

Team Member Tasks and Resources by Role

Let me break down the specific tasks and necessary resources for each team member based on their primary responsibilities in your fitness app development plan. This will help ensure everyone knows exactly what they're accountable for and which technologies they need to master.

Team Member 1 (Frontend/UI Focus)

Primary Tasks:

- Design and implement login/registration UI screens
- Create exercise library UI and detail views
- Design workout plan creation interface
- Implement settings UI for notification preferences
- Ensure consistent UI styling across the app
- Handle UI animations and transitions

Required Resources:

- **Android Studio** - Latest stable version
- **XML Layouts and ViewBinding** - For UI implementation
- **Material Design Components** - Material Design Documentation
- **Figma or Adobe XD** - For UI mockups before implementation
- **Navigation Component** - Android Navigation Architecture
- **RecyclerView** - RecyclerView Documentation
- **Constraint Layout** - Constraint Layout Guide
- **View Animations** - Animation and Transitions Guide
- **Coil Image Loading** - Coil Documentation - For efficient image loading
- **Data Binding** - Data Binding Library - For connecting UI and data

Team Member 2 (Backend/Data Focus)

Primary Tasks:

- Configure Firebase authentication and user data storage
- Set up Firebase Storage for exercise videos
- Develop data structure for workout plans and progress data
- Create backend logic for workout scheduling
- Design and implement database schemas
- Set up data synchronization between local and cloud storage

Required Resources:

- **Firebase Authentication** - Firebase Auth Documentation
- **Firebase Firestore** - Firestore Documentation
- **Firebase Storage** - Firebase Storage Guide
- **Room Database** - Room Persistence Library
- **Cloud Functions for Firebase** - Cloud Functions Documentation (optional for backend processing)
- **Kotlin Coroutines** - Coroutines Guide - For asynchronous operations
- **LiveData and Flow** - LiveData Overview and Kotlin Flow
- **Repository Pattern** - Guide to App Architecture
- **Data Modeling Tools** - Draw.io or similar for database schema design

Team Member 3 (Feature/Functionality Focus)

Primary Tasks:

- Create user profile creation flow and data models
- Build exercise categorization and filtering functionality
- Implement workout execution and completion tracking
- Finalize workout tracking user experience
- Handle business logic for workout progress calculations
- Design workout plan templates and presets

Required Resources:

- **MVVM Architecture** - Android Architecture Components
- **ViewModel** - ViewModel Overview

- **StateFlow/SharedFlow** - Kotlin StateFlow and SharedFlow
- **Use Case Design Pattern** - For encapsulating business logic
- **JUnit** - Android Testing Documentation
- **Mockito** - Mockito Framework - For unit testing
- **WorkManager** - WorkManager Documentation - For background tasks
- **Kotlin Collections** - Collections Overview - For data processing
- **Search Component** - SearchView Implementation - For filtering exercises

Team Member 4 (Integration/DevOps Focus)

Primary Tasks:

- Set up automated testing framework and initial tests
- Implement ExoPlayer integration for video demonstrations
- Create progress visualization with MPAndroidChart
- Implement notification system using WorkManager
- Configure CI/CD pipeline
- Ensure cross-device compatibility
- Handle performance optimization

Required Resources:

- **ExoPlayer** - ExoPlayer Documentation
- **MPAndroidChart** - MPAndroidChart Library
- **GitHub Actions** - GitHub Actions Documentation
- **Espresso** - Espresso Testing Framework
- **Notifications API** - Notifications Guide
- **WorkManager** - WorkManager Documentation
- **Firebase App Distribution** - App Distribution Documentation
- **Android Profiler** - Performance Profiling Tools
- **LeakCanary** - LeakCanary Memory Leak Detection
- **Firebase Performance Monitoring** - Performance Monitoring Documentation

Shared Resources for All Team Members

Development Infrastructure:

- **GitHub Repository** - For version control
- **GitHub Projects or Trello** - For task tracking
- **Discord or Slack** - For team communication
- **Google Drive** - For shared documentation
- **Android Debug Bridge (ADB)** - For debugging
- **Postman** - For API testing [if needed]

Learning Resources:

- **Kotlin Documentation** - Kotlin Language Reference
- **Android Developers Documentation** - Official Android Docs
- **Firebase Documentation** - Firebase Guides
- **Material Design Guidelines** - Material Design
- **Udacity Course** - Developing Android Apps with Kotlin [optional but helpful]
- **Codelab Tutorials** - Android Codelabs