

## ReactJS

- Components
  - ■■■ Class Components
  - ■■■ Function Components
  - ■■■ Pure Components
  - ■■■ Higher-order Components
  - ■■■ Render Props
  - ■■■ Hooks
    - ■■■ useState
    - ■■■ useEffect
    - ■■■ useContext
    - ■■■ useRef
    - ■■■ useReducer
    - ■■■ useMemo
    - ■■■ useCallback
    - ■■■ useEffect
  - ■■■ Custom Hooks
- Virtual DOM
- JSX
- State & Props
  - ■■■ State Management
  - ■■■ Lifting State Up
  - ■■■ Context API
  - ■■■ Prop Drilling
  - ■■■ Default & Destructured Props
- Lifecycle Methods (Class Components)
  - ■■■ Mounting
    - ■■■ constructor
    - ■■■ getDerivedStateFromProps
    - ■■■ render
    - ■■■ componentDidMount
  - ■■■ Updating
    - ■■■ getDerivedStateFromProps
    - ■■■ shouldComponentUpdate
    - ■■■ render
    - ■■■ getSnapshotBeforeUpdate
    - ■■■ componentDidUpdate
  - ■■■ Unmounting
    - ■■■ componentWillUnmount
  - ■■■ Error Handling
    - ■■■ getDerivedStateFromError
    - ■■■ componentDidCatch
- Event Handling
- Forms and Input Handling
- Conditional Rendering
- Lists and Keys
- Styling and CSS
  - ■■■ Inline Styles
  - ■■■ CSS Modules
  - ■■■ Styled Components
  - ■■■ Tailwind CSS
  - ■■■ Material-UI / ShadCN
  - ■■■ Bootstrap

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- ■ ■ ■ Routing
  - ■ ■ ■ React Router
  - ■ ■ ■ Dynamic Routing
  - ■ ■ ■ Nested Routes
  - ■ ■ ■ useNavigate & useParams
  - ■ ■ ■ Protected Routes
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- ■ ■ ■ State Management
  - ■ ■ ■ Redux
    - ■ ■ ■ Store
    - ■ ■ ■ Reducers
    - ■ ■ ■ Actions
    - ■ ■ ■ Middleware
    - ■ ■ ■ Redux Toolkit
    - ■ ■ ■ RTK Query
  - ■ ■ ■ Zustand
  - ■ ■ ■ Jotai
  - ■ ■ ■ Recoil
  - ■ ■ ■ React Query
  - ■ ■ ■ Apollo Client (GraphQL)
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- ■ ■ ■ Data Fetching & Side Effects
  - ■ ■ ■ Fetch API
  - ■ ■ ■ Axios
  - ■ ■ ■ GraphQL (Apollo Client)
  - ■ ■ ■ SWR
  - ■ ■ ■ React Query
  - ■ ■ ■ useEffect for Side Effects
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- ■ ■ ■ Performance Optimization
  - ■ ■ ■ React.memo
  - ■ ■ ■ useMemo
  - ■ ■ ■ useCallback
  - ■ ■ ■ Lazy Loading & Code Splitting
    - ■ ■ ■ React.lazy()
    - ■ ■ ■ Suspense
    - ■ ■ ■ Dynamic Imports
  - ■ ■ ■ Virtual DOM Diffing
  - ■ ■ ■ Concurrent Mode
  - ■ ■ ■ React Fiber
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- ■ ■ ■ Testing
  - ■ ■ ■ Jest
  - ■ ■ ■ React Testing Library
  - ■ ■ ■ Cypress (E2E Testing)
  - ■ ■ ■ Unit Testing
  - ■ ■ ■ Integration Testing
  - ■ ■ ■ Snapshot Testing
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- ■ ■ ■ Deployment & Build Tools
  - ■ ■ ■ Vite / Webpack
  - ■ ■ ■ Babel
  - ■ ■ ■ CI/CD Pipelines
  - ■ ■ ■ Hosting (Vercel, Netlify, Firebase)
  - ■ ■ ■ Docker for React Apps
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- ■ ■ ■ Server-Side Rendering (SSR) & Static Site Generation (SSG)
  - ■ ■ ■ Next.js

- ■■■ Gatsby
- ■■■ Remix
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- React Native
  - Components
  - Styling
  - Navigation
  - Native Modules
  - APIs
  - Expo
  - Performance Optimization