

6 Months Training TR-104 Full Stack Development

January, 2026

Day 10 Report

The tenth day of training marked the beginning of full Firebase Authentication implementation in an Angular application using the NgModule-based architecture. The session focused on integrating Firebase Authentication services, implementing user sign-in and sign-up flows, handling authentication errors, and enabling third-party authentication. Emphasis was placed on maintaining architectural consistency, understanding authentication behavior, and ensuring correct interaction between Angular and Firebase services.

User Sign-In Implementation

A complete Sign-In feature was implemented using Firebase Email/Password authentication. The sign-in logic was built using Angular Reactive Forms and connected to Firebase authentication services.

Key aspects included:

- Creating a dedicated 'SignInComponent'
- Designing a reactive form with email and password fields
- Authenticating users using Firebase's 'signInWithEmailAndPassword' method
- Handling authentication states during submission
- Redirecting authenticated users to the dashboard upon successful login

This established a secure and structured login workflow.

User Sign-Up Implementation

Following the sign-in setup, a Sign-Up feature was implemented to allow new users to create accounts. Firebase's Email/Password registration method was integrated into a dedicated 'SignUpComponent'.

Key aspects included:

- Creating a structured sign-up form using Reactive Forms
- Registering new users using 'createUserWithEmailAndPassword'
- Redirecting newly registered users to the dashboard
- Preventing multiple submissions during ongoing requests

This ensured a complete user onboarding flow within the application.

Google Authentication Integration

In addition to email/password authentication, Google Sign-In and Sign-Up functionality was implemented using Firebase's Google Authentication provider.

Key outcomes:

- Users were able to authenticate using Google accounts
- Successful Google authentication redirected users to the dashboard
- Google-authenticated users were correctly created and stored in Firebase

This demonstrated integration of third-party authentication providers in a production-style Angular application.

Error Handling and Validation Feedback

Significant focus was placed on handling authentication errors and improving user feedback. The application was enhanced to:

- Capture and interpret Firebase authentication error responses
- Display meaningful error messages for common scenarios such as:
 - Invalid email format
 - Weak passwords
 - Email already in use
 - Invalid login credentials
- Reset loading states when authentication failed

These improvements aligned the authentication flow with real-world application standards.

UI Behavior and Submission State Management

User interface behavior was refined to improve clarity during authentication:

- Loading indicators were displayed during sign-in and sign-up operations
- Buttons were disabled while authentication was in progress
- Navigation options were provided to switch between Sign-In and Sign-Up pages
- Clear visual feedback was shown for authentication errors

This ensured a smoother and more professional user experience.

Firebase Authentication Verification

The authentication setup was verified through successful account creation and login:

- One user account created using Email/Password Sign-Up
- One user account authenticated using Google Sign-In
- All users were confirmed in the Firebase Console

This validated correct Firebase integration and end-to-end authentication flow.

Key Learnings

- Implemented Firebase Email/Password Sign-In and Sign-Up
- Integrated Google Authentication using Firebase
- Understood Firebase authentication error handling
- Strengthened Reactive Forms usage in authentication scenarios
- Learned to manage authentication loading states and UI feedback
- Reinforced NgModule-based architectural consistency
- Gained practical experience debugging authentication-related issues

Conclusion

The tenth day of training successfully established a complete authentication foundation using Firebase in an Angular application. By implementing both sign-in and sign-up flows, integrating Google authentication, handling errors effectively, and refining UI behavior, the application achieved a robust and scalable authentication system. This session laid the groundwork for upcoming features such as authentication state persistence, route protection, and role-based dashboard access.