Training Institute App – System Architecture

1. Overview

This document describes the architecture of a Training Institute management system consisting of an Android mobile application for students and a web-based admin panel. Both systems share a common backend for authentication and data storage.

2. Main Components

Component	Description
Android App (Kotlin)	Used by students for registration, login, course selection, and dashboard acce...
Web Admin Panel (React)	Used by the institute admin to manage students, approve accounts, and mana...
Authentication Service	Handles email/password login and phone OTP verification.
Database (Cloud)	Stores students, courses, and status (pending/approved/blocked).
Security Layer	Controls access rules for students and admin.

3. Student Flow (Android App)

1. Student registers using Email/Password or Phone OTP. 2. Student selects a course during registration. 3. Account is created and profile is saved with status = 'pending'. 4. Student sees 'Waiting for admin approval' screen. 5. After admin approval, student can access the dashboard.

4. Admin Flow (Web Panel)

1. Admin logs in using Email/Password. 2. Admin views list of registered students. 3. Admin approves or blocks students. 4. Admin creates and manages courses. 5. Changes are reflected instantly in the student app.

5. Data Model (Simplified)

Collection	Fields
students	uid, name, email, phone, courseId, courseName, status, role, createdAt
courses	courseId, title, duration, active

6. Security

Only the admin account can approve or block students and manage courses. Students can only read and update their own profile. Security rules are enforced at the backend level.