

# MERNiverse

## Mastering MERN Stack Development



- 3 Days Free Trail Session
- 150 Live Interactive lectures
- 150+ hands-on exercises



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More Information

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**COD**  **MANTRA**

# FRONTEND USING REACT JS

## Module 1: Introduction To Web Development

- Introduction To Web Development. Overview Of Html, Css, Javascript. Setting Up Development Environment.
- Introduction To Html: Structure, Tags, Elements. Creating Basic Html Documents. Part-1
- Introduction To Html: Structure, Tags, Elements. Creating Basic Html Documents. Part-2
- Html Forms And Input Elements. Understanding Form Elements Such As Input, Textarea, Select, Etc. Part-1
- Html Forms And Input Elements. Understanding Form Elements Such As Input, Textarea, Select, Etc. Part-2
- Introduction To Css: Syntax, Selectors. Basic Styling Concepts Including Colors, Fonts, And Backgrounds. Part-1
- Introduction To Css: Syntax, Selectors. Basic Styling Concepts Including Colors, Fonts, And Backgrounds. Part-2
- Css Box Model. Understanding Padding, Margin, Border. Part-1
- Css Box Model. Understanding Padding, Margin, Border. Part-2
- Css Layouts. Introduction To Positioning, Float, And Display Properties.
- Doubt Session 1 (day 11): Clarify Doubts Related To Html And Css Basics.

## Module 2: Intermediate Css

- Understanding Flex Containers And Flex Items
- Flexbox Properties And Alignment.
- Learning Grid Containers And Grid Items.
- Grid Properties And Alignment.

- . Introduction To Responsive Web Design Concepts.
- Media Queries And Responsive Strategies.
- . Implementing Responsive Layouts Using Media Queries.
- Media Query Best Practices.
- Transition Properties And Timing Functions.
- Applying Transitions To Various Elements.
- Keyframes, Animation Properties, And Animation Timing.
- Creating Complex Animations.
- Building Responsive Layouts. Applying Css Techniques To Create Responsive Web Pages. Part-1
- Building Responsive Layouts. Applying Css Techniques To Create Responsive Web Pages. Part-2
- Clarify Doubts Related To Intermediate Css.

## Module 3: Introduction To JavaScript

- Variables, Data Types. Declaring Variables, Understanding Data Types.
- Conditionals In Javascript. Using If-else Statements
- Loops In Javascript. Implementing For And While Loops.
- Defining Functions And Function Expressions.
- Understanding Function Scope And Block Scope.
- Creating Arrays, Accessing Elements, Array Methods.
- Common Array Methods Like Push, Pop, Shift, Unshift.
- Array Methods Like Map, Filter, Reduce.
- Creating Objects, Accessing Properties, Object Methods.

- Understanding Encapsulation, Inheritance, And Polymorphism.
- Introduction To Dom Manipulation, Selecting Elements- Part-1
- Introduction To Dom Manipulation, Selecting Elements. Part-2
- Dom Manipulation. Implementing Interactive Features Using
- javascript Dom Manipulation. Part-1
- Dom Manipulation. Implementing Interactive Features Using Javascript Dom Manipulation. Part-2
- Clarify doubts related to Advanced JavaScript.

## Module 4: Advanced JavaScript

- Overview of ES6+ features.
- Understanding arrow function syntax and benefits.
- Destructuring arrays and objects
- Using spread and rest operators
- Understanding promises and asynchronous programming.
- Working with async functions and await keyword
- Implementing error handling using try-catch blocks.
- Understanding higher-order functions and their usage.
- Understanding closures and their practical applications
- Exploring prototype-based inheritance in JavaScript.
- Introduction to ES6 modules and module syntax
- Making HTTP requests using the Fetch API.
- Building Interactive JavaScript Applications. Integrating advanced JavaScript concepts into interactive web applications. PART-1
- Building Interactive JavaScript Applications. Integrating advanced JavaScript concepts into interactive web applications. PART-2
- Clarify doubts related to Advanced JavaScript.

## Module 5: Introduction to React

- Introduction to React: Setting up Environment. Creating a React app.
- JSX Syntax. Understanding JSX syntax and its benefits.
- Components in React. Creating functional and class components
- Props in React. Passing data to components using props
- State in React. Managing component state.
- Lifecycle Methods. Understanding component lifecycle methods
- Handling Events in React. Implementing event handlers in React.
- Conditional Rendering. Rendering components conditionally
- Lists and Keys in React. Rendering lists and using keys
- Forms in React. Handling form submission and form inputs
- Styling React Components. Styling React components using CSS and inline styles
- React Router: Navigation. Implementing client-side routing in React applications.
- Building React Application. Building a complete React application with multiple components and features. PART-1
- Building React Application. Building a complete React application with multiple components and features.PART-2
- Building React Application. Building a complete React application with multiple components and features.PART-3
- Building React Application. Building a complete React application with multiple components and features.PART-4
- Building React Application. Building a complete React application with multiple components and features.PART-5

- Building React Application. Building a complete React application with multiple components and features.PART-6
- Building React Application. Building a complete React application with multiple components and features.PART-7
- Clarify doubts related to React.

