

**Final Assignment**

**Course name:** Mobile Device Programming

**Student Name:** MD SHARIF

**Student Class:** 20lc

**Student Number:** 2011561104

**The requirements are as follows:**

1. No less than 5 pages (including activity or fragment)
2. Use MVVM pattern
3. Use database to store data

**A) Activity**

An activity is a single, focused thing that the user can do. Almost all activities interact with the user, so the Activity class takes care of creating a window for you in which you can place your UI with setContentView (View)

**B) Fragment**

On the other hand, A fragment represents a reusable portion of your app's UI. A fragment defines and manages its own layout, has its own lifecycle, and can handle its own input events. Fragments cannot live on their own--they must be hosted by an activity or another fragment. The key difference, that emerges from the definitions, is that the fragment depends on an activity to exist, and so it represents only a part of the user interface. Instead, the activity can be considered like the container under which all other UI components (fragments included) will be placed. Without activities, there would be no user interface.

**C) MVVM pattern:**

Model–view–view model (MVVM) is an architectural pattern in computer software that facilitates the separation of the development of the graphical user interface (GUI; the view)—be it via a markup language or GUI code—from the development of the business logic or back-end logic (the model) such that the view is not dependent upon any specific model platform.

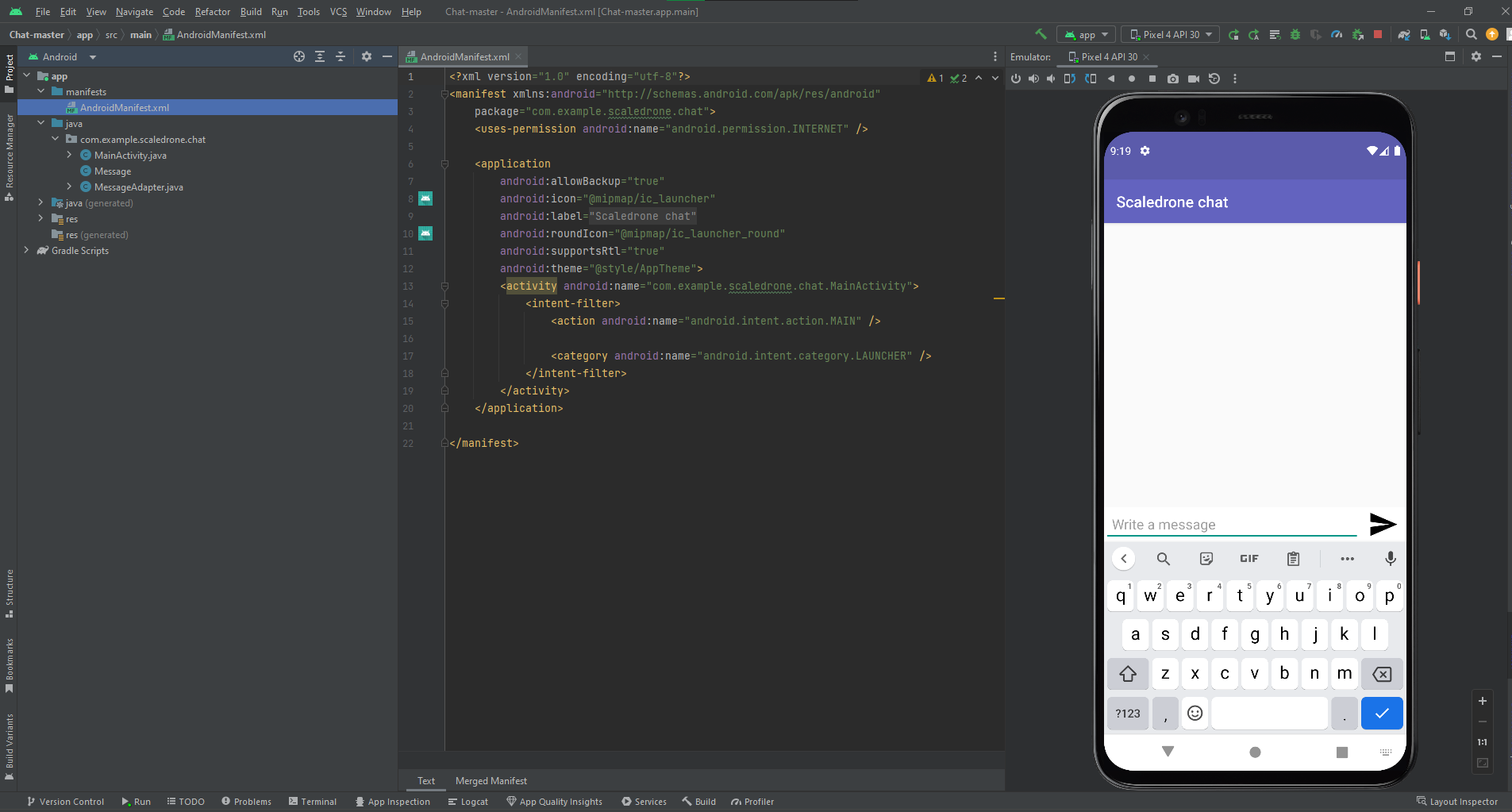
The view model of MVVM is a value converter, meaning it is responsible for exposing (converting) the data objects from the model in such a way they can be easily managed and presented. In this respect, the view model is more model than view, and handles most (if not all) of the view's display logic. The view model may implement a mediator pattern, organizing access to the back-end logic around the set of use cases supported by the view.

