



Advanced React

Explore Next Level React Skills & Best Practices for Experienced Users

www.triveratech.com

Course Snapshot

- **Course: Advanced React (TT4197)**
- **Duration:** 2 days
- **Audience & Skill-Level :** This is an intermediate-level course for web developers experienced working with React to design who want to create iOS and Android applications.
- skills-focused machine-based labs and exercises. Student machines are required.
- **Delivery Options:** This course is available for **onsite private classroom presentation, live online virtual presentation**, or can be presented in a **blended learning format**. Please also ask about our **Self-Paced / Video / QuickSkills** or **Mini-Camp / Short Course** flexible delivery options.
- **Public Schedule:** This course has active dates on our live-online open enrollment **Public Schedule**.
- **Customizable:** This course agenda, topics and labs can be further adjusted to target your specific training skills objectives, tools and learning goals. Please ask for details.

Overview

React is incredibly capable and easy to use once you get past the initial learning curve, but there is so much more to it that most developers never take advantage of the more advanced features. Most often they don't know what the advanced features are, much less how to apply them properly, consistently, and to each's greatest utility. Geared for experienced React developers, **Advanced React** is a two-day, hands-on course designed to provide you with the skills required to take full advantage of the hidden capabilities and efficiencies that React has to offer.

Learning Objectives

Working in a hands-on learning environment, guided by our expert team, attendees will learn about and explore:

- Write React components that optimize the virtual DOM
- Make the most of TypeScript with React apps for type safety
- Use prop types instead of TypeScript
- Describe all the built-in hooks
- Write their own custom hooks
- Speed up apps with useMemo and useCallbak
- Solve complex state with useReducer
- Bypass prop drilling with useContext
- Respond to all events - even those React can't handle
- Create navigation routes with the newest router
- Read route parameters and query strings
- Construct the fastest hyperlinks
- Author sub-routes
- Optimize loading with sub-routes
- Make React components conform to a11y and a18n needs

Audience & Pre-Requisites

This is an intermediate-level course for web developers with prior practical experience working with React. Attendees are required to have a very strong grasp of React, Redux and advanced JavaScript.

Take Before: Attendees should have experience with the topics in the following courses, or should have recently attended these as a pre-requisite:

- TT4195 Mastering React | With Redux, Flux, Unit Testing, JSX & More – 5 days

Take After: Our core training courses provide students with a solid foundation for continued learning based on role, goals, or their areas of specialty. Our web developer / full stack learning paths offer a wide variety of continued learning paths such as:

- Additional React, Redux, NodeJS, Fullstack / MERNStack or other next level web development courses
- Advanced React, React Testing, Deep Dives & more
- Please contact us for recommended next steps tailored to your longer-term education, project, role or development objectives.

Enhanced Learning Services: Please also ask about our **Pre-Training Class OnRamp & Prep / Primer** offerings, **Skills Gap Assessment Services, Case Studies, Knowledge Check Quizzes, Skills Immersion Programs & Camps, Collaborative Mentoring Services** and **Extended Learning Support & Post Training** services.

Course Topics / 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. Course Overview**
 - Error boundaries
- 2. Understand the virtual DOM**
 - Why the vDOM?
 - Reconciliation
 - How it compares
 - How to optimize your code
 - The Ivy engine
 - How hooks fit in
 - Why one-way data flow
 - Transpiling, bundling, minifying with webpack
- 3. TypeScript in React**
 - JavaScript vs Java (et al.)
 - What TypeScript really does
 - TS does not provide strong typing
 - Interfaces vs types
 - Embracing functional vs OOP
 - Generics in React
 - Discriminated unions
 - CSS Properties
 - Event object
 - 3rd party libraries with no TS support
- 4. Proptypes**
 - Built-in prop type checking
 - Making props optional
 - Setting prop types
- 5. Speeding up React with lazy loading**
 - The best strategy
 - The lazy method
 - The Suspense component
 - Fallbacks
 - Code splitting
- 6. Hooks overview**
 - All built-in hooks
 - When to use the obscure ones
- 7. useContext for code clarity**
 - Why prop drilling is evil
 - Create context
 - Reading context
 - Updating context
- 8. Deep dive into useEffect**
 - How useEffect works
 - Simulating lifecycle events
 - Exhausting dependencies
 - useEffect belongs with its own render
- 9. Speeding your app with useMemo and useCallback**
 - What is the difference?
 - Optimizing components with useCallback
 - Optimizing with useMemo
 - Why not just useMemo everything?
- 10. Fixing complex state - useReducer**
 - What is useReducer?
 - Woot! No need for Redux, right?
 - How to optimize useReducer
 - When not to useReducer
- 11. How to write a custom hook**
 - First - why?
 - The rules
- How to write the code
- How to best use a custom hook
- 12. Advanced event handling**
 - React's synthetic events
 - How to handle events that React refuses to
 - Low-level power of events
 - The need to de-register events
 - Let's create an infinite scroll component
- 13. Routing**
 - Overview of the newest React Router
 - Creating baseline routes
- 14. Route parameters & query strings**
 - What's the difference?
 - REST and parameters
 - Creating route parameters
 - Reading route parameters
 - Reading query strings
- 15. Efficient hyperlinks**
 - Why not use <a>?
 - How to do it the modern way
 - Relative vs absolute paths
- 16. Subroutes**
 - Routes within routes
 - How to create relative routes
 - How this simplifies your complex navigation

Bonus Topics / Time Permitting

17. A11y (time permitting)

- The case for a11y

- Specs, laws, and requirements
- React-specific handling

18. I18n (time-permitting)

- Globalization vs. localization
- Detecting locale
- How to do it in React

Student Materials & Lab Environment

All course software (limited versions, for course use only), digital courseware files or course notes, labs / data sets and solutions (as applicable) are provided for you in our “easy access / no install required” high-speed remote lab environment. Our tech team works with every student to ensure everyone is set up with working access and ready to go prior to every course start date, ensuring a smooth delivery and great hands-on experience. Please ask for details.

TriveraTech’s React Training Suite

- TT4190 Introduction to React | React Essentials – 3 days
- TT4193 Redux Deep Dive – 3 days
- TT4194 React Testing Deep Dive – 3 days
- TT4195 Mastering React | With Redux, Flux, Unit Testing, JSX & More – 5 days (TT4190 superset)
- TT4196 Intermediate React | Working with React Hooks
- TT4197 Advanced React – 2 days
- TT4198 Introduction to React Native – 3 days
- TT4199 Mastering React Native – 5 days
- TTDS6904 GraphQL with React – 3 days
- Please visit our site for the most current list of full stack / modern web development course titles, learning paths and programs.

For More Information

For more information about our dedicated training services, collaborative coaching services, courseware licensing options, public course schedule, training management services, partner programs, or to see our complete list of course offerings and special offers and discounts, please visit us at www.triveratech.com, email Info@triveratech.com or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.

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