



## React Testing Deep Dive

Explore React Testing Strategies, TDD, Jest and RTL, Test Asynchronous Code & Components & More

[www.triveratech.com](http://www.triveratech.com)

### Course Snapshot

- **Course: React Testing Deep Dive (TT4194)**
- **Duration:** 3 days
- **Audience & Skill-Level :** This is an intermediate-level course for experienced React developers.
- **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 completely changes the way that web applications are built, so it's not surprising that testing web apps built with React requires modern skills and techniques geared to keep up with this fast-changing technology. **React Testing Deep Dive** is a hands-on course designed to show you how to properly test React apps. Throughout this fast-paced course, you'll explore, learn and use the real-world skills required to fully unit-test and integration-test React apps, troubleshoot React apps, and build React apps using TDD (test-driven development).

Chock full of modern testing tools and methods, this course will take you through the philosophy of testing, unit testing, and TDD. You'll learn how to maximize Jest itself with its code coverage, mocking, spying, and stubbing capabilities. The course wraps up having you apply your newly learned skills via React Testing Library so that you can prove out the UI/UX of all your React components.

### Learning Objectives

Working in a hands-on learning environment, guided by our expert team, attendees will be able to:

- Design and organize a testing strategy for a large React app
- Explain the challenges with testing React and format a plan to solve them
- Write test suites and tests using Jest
- Create mocks, spies, and stubs
- Get code coverage statistics and push them to 100% coverage
- Run and configure Jest
- Use React Testing Library (RTL) to make unit and integration tests simple
- Develop React apps using TDD with Jest and RTL.
- Perform snapshot testing to protect against UI regression problems
- Fire events as part of testing
- Test asynchronous code and components

### Audience & Pre-Requisites

This fast-paced course is for intermediate skilled web developers with strong React and JavaScript background.

**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

## 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. React from a testing perspective**
  - How React actually works
  - What would you test?
  - How do you automate that?!?
  - Transpiling, bundling, minifying with webpack
- 2. Testing overview**
  - Types of tests
  - Static vs dynamic
  - White vs black box
  - Testing is not debugging
  - Unit vs integration testing
- 3. Testing tools**
  - Tools overview
  - Runners
  - Frameworks
  - Assertion libraries
  - Code coverage
  - Headless
  - Mocks, stubs, and spies
- 4. Automated testing with Jest**
  - The case for automated testing
  - History
  - Why choose Jest over Jasmine for React?
  - How to install
  - How to configure
  - How to run
  - Writing a simple test
- 5. Matchers**
  - How assertions work with matchers
  - All the matchers
  - Equality - values vs. ref
  - Truthy/falsy
  - Testing array contents
  - Matching RegEx
- 6. Test suites**
  - Organizing in suites
  - Setups & Teardowns
  - Sharing variables
- 7. Writing a good test**
  - Arrange, act, assert
  - Edge cases
- Positive and negative tests
  - Testing exceptions
- 8. TDD**
  - The phases of TDD
  - The case for TDD
  - React TDD life hacks
- 9. Mocking, Spying, and stubbing**
  - The case for mocking
  - Overview
  - Stubs
  - The three ways to mock with Jest
- 10. Auto-mocking**
  - How to auto mock
  - Mocking an entire library
- 11. Manual mocking**
  - Setting up manual mocking
  - Things to watch out for
  - Restoring after a mock
- 12. Spying**
  - When to spy; How to spy
  - Spying vs mocking
- 13. Testing asynchronous activities**
  - Why this is a challenge
  - Setting up async tests
  - The done() method
- 14. Challenges with React components**
  - Why can't we just test React?
  - What can't be easily tested with Jest
  - Problems with rendering
  - Rendering subcomponents
  - Solving those issues
  - The secret way to think in React testing
- 15. React Testing Library**
  - Where it came from
  - History
  - RTL vs Enzyme
- 16. Exploring RenderResults**
  - The render method
- Properties of a RenderResult
  - The debug() method
- 17. Querying elements**
  - The problem with traditional tests
  - Making it easy to find things on a page
  - get vs query
  - get vs find
  - By vs AllBy
  - Examples with ByText
  - Bonus! Querying by RegEx
- 18. Queries**
  - The ways to query
  - ByLabelText
  - ByRole
  - ByTestId
  - ByAltText
  - The others
  - Queries by priority
- 19. The RTL matchers**
  - Why additional matchers?
  - toBeInTheDocument
  - toBeDisabled
  - toBeInvalid
  - toContainElement
  - toHaveAttribute
  - The rest
- 20. Triggering events**
  - The two ways to trigger an event
  - How to use fireEvent
  - The advantages of userEvent
  - Using userEvent
- 21. Snapshot testing**
  - What is snapshot testing?
  - How to run a test
  - What to do when they fail
  - How to save the new result
- 22. Data-driven test with test.each() (time permitting)**
  - Why do this?
  - Tagged templates
  - How to create the tests

## 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](http://www.triveratech.com), email [Info@triveratech.com](mailto:Info@triveratech.com) or call us toll free at **844-475-4559**. Our pricing and services are always satisfaction guaranteed.

---

**TRIVERA TECHNOLOGIES • Collaborative IT Training, Coaching & Skills Development Solutions**  
[www.triveratech.com](http://www.triveratech.com) • toll free +1-844-475-4559 • [Info@triveratech.com](mailto:Info@triveratech.com) • Twitter TriveraTech

ONSITE, ONLINE & BLENDED TRAINING SOLUTIONS • PUBLIC / OPEN ENROLLMENT COURSES • COURSEWARE LICENSING & DEVELOPMENT MENTORING • ASSESSMENTS • LEARNING PLAN DEVELOPMENT • SKILLS IMMERSION PROGRAMS / RESKILLING / NEW HIRE / BOOT CAMPS PARTNER & RESELLER PROGRAMS • CORPORATE TRAINING MANAGEMENT • VENDOR MANAGEMENT SERVICES

Trivera Technologies is a Woman-Owned Small-Business Firm

---

## Explore Trivera’s Ways to Learn!