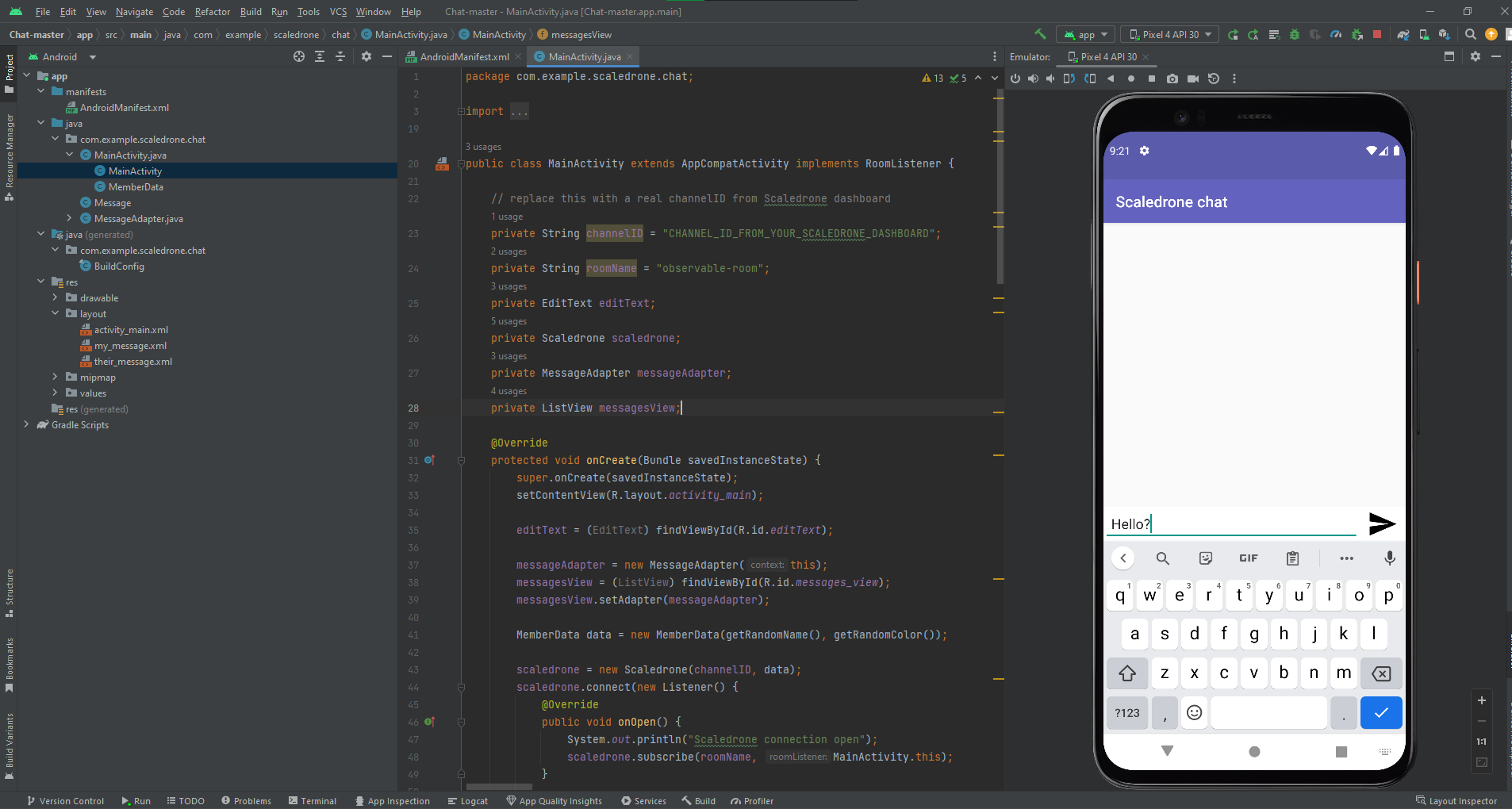
**D) Database to store data:**

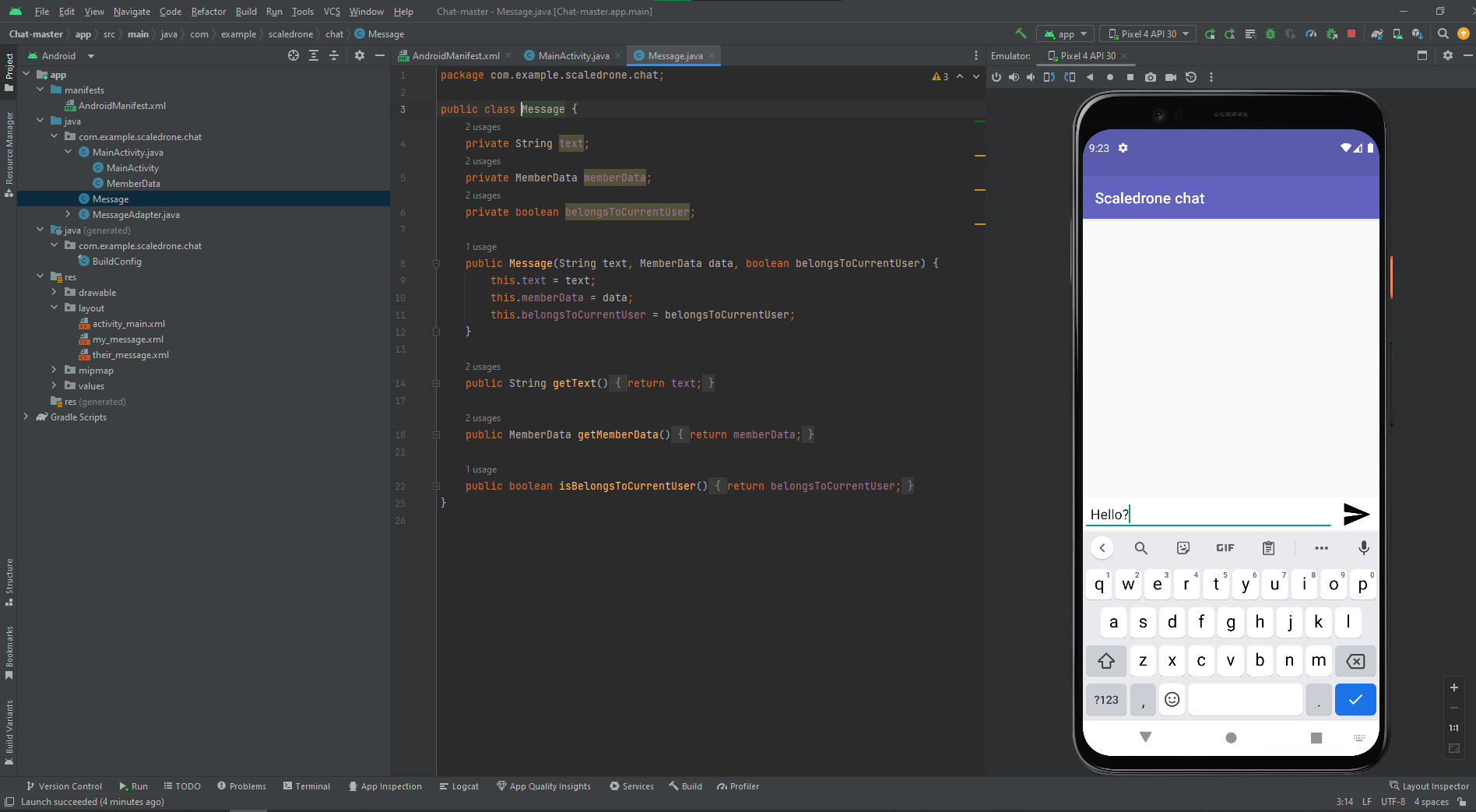
SQLite is an opensource SQL database that stores the database as a text file on a device. Basic familiarity with SQL sets up a developer nicely to use Android’s SQLite implementation. And for developers not familiar with SQL, do not be discouraged, SQL is pretty straightforward to learn, use and implement. SQLite is a relational database management system just like Oracle, MySQL and PostgreSQL. Due to its small footprint and public domain license, it is possibly the most widely deployed database engine in the world, it can be found in all types of software ranging from embedded systems, browsers, and operating systems.

