

KOENIG SOLUTIONS • COURSE OUTLINE

React and React Native (Android ATC)

Learn to build web interfaces with React and mobile apps with React Native, from components to backend integration.

5 Days

40 HOURS

11

MODULES

139

TOPICS

COURSE OVERVIEW

React and React Native certifications officially recognize an individual's expertise in these JavaScript libraries, which are widely used for building user interfaces. Developed by Facebook, React facilitates seamless UI development for web applications, while React Native enables the creation of mobile applications. These certifications validate a professional's ability to write, test, and deploy functional, optimized code using React or React Native effectively. The certification process emphasizes core concepts such as Components, State, Props, Lifecycle Methods, and Hooks in React, as well as platform-specific development techniques in React Native. Earning these certifications demonstrates a strong understanding of high-quality, intuitive application development, making them a valuable credential in the industry.

WHO THIS COURSE IS FOR

Web developers aiming to expand their skill set

Programmers seeking expertise in popular JavaScript libraries

App developers aspiring to create cross-platform applications

IT professionals looking to stay updated with the latest technologies

Computer Science students eager to broaden their knowledge

What You Will Learn

- Explain core React concepts such as components, state and props
- Apply ES6 features including arrow functions, destructuring and modules
- Build composable components using lifecycle hooks and event handling
- Implement pagination, filtering and sorting in React applications
- Configure routing with React Router including nested and dynamic routes
- Build forms with validation using controlled elements and Joi
- Integrate backend services for creating, updating and deleting data
- Develop cross-platform mobile applications using React Native components

COURSE SYLLABUS

11 Modules, 139 Topics

01

Introduction to React

TOPICS

What is React? · Setting Up the Development Environment · Hello React · Custom Configuration · Full Stack Architecture

02

ES6 Refresher

TOPICS

- Introduction
- let vs var vs const
- Objects
- The “this” Keyword
- Binding this
- Arrow Functions
- Arrow Functions and this
- Array map Method
- Object Destructuring
- Spread Operator
- Classes
- Inheritance
- Modules
- Named and Default Exports

03

Components

TOPICS

- Introduction
- Setting Up the Project
- Your First React Component
- Embedding Expressions
- Setting Attributes
- Rendering Classes Dynamically
- Rendering Lists
- Conditional Rendering
- Handling Events
- Binding Event Handlers
- Updating the State
- What Happens When State Changes
- Passing Event Arguments

04

Composing Components

TOPICS

- Introduction
- Composing Components
- Passing Data to Components
- Passing Children
- Debugging React Applications
- Props vs State
- Raising and Handling Events
- Updating the State
- Single Source of Truth
- Removing Local State
- Synchronizing Multiple Components
- Lifting the State Up
- Stateless Function Components
- Destructuring Arguments
- Lifecycle Hooks
- Mounting Phase
- Updating Phase
- Unmounting Phase

05

Pagination, Filtering, and Sorting

TOPICS

- Introduction
- **Pagination:** Component Interface
- **Pagination:** Display Pages
- **Pagination:** Handling Page Changes
- **Pagination:** Paginating Data
- **Pagination:** Type Checking with PropTypes
- **Filtering:** Component Interface
- **Filtering:** Display Items
- **Filtering:** Default Props
- **Filtering:** Handling Selection
- **Filtering:** Implementing Filtering
- **Sorting:** Extracting Logic
- **Sorting:** Raising Sort Events
- **Sorting:** Implementing Sorting

06

Routing

TOPICS

- Introduction
- Setup
- Adding Routing
- Switch
- Link
- Route Props
- Passing Props
- Route Parameters
- Optional Parameters
- Query String Parameters
- Redirects
- Programmatic Navigation
- Nested Routing
- Adding React Router
- Adding Routes

07

Forms

TOPICS

- Introduction
- Building a Bootstrap Form
- Handling Form Submission
- Refs
- Controlled Elements
- Handling Multiple Inputs
- Common Errors
- Extracting a Reusable Input
- Validation
- Basic Validation Implementation
- Displaying Validation Errors
- Validation on Change
- Using Joi for Validation
- Validating a Form
- Validating a Field

08

Calling Backend Services

TOPICS

- Introduction
- JSON Placeholder
- HTTP Clients
- Getting Data
- Creating Data
- Lifecycle of a Request
- Updating Data
- Deleting Data
- Optimistic vs Pessimistic Updates
- Expected vs Unexpected Errors
- Handling Unexpected Errors Globally
- Extracting a Reusable HTTP Service
- Extracting a Config Module
- Displaying Toast Notifications

01

Core Concepts

TOPICS

- Overview of React Native
- Setting Up the Environment
- Building a React Native App
- State and Props in React Native
- Styling in React Native
- Flexbox
- List View
- Text Input
- Scroll View
- Images
- HTTP Requests
- Buttons
- Animations
- Router
- Running on iOS
- Running on Android

02

Components and APIs

TOPICS

- React Native: View
- React Native: WebView
- React Native: Modal
- React Native: ActivityIndicator
- React Native: Picker
- React Native: StatusBar
- React Native: Switch
- React Native: Text
- React Native: Alert
- React Native: Geolocation
- **React Native:** Async Storage

03

Advanced React Native

TOPICS

Consuming Web Services · Posting Data to Web Services · Third-Party Integrations · Polishing and Publishing Applications

WHAT IS INCLUDED

Everything You Need to Succeed

- Koenig course material for every module
- Delivery by certified instructors and subject matter experts
- Hands-on exercises throughout the course
- Course completion certificate from Koenig

ABOUT KOENIG

Who We Are

Established in 1993, Koenig Solutions is a globally recognised training provider with 35+ technology partnerships, 5,000+ training programmes and a network of certified instructors and subject matter experts, supporting individuals and enterprise teams worldwide.

FLEXIBLE DELIVERY

Learn the Way That Suits You

Classroom Training

Live Online Classes (ILO)

Fly-Me-A-Trainer (FMAT)

Flexi (Self-Paced)

1-on-1 Training

Ready to Get Started?

Talk to a learning advisor about schedules, group training and customised delivery.

Visit koenig-solutions.com

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