ReactJS Web Application Development Training

Duration: **5 Day**

BİLGİNÇ IT Academy
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Overview

This comprehensive course is designed to equip developers with the skills to build high-performance, scalable, and modern web applications using ReactJS. Through hands-on coding sessions and real-life project simulations, participants will learn how to use components, manage state, interact with APIs, and deploy applications.

By the end of the course, learners will be able to build fully functional SPAs (Single Page Applications) from scratch.

Prerequisites

- Basic knowledge of JavaScript (variables, functions, loops)
- HTML/CSS fundamentals
- Familiarity with CLI (Command Line Interface) tools

  Optional: Knowing TypeScript is a plus, but not mandatory.

Who Should Attend

- Developers new to frontend frameworks
- JavaScript coders aiming to level up with React
- Students or bootcamp learners building a career in frontend
- Full-stack developers contributing to frontend modules
- UI/UX designers looking to prototype with React

What You Will Learn

- Understand React's core architecture and design principles
- Build SPA (Single Page Applications) with client-side routing
- Master React Hooks: useState, useEffect, useRef, useReducer
- Manage global state using Context API and Redux Toolkit
- Perform API integrations using Axios
- Create responsive, validated forms with React Hook Form + Yup
- Style using Material UI and Styled Components
- Optimize performance using Lazy Loading, Suspense, and Code Splitting
- Finalize, build, and deploy your React app

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Outline

Day 1 – Introduction to React & Core Concepts

- SPA architecture: Modern frontend structure explained
- Intro to ES6+ syntax and TypeScript basics
- Virtual DOM vs Real DOM
- Declarative & component-based philosophy of React
- Fast project setup with **Vite**
- Understanding JSX: Why we mix JS with HTML?

Day 2 – Function Components & Props

- Creating functional components (no class components!)
- Data transfer via props
- Props drilling problem & initial solutions
- Modular, reusable component creation

Day 3 – State Management with React Hooks

- useState for local state
- Controlled vs uncontrolled inputs
- Lifecycle simulation with useEffect
- Accessing DOM with useRef
- Optimizing re-renders with useMemo, useCallback
- Complex state handling with useReducer

Day 4 – Routing, Context API, Forms & Styling

- Routing basics in SPA
- React Router v7+: useNavigate, useParams, useLocation

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- Nested routes & layout routes
- Implementing protected routes (auth-aware routing)
- Global state via Context API (Provider/Consumer)
- Modern form handling with React Hook Form
- Yup for form validation
- Styled Components (CSS-in-JS pattern)
- Building sleek UI with Material UI (MUI)
- Mini Lab Project (auth + product list)

Day 5 – API Integration, Redux Toolkit & Deployment

- Understanding REST APIs, JSON, HTTP structure
- Performing CRUD operations using Axios
- Modularizing API logic with custom services
- Global state with Redux Toolkit:
  `configureStore`, `createSlice`, `useSelector`, `useDispatch`
- Handling async calls with `createAsyncThunk`
- Code optimization: Lazy loading, React Suspense
- Code splitting for performance
- Styling with CSS Modules
- Final build creation, environment variables
- Babel vs SWC: Which compiler to use?