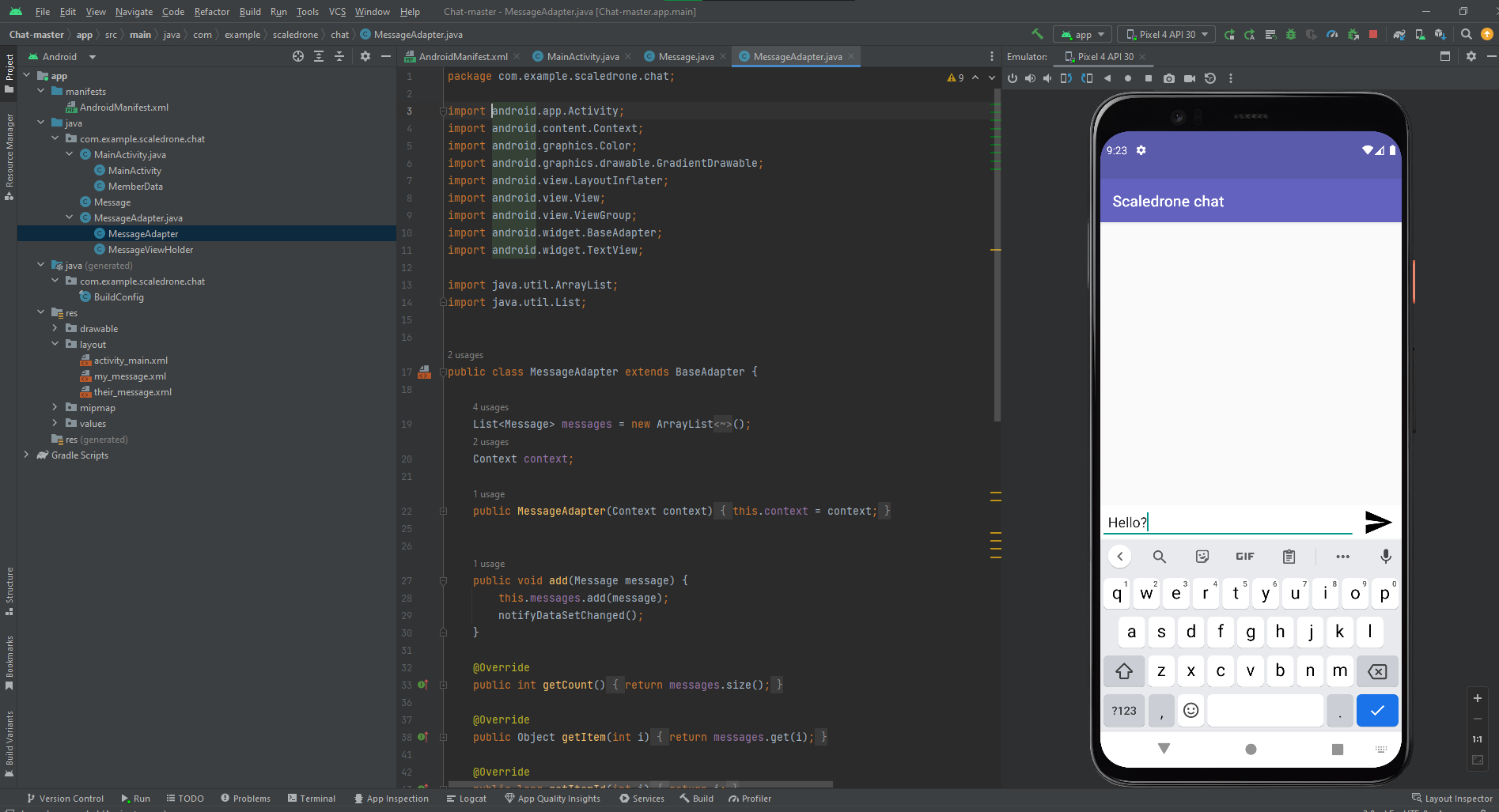
Android has a built in SQLite implementation, and application specific database files are stored in a private disk space that’s inaccessible to other applications. This way, no application can access another application’s data.

