

React Complete Notes (Basic to Advanced) with Tasks

1. JavaScript Fundamentals for React

- let, var, const
- Arrow functions
- Array methods (map, filter, reduce)
- Spread/Rest, destructuring
- Promises, async/await

Tasks:

- Create custom map()
- Build async fetch simulator

2. React Basics

- Components, JSX
- Props & State
- Conditional rendering
- Lists & keys

Tasks:

- Counter app
- Todo app

3. Hooks

- useState, useEffect, useRef
- useMemo, useCallback, useReducer
- Custom hooks

Tasks:

- Custom useFetch hook
- Stopwatch using useRef

4. State Management

- Prop Drilling
- Context API
- Redux Toolkit

Tasks:

- Theme switcher (Context)

- Cart system (Redux)

5. Routing

- BrowserRouter, Route
- useParams, useNavigate
- Protected routes

Tasks:

- Product details page
- Auth protected route

6. APIs

- Fetch + Axios
- Loading & error handling
- Pagination

Tasks:

- Products list with pagination
- Search filter API project

7. Performance Optimization

- React.memo
- useMemo & useCallback
- Code splitting

Tasks:

- Optimize heavy list
- Lazy-loaded components

8. Advanced React

- Custom hooks
- HOC
- Portals
- Error Boundaries
- Suspense/Concurrent features

Tasks:

- Error boundary component
- Modal using portals

Full Project Tasks:

1. E-commerce mini project
2. Job portal (CRUD + Auth)
3. Movie Search App using TMDB API