

React Course -Basic to Advanced

3 days

Kursbok:

- <https://www.oreilly.com/library/view/react-cookbook/9781492085836/>

Kursinnehåll

Ch01 - Course Introduction and Basics

- Course contents
- Local dev env, scripts and builds:
 - Node.js, npm, nvm, npx
 - VS Code with extensions
 - Chrome Developer Tools
 - Chrome React plugin
 - ES Lint
 - Webpack
- The basics - quick repetition
 - ES6 JS features
 - Promises
 - Map
 - Etc.
- Create applications with create-react-app
- Component libraries
- React Routing -overview
- TypeScript
 - configuration

Ch02 - Functional Components with Hooks and TypeScript

- Hooks
 - useState
 - useEffect
- TypeScript
 - Interfaces
 - Generic components
 - PropTypes
- Custom hooks

Ch03 - React Forms

- Basic forms with functional components and hooks
- Form validation
- Form design pattern: The 3 Layer Approach
- Long forms and guide/stepper-pattern
- Form libraries:
 - React Hooks Form
 - React Final Form

Ch04 - Asynchronous calls, APIs, Tables

- Fetch data asynchronously
- useEffect for API calls
- Check response status
- mocked APIs

- JSON server
- Axios library
- React Tables:
 - Pagination, index, sorting, etc.

Ch05 - State Managements and Advanced Hooks

- Component Rendering and Component Trees
- React Context
- Hooks
 - useContext
 - useReducer
 - useRef
- Store state in browser
- API-driven Components with React Routing
 - useParams hook
- Redux

Ch06 – Exception Handling and Security

- Error Boundary
- Error handler
- Report errors to API
- Security:
 - OWASP
 - Detect and fix dependency vulnerabilities

Ch07 - Testing and Performance

- *Performance will also be discussed under other course chapters, for example "Asynchronous calls, APIs, Tables", "State management" and "Forms".*
- BDD & TDD
- Unit test / component test
 - Jest
 - React Testing Library
- UI/E2E tests: TestCafé
 - Test applications in different browsers, i.e. Edge (and Chrome)
- Chrome React Dev Tools Profiler
- Optimize Rendering of Components with PureComponent, React.memo, useCallback, useMemo
- 10+ Techniques for Writing High-performance React Code

Ch08 - Patterns and Techniques

- Higher Order Components (HOC)
- Reusable Generic Components
- Micro Frontends
 - How it relates to microservices
 - iFrame implementation
 - JavaScript implementation
- Server-side React with Next.js
- Loading components on demand
- New and Upcoming Features in React

Ch09 - Course Project & Course Summary

- More exercises on the topics and techniques that we have covered in the course.

- Conclusions and thoughts around the course project
- Questions
- Course Evaluation