# Typesto MERN + Firebase Roadmap

### 1■■ Setup the Environment

- Frontend: Create a React app using create-react-app.
- Backend: Create a separate folder for Express API with Express, Mongoose, CORS, Dotenv.

### 2■■ Database & Models (MongoDB)

- Connect to MongoDB using Mongoose.
- User Schema: uid, name, email, photoURL, best scores per difficulty.
- Result Schema: uid, wpm, difficulty, createdAt.

### 3■■ Firebase Google Sign-In

- Setup Firebase project and enable Google Sign-In.
- Install Firebase in frontend.
- Create firebase.js and configure signInWithPopup and signOut.
- Send user details to backend to store/update profile.

### 4■■ Backend API Routes

- POST /api/users → create/update user.
- POST /api/results → save typing result and update best WPM if needed.
- GET /api/leaderboard/:difficulty → fetch top users by difficulty.
- GET /api/results/:uid → fetch user's history.

### 5■■ Frontend Pages / Components

- Navbar: site title, Leaderboard link, Google login button, profile pic if logged in.
- Typing Game: difficulty selector, sentence display, input box, timer, WPM calculation.
- Leaderboard Page: tabs for each difficulty, table of top players.
- Profile Page (optional): shows personal bests & history.

### 6■■ Difficulty Sentences

- Hardcode sample sentences for now.
- Later: store them in backend.

### 7■■ State Management

- Use React Context or Redux to store authenticated user data, difficulty, typing session data.

### 8■■ UI Improvements

- Use TailwindCSS or Material UI.
- Dark theme, rounded buttons, leaderboard cards/tables.

### 9■■ Deployment

- Backend: Render / Railway / Vercel (API).
- Frontend: Vercel / Netlify.

- MongoDB: MongoDB Atlas.

## ■ *Extra Features (Optional)*

- Track accuracy.
- Daily challenges.
- Animated typing progress bar.
- Friend system for score comparison.