MERN Applications:

- Deploying to platforms like Heroku, Netlify, or Vercel.
- Environment variables and configuration.

2. Performance Optimization:

- Code splitting and lazy loading.
- Minification and compression.
- Caching strategies.

3. Security Considerations:

- Preventing common security vulnerabilities.
- Securing APIs and databases.

PART 9: NODE.JS AND EXPRESS.JS IN DEPTH

- Understanding the role of Node.js and Express.js in web development
- Setting up a development environment (Node.js, npm)
- Introduction to asynchronous programming in Node.js

1: Getting Started

- Introduction to NODE JS
- Setting up the development environment
- **Typescript** syntax and creating program

4: Asynchronous Programming

- Callback patterns
- Promises: creating and chaining
- Async/Await syntax
- Error handling in Asynchronous block

7: Express JS

- Introduction to Express
- Setting up Express environment
- Basic routing, middleware

2: Modules in Node JS

- Understanding HTTP Module
- URL, PATH, OS, Events module
- fs, stream, buffer,util module
- child_process, crypto, custom

5: Working with API

- Creating API in Node JS
- Consuming API in Node JS
- API Authentication, Security testing

8: Express Advance

- Advance routing, custom middleware
- Template engine, serving static files
- form handling and validations
- working with databases

3: NODE JS Architecture

- Event-driven architecture
- Non-blocking I/O
- The Event Loop

6: Socket in Node

- What is socket, type of socket
- Handling multiple clients
- creating web socket client-server
- create chat api & notification app

9: Create Restful API with Express

- Building API with NODE JS
- Connect with Mongo DB
- Connect API in React JS
- API Authentication & Security

PART 10: ADDITIONAL TECH SKILLS

1. Artificial Intelligence (AI)

- Basics of AI and machine learning.
- chat gpt, prompt engineering

2. Cloud Computing (AZURE)

- Setting up an AZURE account.
- Deploying applications on AZURE .

3. Git , GitHub & Docker :

- Version control using Git.
- Collaborating on GitHub repositories.
- What is Docker, Docker commands

4. Deployment:

- Deploying web applications to production servers.
- Continuous integration and continuous deployment (CI/CD) pipelines.



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