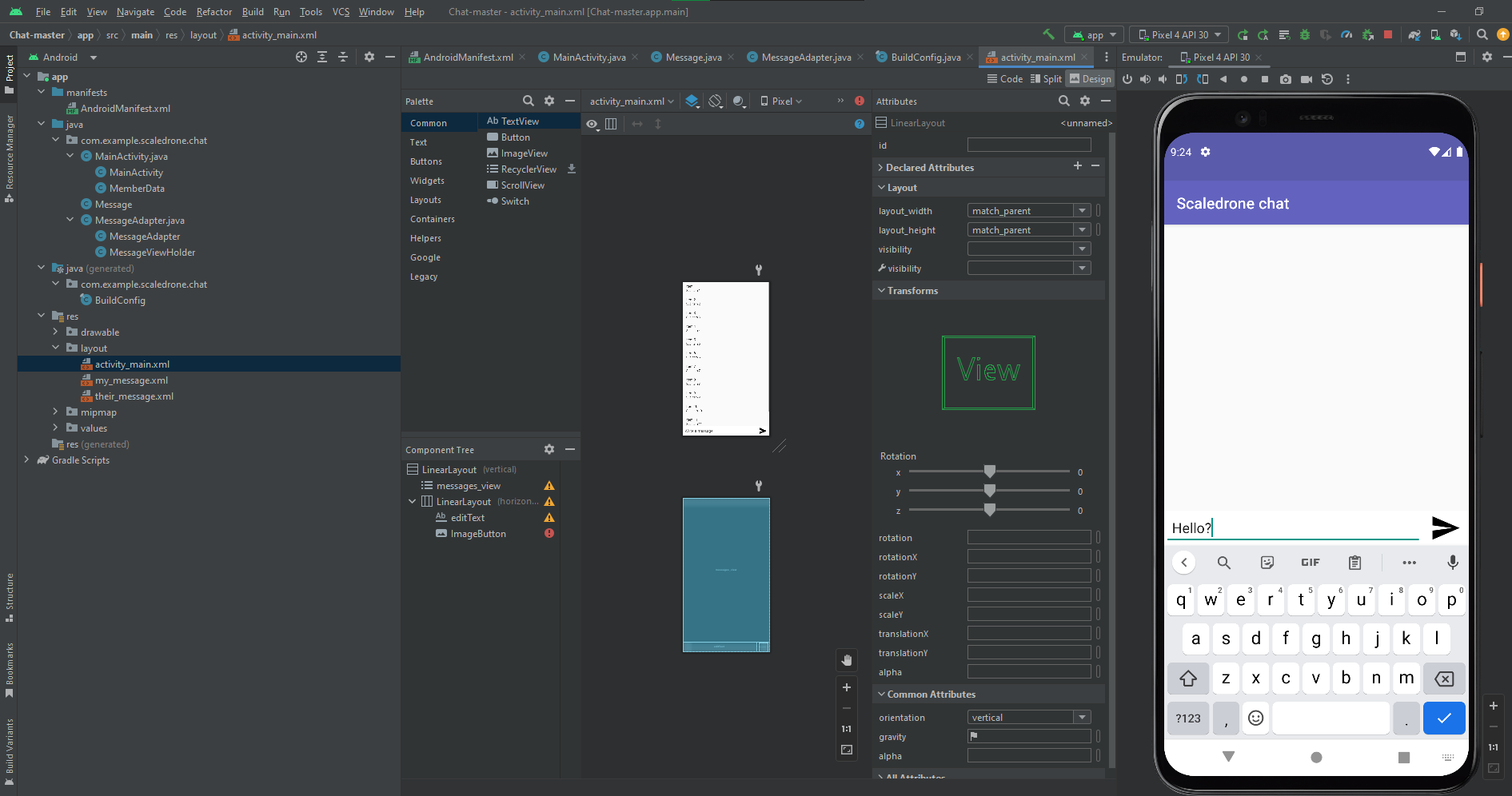
**E) Chat Master Application:**

