



TECHNOCATION FREELANCING TRAINING INSTITUTE & SOFTWARE HOUSE

Professional Vue.js Course Outline

Module 1: Introduction to Vue.js

- What is Vue.js? Overview & Features
- Vue.js vs. React vs. Angular
- Setting Up Vue.js (CDN, CLI, Vite)
- Understanding the Vue Instance

Module 2: Vue.js Fundamentals

- Vue.js Template Syntax & Directives (`v-bind`, `v-model`, `v-if`, `v-for`)
- Data Binding & Reactivity in Vue
- Methods, Computed Properties & Watchers
- Handling User Input & Events (`v-on`, Event Modifiers)

Module 3: Vue Components & Props

- Creating & Using Vue Components
- Communication Between Components (Props & Events)
- Slots & Scoped Slots in Vue.js
- Lifecycle Hooks (`mounted`, `updated`, `destroyed`)

Module 4: Vue Router & Single Page Applications (SPA)

- Setting Up Vue Router for Navigation
- Dynamic & Nested Routes
- Route Parameters & Navigation Guards
- Lazy Loading & Code Splitting

Module 5: Vuex for State Management

- Introduction to Vuex & State Management Concepts
- Using Mutations, Actions, Getters & Modules
- Handling API Calls with Vuex & Axios
- Best Practices for Large-Scale Vue Applications

Module 6: API Integration & Async Operations

- Fetching Data from RESTful APIs with Axios
- Handling API Responses & Errors
- Vue.js & GraphQL Integration
- Authentication & Token Management

Module 7: Vue.js & Forms

- Form Handling with `v-model` & Form Validation
- Custom Form Components & Validation Libraries
- File Uploads & Form Data Submission
- Dynamic Forms in Vue.js

Module 8: Styling in Vue.js

- Using CSS in Vue (`scoped`, `global`, `dynamic styles`)
- Working with CSS Preprocessors (SASS, LESS)
- Integrating Tailwind CSS & Bootstrap with Vue.js
- Animations & Transitions in Vue

Module 9: Vue 3 & Composition API

- Options API vs. Composition API
- Using `setup()` & `ref` for Reactive Variables
- Working with Vue Composables
- Migrating from Vue 2 to Vue 3

Module 10: Vue.js & Third-Party Libraries

- Integrating Vue with Firebase
- Using Vue with Chart.js & D3.js
- Adding Vue Plugins (Vue Toast, Vue Carousel, etc.)
- Creating Custom Vue Directives

Module 11: Performance Optimization in Vue.js

- Lazy Loading Components & Routes

- Optimizing Vue Rendering & Virtual DOM
- Debugging Vue Applications (Vue DevTools)
- Code-Splitting & SSR (Server-Side Rendering) with Nuxt.js

Module 12: Deploying & Hosting Vue Applications

- Building for Production with Vue CLI & Vite
- Deploying Vue.js Apps to Firebase, Netlify, & Vercel
- Configuring CI/CD Pipelines for Vue.js
- SEO Optimization for Vue.js Applications

Module 13: Advanced Vue.js Concepts

- WebSockets & Real-Time Data in Vue
- Vue & PWA (Progressive Web Applications)
- Testing Vue Applications (Jest, Vue Test Utils)
- Security Best Practices in Vue.js

Module 14: Final Project & Certification Preparation

- Developing a Full-Scale Vue.js Application
- Working with APIs, Vuex, and Vue Router
- Preparing for Vue.js Certifications
- Career Paths & Opportunities with Vue.js