

Mastering React Boot Camp - TT4195

Depp Dive React! Explore React Essentials, Best Practices, Forms, Redux, Flux, Routing, Hooks, Unit Testing, Rest & More

Duration: 5 Days

Skill Level: Introductory

Available Format: Instructor-Led Online; Instructor-Led, Onsite In Person ; Blended; On Public Schedule

In this engaging five day React course, you will gain the skills and confidence to build dynamic, modern web applications that perform beautifully and are easy to maintain. With expert guidance and plenty of hands on practice, you will learn how to create reusable components, manage application state, and bring your projects to life with interactive features and polished designs. You will explore both core and advanced React concepts, including hooks, routing, forms, state management, and server side rendering, all taught in a way that connects directly to real world development. The course will help you improve performance, write meaningful tests, and debug issues so you can deliver reliable applications with confidence. You will also gain exposure to popular tools like TypeScript, Redux Toolkit, and React Query, giving you a well rounded skill set that matches today's industry needs. This learning experience is ideal for web developers who already have JavaScript experience and want to strengthen their React knowledge while growing into more advanced topics. You will leave with practical abilities, clear understanding, and the confidence to build impressive applications on real projects. With supportive expert instruction and engaging labs, you will be fully equipped to take the next step in your development career. Join us and invest in your growth as a React developer.

What You'll Learn

Overview

React is one of the most valuable and widely used tools for building fast modern web applications, and learning it can open the door to exciting new roles and projects. In this engaging five day expert led course, you will work through practical labs and real world

exercises designed to help you build confidence and apply React skills right away. From setting up projects and creating components to working with advanced features like custom hooks, state management, server side rendering, and TypeScript, you will gain the ability to build polished and responsive web applications that meet today's development standards.

You will develop practical skills that let you manage data flow with hooks, connect to external APIs, create dynamic and reliable forms, and handle authentication with tools like JWT, Okta, and Auth0. You will explore how to improve performance through code optimization techniques like lazy loading and code splitting, and learn to write meaningful unit tests and debug your work with the right tools. The course also covers popular alternatives for state management and data fetching, giving you a broad set of techniques you can apply in the real world. Throughout, you will work on projects that reinforce your learning, with expert guidance available every step of the way to help you solve problems and build confidence.

This course is designed for web developers who have basic JavaScript experience and want to strengthen or expand their React knowledge with extended intermediate topics. It is a great fit for front end developers, full stack developers, or software engineers looking to become job ready with React or align their team practices around modern workflows. Whether you are new to React or eager to deepen your understanding, you will leave this course with practical skills, real world experience, and the confidence to apply React effectively on the job.

NOTE: For basic level web developers who need more of an introductory-level course, you might consider the 3 day Getting Started with React Basics (TT4190) as an alternative.

Objectives

Our engaging instructors and mentors are experienced practitioners who bring years of current on the job experience into every classroom. Working in a supportive, hands on learning environment guided by our expert team, you will learn how to:

- Build interactive and responsive web applications by creating dynamic modern apps that feel smooth and user friendly.
- Master core React concepts and modern hooks like `useState`, `useEffect`, and `useContext` to write clean and efficient code.
- Manage advanced state and routing using tools like Redux and React Router to create seamless and scalable applications.

- Connect to APIs and handle real world data using fetch and axios while managing asynchronous operations with confidence.
- Test and debug your React applications using Vitest, JEST, React Developer Tools, and Chrome Debugger to catch and solve issues early.
- Optimize performance with techniques like code splitting, lazy loading, and server side rendering to deliver fast, reliable apps.

If your team requires different topics or tools, additional skills or custom approach, this course may be further adjusted to accommodate. We offer additional full stack development, React, React Native, web development, design and security courses which may be blended with this course for a track that best suits your development objectives.

Audience

The ideal audience for this boot camp includes front-end developers, full-stack developers, and software engineers looking to deepen their React skills and build high-performance web applications.

Attendees should have incoming hands-on experience working with JavaScript, HTML, and CSS, along with some experience building simple web apps or working with front-end frameworks. Ideal roles include Web Developers, UI/UX Engineers, and Full-Stack Developers who want to master modern React practices and implement real-world projects.

Pre-Requisites

This course introduces React, but requires real-world web development experience. Web developers should have practical experience working with JavaScript, ready to strengthen and expand their abilities with React. It is well suited for front end developers, full stack developers, and software engineers who want to build modern, scalable applications using current React practices and tools. The course offers an expert led learning experience that blends foundational instruction with extended intermediate coverage, helping you grow your skills and apply them confidently on real projects.

Before attending, you should have practical experience building web applications and a strong working knowledge of JavaScript.

Here are important skills to bring with you:

- Proficiency with JavaScript concepts such as functions, arrays, objects, and asynchronous operations.

- Hands on experience using a code editor such as Visual Studio Code for web development projects.
- A clear understanding of how HTML and CSS work together to structure and style web applications.

Take Before: In order to gain the most from this course, you should have incoming skills equivalent to those in the course listed below, or should have attended this as a prerequisite: **This course is not for beginners.**

TT4003 Introduction to HTML5, CSS3 and JavaScript

Agenda

Please note that this list of topics is based on our standard course offering, evolved from typical industry uses and trends. We will work with you to tune this course and level of coverage to target the skills you need most. Course agenda, topics and labs are subject to adjust during live delivery in response to student skill level, interests and participation.