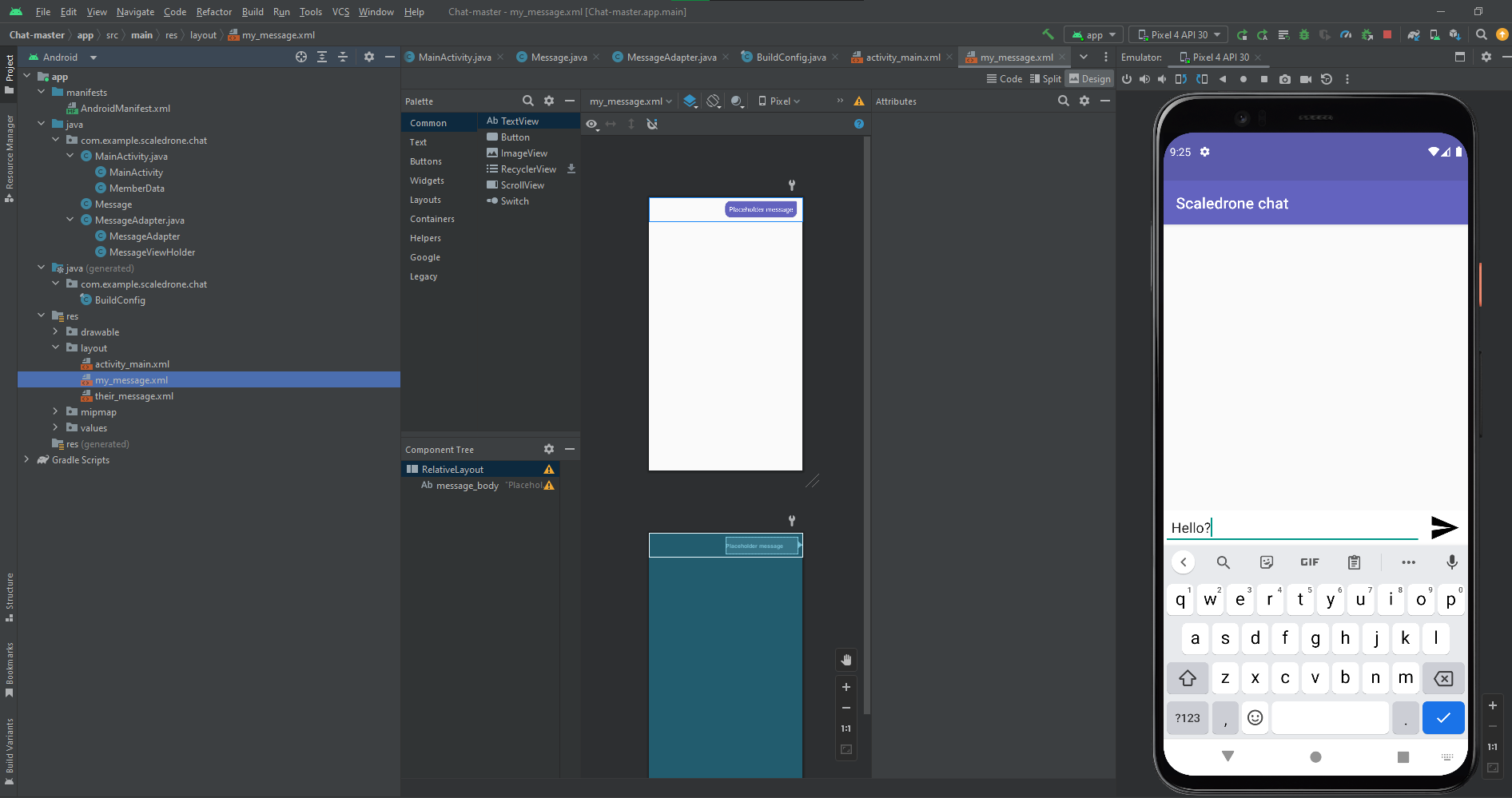
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