

# Industrial Training Daily Diary

## MERN Stack Training

**Company:** Sensation Software Solutions

**Student Name:** Gurvinder Singh

**Training Duration:** 6 Months

**Day:** 27

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## Day 27 – React Router Advanced: Protected Routes, Redirects, Nested Routes

### Objective of the Day

The objective of Day 27 was to learn **advanced routing concepts in React**, including **protected routes**, **redirects**, and **nested routes** to enhance user navigation and security in applications.

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### Recap of Basic React Routing

Trainer reviewed:

- BrowserRouter, Route, Link, NavLink
- useHistory/useNavigate for programmatic navigation
- Basic routing between Home, Registration, and Success pages

This recap helped set the foundation for advanced routing.

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### Protected Routes

Protected routes allow access to certain pages only if a user meets specific conditions, such as being logged in.

Key points:

- Creating a ProtectedRoute component
- Checking authentication status using Redux state or Context API
- Redirecting unauthorized users to login page

Example: Dashboard page accessible only after login.

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## Redirects

Trainer explained how to redirect users programmatically:

- Using `useNavigate` hook in React Router v6
  - Redirecting after form submission or login/logout actions
  - Conditional redirects based on state
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## Nested Routes

Nested routes allow rendering of child routes within parent components.

Key points:

- Using `Outlet` component for nested routes
- Creating multiple levels of routing for complex UIs
- Managing layout components with nested routing

Example: Profile page with nested routes for Account, Settings, and Activity.

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## Practical Work Done

During lab session:

- Implemented `ProtectedRoute` component for Dashboard and Profile
- Redirected users to login page if not authenticated
- Created nested routes inside Profile component
- Tested programmatic navigation after form submission

Hands-on practice ensured understanding of real-world routing patterns.

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## Weekly Task – Week 7 (Continued)

Tasks assigned:

- Implement protected routes in React application
- Use redirects after login/logout
- Create nested routes for multi-level navigation
- Update diary and push code to GitHub Pages

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## **Importance in MERN Stack Development**

Advanced routing ensures secure access to pages, proper navigation flow, and maintainable structure in MERN applications.

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## **Conclusion of Day 27**

Day 27 provided practical experience with protected routes, redirects, and nested routing. I can now manage secure and complex navigation structures in React applications.

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### **Outcome of the Day:**

- Protected routes implemented
- Redirects configured based on user state
- Nested routes created for multi-level navigation
- Week 7 tasks progressed and documented