## MODULE 6: GIT AND GITHUB

- Introduction to Version Control and Git Basics. Understanding version control and basic Git commands.
- Working with Repositories. Creating repositories, adding files, and committing changes
- : Git Workflow: Branching and Merging. Branching, merging, and resolving conflicts
- Collaborating with Git: Remotes and Forks. Working with remote repositories and forks.
- : Introduction to GitHub. Overview of GitHub and its features.
- Using GitHub Issues and Pull Requests. Managing project tasks and contributing code.
- Git Best Practices. Understanding best practices for Git usage.
- Using Git for Version Control. Collaborating on a project using Git and GitHub. PART-1
- Using Git for Version Control. Collaborating on a project using Git and GitHub. PART-2
- Clarify doubts related to Git and GitHub.

## Module 7: Advanced React And Final Project

- Context Api And Redux. Managing State In Large React Applications.
- React Hooks. Understanding And Using React Hooks.
- Optimizing Performance In React. Performance Optimization Techniques In React.
- Testing React Applications. Writing Unit Tests For React Components.

- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-1
- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-2
- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-3
- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-4
- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-5
- Advanced Styling In React. Styling React Components Using Css in-js Libraries And Other Advanced Techniques.part-6
- Working On The Final Project Incorporating Advanced React Concepts And Best Practices.part-1
- Working On The Final Project Incorporating Advanced React Concepts And Best Practices.part-2
- Working On The Final Project Incorporating Advanced React Concepts And Best Practices.part-3
- Project Presentation And Review. Presenting The Final Project And Receiving Feedback
- Final Doubt Clearing Session And Project Presentation.

## Module 8: Advanced React And Final Project

### MONGODB

#### Module 1: MongoDB – Overview

- Understand what is NOSQL
- Describe CRUD
- State the types of NOSQL
- Explain what is Aggregation
- Describe Replication & Sharding

## MODULE 2: CRUD Operations

- Understand what are Crud Operations
- Explain what is Upsert
- Describe Query Interface
- List the Comparison Operators and Logical Operators
- State what are Wrapped Queries and Query Operators

## MODULE 3: BASIC Operations

- Crud Operations
- Basic Operations With Mongo Shell
- Data Model
- JSON
- BSON
- MongoDB – Datatypes
- BSON Types
- The \_id Field
- Document
- Document Store
- Blog: A Bad Design
- Blog: A Better Design

## MODULE 4: Aggregations

- Types of Aggregations
- What is Aggregation?
- The Aggregate() Method
- Pipeline Concept
- Pipelines
- Pipeline Flow
- Pipeline Operators
- \$match, \$unwind
- \$group, \$project
- \$skip, \$limit
- \$sort, \$first
- \$last, \$sum

## MODULE 5: Indexing

- Understand about Indexes
- Understand different types of Indexes
- Understand properties of Indexes

- Understand properties of Indexes
- Explain Plan in MongoDB
- Mongostat
- Mongotop
- Logging Slow queries
- Profiling

## MODULE 6: Replication and Sharding

- Understand about Replication
- Purpose of Replication
- Understand Replica Set
- Sharding
- Sharding Mechanics
- GridFS

## EXPRESS JS

### MODULE 1: Introduction of ExpressJs

- What is ExpressJS
- How Express.js works
- Installation of Express.js
- Basic Example

### Module 2: Templating Engines

- Introduction
- pug Templating Engine
- Working with Tags in pug
- Working with id and classes in pug
- Attributes and Nesting Tags in pug
- Using if & unless in pug
- Using for & each in pug
- Using case & mixins in pug
- Include and Extend in pug
- EJS Templating engine
- Express Handlebars

### Module 3: Working with Express.js

- Introduction
- Introduction to Express.js

- Connect Module
- Express.js Installation
- app.js
- Steps for creating Express.js Application
- application, request, response object properties & methods

## MODULE 4: Request/Response in Express.js

- Request-params, body, files, route, header, get
- Response-render, locals, status, json, redirect

## MODULE 5: Using middleware

- Types of middleware
- Application level middleware
- Express-json, session, logger, compress
- Router level middleware
- Built-in middleware
- Third party middleware
- Express 4.0 Router

# NODE JS

## MODULE 1: Introduction to Node JS

- Introduction
- What is Node JS?
- Advantages of Node JS
- Traditional Web Server Model
- Node.js Process Model

## MODULE 2: Setup Dev Environment

- Install Node.js on Windows
- Installing in mac os
- Working in REPL
- Node JS Console

## MODULE 3: Event loop

- Callback Concept
- Global Objects

- Streams
- Buffers
- Utility Modules

## MODULE 4: Node JS Modules

- Functions
- Buffer
- Module
- Module Types
- Core Modules
- Local Modules
- Module.Exports

## MODULE 5: Node Package Manager

- What is NPM
- Installing Packages Locally
- Adding dependency in package.json
- Installing packages globally
- Updating packages

## Module 6: Creating Web server

- Creating web server
- Handling http requests
- Sending requests

## Module 7: File System

- Fs.readFile
- Writing a File
- Writing a file asynchronously
- Opening a file
- Deleting a file
- Other IO Operations

## Module 8: Debugging Node JS Application

- Core Node JS debugger
- Debugging with Visual Studio

## Module 9: Events

- EventEmitter class
- Returning event emitter
- Inhering events