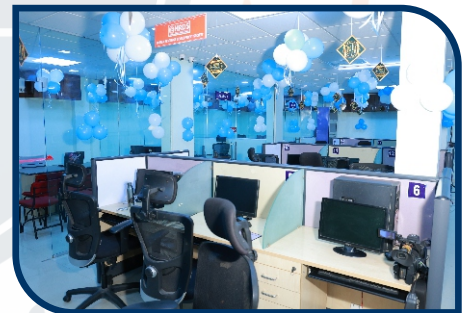




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Course

MERN FSD

Duration : 4 Months

Head Office cum Training Division:

#7-35 1st Floor, Road No 1, Madhurapuri Colony, Dilsukhnagar, Hyderabad - 500060

Call Us : Landline: 040-4007 7129 || Mobile No. +91-99 6606 1444 / 99 1226 1444.

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TRAINING

STAFFING

DEVELOPMENT

1

Front-End (ReactJS)

1. Introduction to ReactJS:

- Virtual DOM and its role in React
- React components and their reusability

2. JSX (JavaScript XML):

- JSX expressions vs. HTML
- Embedding JavaScript expressions in JSX

3. Components and Props:

- Functional components vs. Class components
- Destructuring props in functional components

4. State and Lifecycle:

- Setting initial state in class components
- Using `setState` for state updates

5. Handling Events:

- Event binding in React
- Differences between synthetic and native events

6. Conditional Rendering:

- Conditional rendering with `if` statements
- Using the `&&` operator for conditional rendering

7. Lists and Keys:

- Mapping over arrays to render lists
- The importance of unique keys in React lists

8. Forms and Controlled Components:

- Handling form submissions in React
- Implementing controlled components for form input

9. React Router:

- Configuring basic routes in React
- Route parameters and nested routes



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Front-End (ReactJS)

10. State Management with Context API and Redux:

- Context API for state sharing in React
- Redux actions, reducers, and store configuration

11. Hooks:

- useState for managing component state
- useEffect for side effects and lifecycle events
- Custom hooks for reusable logic

12. API Integration:

- Fetching data from an API using the `fetch` function
- Making HTTP requests with Axios in React

13. Testing in React:

- Writing unit tests with Jest and React Testing Library
- Mocking API calls for testing components



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Back-End (Node.js and Express.js)

1. Introduction to Node.js:
 - Understanding the event loop in Node.js
 - npm and managing packages in Node.js
2. Setting Up a Node.js Project:
 - Creating a package.json file
 - Installing and managing dependencies with npm
3. Express.js Fundamentals:
 - Creating routes in Express
 - Middleware and its role in Express applications
4. RESTful API Design:
 - Designing resourceful routes for RESTful APIs
 - Handling HTTP methods (GET, POST, PUT, DELETE)
5. MongoDB and Mongoose:
 - CRUD operations in MongoDB
 - Schema definition and model creation with Mongoose
6. User Authentication and Authorization:
 - Hashing passwords for secure storage
 - Role-based access control with JWT
7. Middleware in Express:
 - Creating custom middleware functions
 - Implementing error handling middleware
8. File Upload and Storage:
 - Handling file uploads
 - Storing files
9. WebSockets with Socket.io:
 - Setting up Socket.io for real-time communication
 - Broadcasting events and handling sockets



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Back-End (Node.js and Express.js)

10. Testing and Debugging in Node.js:

- Writing unit tests with Mocha and Chai
- Debugging Node.js applications with VSCode

11. API Security:

- Configuring CORS for secure cross-origin requests
- Implementing HTTPS for a secure API



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Full-Stack Integration

1. Connecting Front-End and Back-End:
 - Making asynchronous API calls from React
 - Handling responses and errors in React components
2. Authentication Flow:
 - Implementing user registration and login in React
 - Securing routes on the server side with middleware
3. Deployment:
 - Deploying a React app to a static hosting service
 - Deploying a Node.js app to a cloud server
4. Optimizing Performance:
 - Code splitting in React for efficient loading
 - Implementing server-side rendering (SSR) with Express.js
5. Final Project:
 - Planning and building a full-stack MERN application
 - Presenting and deploying the final project



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