1. Your First React Web Application

- Creating a new React project with Vite
- Understanding the project structure
- Installing necessary dependencies

2. Functional Components

- What's a component?
- Class components
- Functional components - Motivation behind Hooks
- Our first component
- Building the App
- Props - Making the App data-driven
- Events - Your app's first interaction with the `useEffect()` Hook
- State - Updating state with the `useState()` Hook

3. JSX and the Virtual DOM

- React Uses a Virtual DOM
- Why Not Modify the Actual DOM?
- What is a Virtual DOM?
- Virtual DOM Pieces
- `ReactDOM`

4.JSX

- JSX Creates Elements
- JSX Attribute Expressions
- JSX Conditional Child Expressions
- JSX Boolean Attributes
- JSX Comments
- JSX Spread Syntax
- JSX Gotchas
- Enhance Component with TailwindCSS, Material UI, styled-components

5.Essential React Hooks

- useState
- useEffect
- useContext

6.Forms

- Forms 101
- Text Input
- Multiple fields
- Validation
- Creating reusable form components
- Controlled vs. uncontrolled components
- React Hook Form
- Formik
- Zod and Yup for Validation

7.Routing

- What's in a URL?
- Navigating and routing in a React application
- Defining routes and rendering components based on URL
- Dynamic routing and parameters
- React Router's core components
- Building the components of react-router
- Outlet component
- Router Hooks: useNavigate, useLocation, useParams

8. Unit Testing

- Vitest + React Testing Library
- Snapshots, async testing, mocking, coverage

- Optional: JEST

9. Debugging React

- Using React Developer Tools
- Using Visual Studio Code
- Using the Chrome Debugger

10. REST

- REST Basics
- Using fetch
- Handling responses and errors
- Using axios

11. ES6 Primer

- Prefer const and let over var
- Arrow functions
- Modules
- Object.assign()
- Template literals
- The spread operator and rest parameters
- Enhanced object literals
- Default arguments
- Destructuring assignments
- Modules
- Classes

12. Advanced React Hooks

- useReducer
- useMemo
- useCallback
- useRef

13. Custom Hooks

- Custom Hook rules
- Creating reusable hooks
- Common examples of custom Hooks

14. Code Optimization

- Minifying and concatenating code

- Code splitting
- Lazy loading components
- Using Suspense
- React Compiler
- Concurrency, Transitions and Deferred Values

15.TypeScript

- Type safety in React Components
- TypeScript in JSX (TSX)
- 16.State Management
- Redux Toolkit
- Zustand
- Jotai

17.Fetch/axios Alternatives

- TanStack Query (React Query)
- Mutations, catching

18.Authentication and React

- Authentication with Okta and Auth0
- RBAC
- JWT and React
- Comparison of Authentication Tools, including Supabase and Clerk

19.React and Server-side Rendering (SSR)

- Benefits of SSR (SEO, performance)
- Setting up a server
- Rendering React components on the server
- Hydrating the client-side

20.Optional/time-permitting: Overview of React Frameworks

- Next.js
- SSR
- Static-site Generation (SSG)
- Built-in data fetching
- File system routing
- Automatic code-splitting
- API routes
- Automatic image optimization

Follow On Courses

TT4199	Mastering React Native
TT4215	Practical Web Accessibility Standards for Designers and Testers: WCAG 2.1 and 2.2
TT4214	Hands-On UX Workshop: Designing Web and App Experiences That Work

Related Courses

TT4002	Introduction to HTML5 / CSS3 and Responsive Design
TT4003	Introduction to HTML5, CSS3 and JavaScript
TT4110	Introduction to JavaScript / Modern JavaScript Essentials
TT4115	JavaScript & jQuery Essentials
TT4153	Introduction to Node.JS JumpStart to Node.JS
TT4165	Introduction to Angular 18 Essentials
TT4190	Getting Started with React Essentials
TT4199	Mastering React Native
TT4215	Practical Web Accessibility Standards for Designers and Testers: WCAG 2.1 and 2.2
TT4214	Hands-On UX Workshop: Designing Web and App Experiences That Work
TT4154	Introduction to TypeScript: Clean Code and Strong Skills for Web Developers
TT4195	Mastering React Boot Camp
TT4168	Mastering Angular 18 Boot Camp

Setup Made Simple! All of our course software, digital course files or course notes, labs, data sets and solutions, live coaching support channels and rich extended learning and post training resources are provided for you in our easy access, single source, no install required online Learning Experience Platform (LXP), remote lab and content environment. Or we can provide a local installation (trial edition) to setup and use on your machine. Access periods and versions vary by course. Please inquire about set up details and options for your specific course of interest. Regardless of setup option, we will collaborate with you to ensure your team is set up and ready to go well in advance of the class.

Ways to Learn: At Trivera, we believe that Experience is Everything. Our customizable, hands-on courses are delivered live online, onsite, or in a blended format for maximum flexibility. We provide real-time expert-led training and coaching for all skill levels, from small groups to enterprise-wide programs, ensuring every learner gains the latest, most relevant job-ready skills they can apply with confidence. This course is also available for individuals or small groups on our extensive Public Schedule (see current dates below). We look forward to helping you take the next steps in your modern web developer learning journey.

For More Information

Please [contact us](#) or call 844-475-4559 toll free for more information about our training services (instructor-led, self-paced or blended), coaching and mentoring services, public course enrollment or questions, partner programs, courseware licensing options and more.