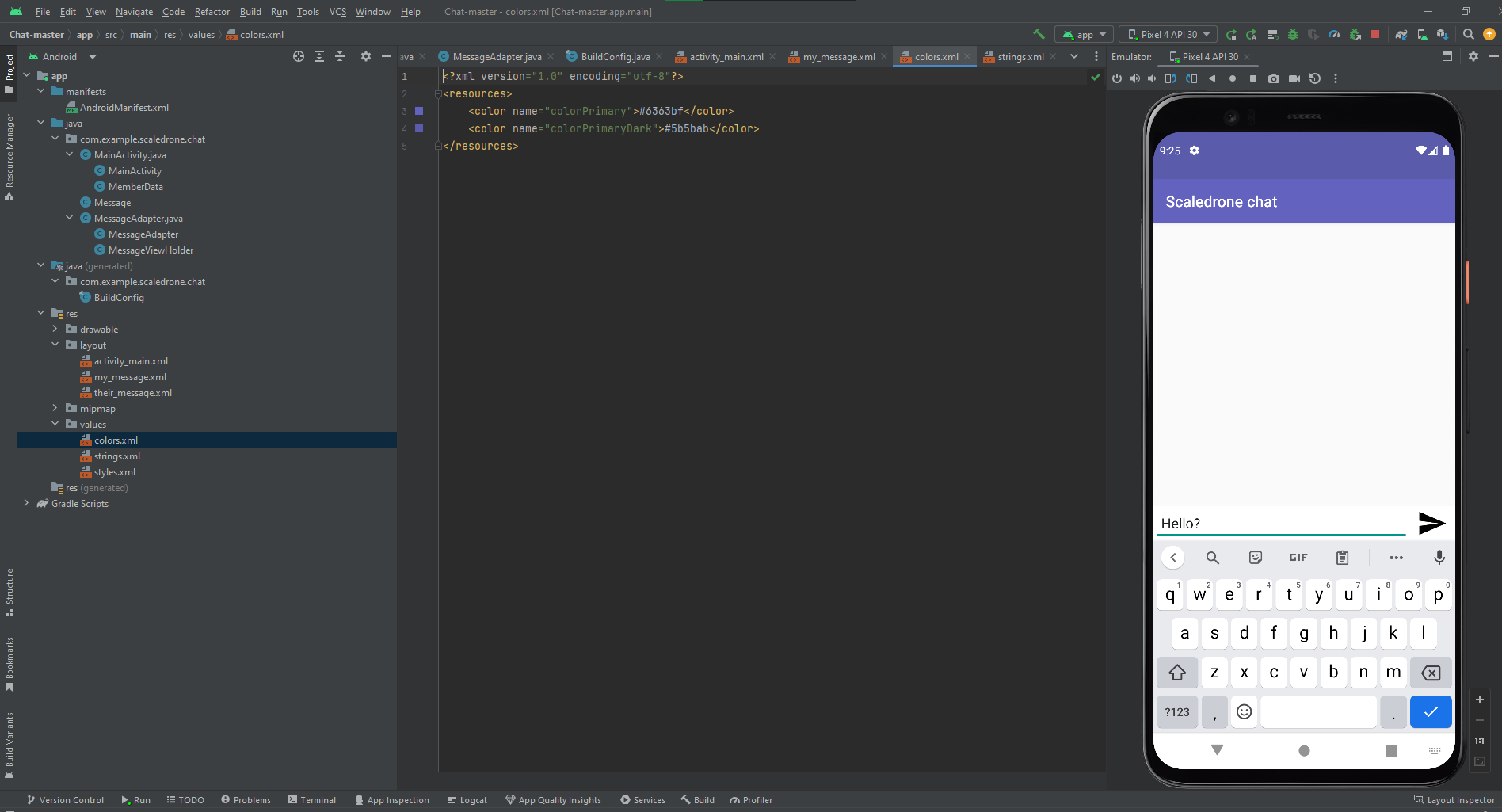
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