React Essentials

- 2 Days
- Lecture and Hands-on Labs

Course Overview

This two-day course provides a comprehensive, hands-on introduction to React, focusing on building and optimizing interactive user interfaces. Through engaging lectures and practical labs, participants will gain a strong understanding of React's core concepts and advanced features, including components, state management, hooks, routing, and performance optimization. By the end of the course, students will be confident in building scalable, modern applications using React's best practices.

Review this course online at https://www.alta3.com/courses/react

Who Should Attend

- Software Developers
- Junior Engineers
- Professionals with JavaScript experience seeking React skills

What You'll Learn

- Build React applications using components, state, and props.
- Use hooks (e.g., `useState`, `useEffect`, and custom hooks) and context for state management.
- Navigate multi-page applications with React Router.
- Optimize applications for performance and scalability.
- Style React components effectively with CSS Modules, Styled Components, and other modern techniques.
- Test React components using Jest and React Testing Library.
- Apply concepts through targeted labs and projects that reinforce learning.

Outline

React Basics

- 🖮 Lecture: React, JSX, and the React Ecosystem
- 🖥 Lecture + Lab: Setting Up Your React Environment and Tools

Component Architecture and State Management

- 🖥 Lecture + Lab: Creating and Using Functional Components
- 🖮 Lecture: State vs Props - Key Concepts
- 🖥 Lecture + Lab: Managing State with `useState` and Passing Props
- 🖥 Lecture + Lab: Combining State and Props for Interactive Components

Events and Interactivity

- 🖥 Lecture + Lab: Adding Event Listeners and Handling User Input
- 🖥 Lecture + Lab: Conditional Rendering and Dynamic UI Updates

Mini-Project

- 🖥 Lecture + Lab: Build a Dynamic To-Do List Application

Advanced React Concepts

- 🖥 Lecture + Lab: Using `useEffect` for Side Effects
- 🖥 Lecture + Lab: Building and Using Custom Hooks
- 🖥 Lecture + Lab: Implementing Global State with Context

Routing with React Router

- 🖥 Lecture + Lab: Setting Up Navigation with React Router
- 🗨 Lecture: Dynamic and Nested Routing
- 🖥 Lecture + Lab: Building a Multi-Page App

Performance and Styling

- 🖥 Lecture + Lab: Optimizing Component Rendering with `React.memo` and Lazy Loading
- 🖥 Lecture + Lab: Styling Components with CSS Modules and Styled Components

Testing React Applications

- 🗨 Lecture: Introduction to Jest and React Testing Library
- 🖥 Lecture + Lab: Writing Unit and Integration Tests for Components

Final Project

- 🖥 Lecture + Lab: Build a Fully Functional Weather Dashboard Application

Prerequisites

- Proficiency in JavaScript

- Familiarity with HTML and CSS basics ## Next Courses

- NextJS Essentials