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Vinodh
16+ years of experience
Worked on **40+** skills in real-time

Introduction

My name is **Vinodh**, and I am a seasoned IT professional with over **16 years** of rich and diverse experience in the industry. I have worked extensively with a wide array of technologies and have a deep understanding of over **40 distinct skills** in real-time environments. My career is marked by significant contributions to numerous projects and a commitment to continuous learning and teaching.

Teaching Experience

In addition to my professional work, I am deeply passionate about teaching. Over the years, I have taught numerous courses, workshops, and training sessions, helping countless students and professionals to elevate their skills and advance their careers.

Course Content

1. Introduction to MERN Stack
- 1.1. Overview of MERN Stack
- 1.2. Benefits of Using MERN Stack
- 1.3. Full-stack JavaScript development

2. HTML (HyperText Markup Language)
- 2.1. Basic Structure of an HTML Document
- 2.2. Text Formatting Tags
- 2.3. Lists
- 2.4. Links and Anchors
- 2.5. Images
- 2.6. Tables
- 2.7. Forms and Input Elements
- 2.8. Semantic HTML Tags

3. HTML5 (Advancements and New Features)
- 3.1. New Semantic Elements
- 3.2. Forms Enhancements

- 3.3. Graphics and Multimedia
- 3.4. APIs and DOM Enhancements
- 3.5. Data Attributes
- 3.6. Responsive Web Design
- 3.7. Deprecated Elements and Attributes

4. Introduction Styling

- 4.1. Overview of CSS
- 4.2. Traditional CSS
- 4.3. Pre-processors like SASS
- 4.4. The importance of responsive design
  - 4.4.1. Using Bootstrap with React
  - 4.4.2. Installing Bootstrap
  - 4.4.3. Bootstrap Components
  - 4.4.4. Customizing Bootstrap

5. JavaScript Basics

- 5.1. Introduction to JavaScript
- 5.2. Variables and Data Types
- 5.3. Operators
- 5.4. Control Structures
- 5.5. Functions
- 5.6. Objects and Arrays

6. Advanced JavaScript

- 6.1. ES6 and Beyond
- 6.2. Asynchronous JavaScript
- 6.3. The DOM (Document Object Model)
- 6.4. Events and Event Handling
- 6.5. Error Handling
- 6.6. JavaScript in the Browser

7. Modern JavaScript Tools and Frameworks

- 7.1. JavaScript Modules
- 7.2. Front-End Frameworks and Libraries
- 7.3. Package Management
- 7.4. Build Tools and Task Runners

8. Introduction to React.js

- 8.1. What is React.js and its core principles
- 8.2. History and evolution of React
- 8.3. Advantages of using React
- 8.4. Overview of JSX

9. Setting Up the Development Environment

- 9.1. Package Managers (Yarn & NPM)
- 9.2. Creating a React app
  - 9.2.1. Using Create React App
  - 9.2.2. Using Vite
- 9.3. Understanding the structure of a React project
- 9.4. Introduction to Webpack and Babel

10. React Basics

- 10.1. Understanding JSX (JavaScript XML)
- 10.2. Components: Functional vs. Class components
- 10.3. Props: Passing data to components
- 10.4. State: Managing data within components
- 10.5. Handling Events
- 10.6. Conditional Rendering
- 10.7. Lists and Keys
- 10.8. Forms and Controlled Components

11. Tooling and Code Quality

- 11.1. Why ESLint?
- 11.2. Setting Up ESLint
- 11.3. Configuration
- 11.4. Using ESLint with Create React App

12. Advanced React Concepts

- 12.1. Hooks (useState, useEffect, useContext, useReducer, etc.)
- 12.2. Context API for state management
- 12.3. Refs for accessing DOM elements
- 12.4. Higher Order Components (HOCs)
- 12.5. Render Props
- 12.6. Error Boundaries
- 12.7. React Fragments
- 12.8. Memoization in React

13. Routing in React

- 13.1. Introduction to React Router
- 13.2. Configuring Routes
- 13.3. Nested Routes
- 13.4. Programmatic Navigation
- 13.5. Protected Routes and Authentication

14. State Management

- 14.1. Understanding state management and its need
- 14.2. Introduction to Redux
- 14.3. Principles of Redux
- 14.4. Integrating Redux with React

14.5. Async actions with Redux Thunk or Redux Saga
14.6. Alternatives to Redux: Context API

15. Working with APIs

15.1. Fetching data from APIs using Fetch API and Axios
15.2. Why Axios?:
15.3. Installing Axios
15.4. Handling API responses and errors
15.5. Using async/await in React
15.6. Best practices for organizing API calls

16. Testing in React

16.1. Introduction to testing in React
16.2. Types of tests: Unit tests, Integration tests, End-to-end tests
16.3. Testing libraries: Jest, React Testing Library
16.4. Writing test cases for React components

17. Building and Deploying React Apps

17.1. Creating production builds
17.2. Deploying React apps

18. Advanced State Management Techniques

18.1. Using custom hooks for state management
18.2. State normalization and denormalization techniques
18.3. Managing global state with redux

19. Advanced Patterns and Techniques

19.1. Custom Hooks for reusable logic
19.2. Advanced routing techniques with React Router

20. MongoDB

20.1. Introduction to NoSQL Databases
20.2. Overview of MongoDB
20.3. Installing and Setting Up
20.4. CRUD Operations
20.5. Working with MongoDB Compass

21. Node.js

21.1. Overview of Node.js
21.2. Setting Up Development Environment

22. Core Concepts in Node.js

22.1. Understanding Modules
22.2. Asynchronous JavaScript

23. Building Web Servers with Node.js
23.1. Creating a Basic HTTP Server
23.2. Working with Data in Node.js
23.3. Using MongoDB with Node.js

24. Introduction to Express.js
24.1. Overview of Express.js
24.2. Setting Up Development Environment

25. Routing and Middleware
25.1. Routing in Express.js
25.2. Middleware in Express.js

26. Working with Data in Express.js
26.1. Handling Form Data
26.2. Connecting to Databases

27. RESTful APIs with Express.js
27.1. Introduction to RESTful APIs
27.2. CRUD Operations

28. Error Handling and Debugging
28.1. Error Handling in Express.js
28.2. Debugging Techniques

29. Testing Express.js Applications
29.1. Unit Testing with Jest

30. Real-world Projects and Case Studies
30.1. Building a complete full-stack application
30.2. Analyzing and contributing to open-source full-stack projects
30.3. Case studies of popular full-stack applications