

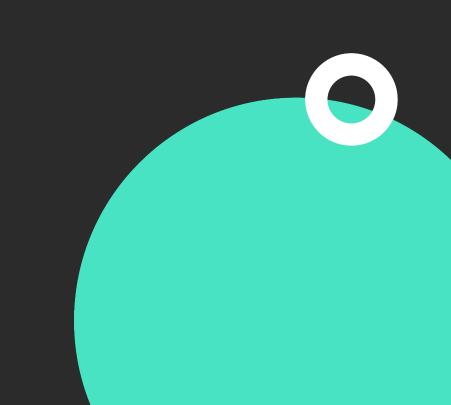
# Android Persistence Storage: Room Database



#### Belal Khan



in in/probelalkhan



#### Course Overview

- Getting Started
- Implement Room Database
  - Setup Room database
  - Create database tables and implement DAOs
  - Perform CRUD operations
  - Understand migrations
  - Define database relationships between objects
  - Test and Debug code
  - Integrate Room in an app with MVVM architecture
- Code challenges





## Course Prerequisites

- Kotlin programming language
- Jetpack Compose fundamentals
- Familiar with Android Studio and using emulator





#### What is Room?

• Room is a Database Object Mapping library that makes it easy to access database on Android applications.





Compile time verification of SQL Queries.





## Compile time verification of SQL Queries

```
val db: SQLiteDatabase =
    context.openOrCreateDatabase("invoice_db", Context.MODE_PRIVATE, null)
val result: Cursor = db.rawQuery("SELECT * FROM intvoices", arrayOf())

/* Work with the result */

/* Don't forget to free up the cursor */
result.close()
```



```
@Query("SELECT * FROM intvoices")
fun getInvoices(): List<Invoice>
```







• Removes boiler plate codes.





#### Removes Boiler Plate Code

```
val invoices = mutableListOf<Invoice>()
if (result.moveToFirst()){
    do{
        val invoiceId = result.getInt(result.getColumnIndex("id"));
        val invoiceName = result.getString(result.getColumnIndex("name"))
        val invoice = Invoice(invoiceId, invoiceName)
        invoices.add(invoice)
    }while(result.moveToNext());
}
```

```
@Query("SELECT * FROM invoices")
fun getInvoices(): List<Invoice>
```





• ORM (Object Relational Mapping) Feature.





# Object Relational Mapping Feature

```
@Query("SELECT * FROM invoices")
fun getInvoices(): List<Invoice>
```





- Easy migration when schema change is required.
- Easy to integrate with existing Jetpack Components and Coroutines.





## What you will build?

- Easy Invoice
  - A simple personal invoice manager; for small businesses.





## Cloning the Sample Project

https://github.com/droidcon-academy/android-room-database-course-materials





### Summary

- Overview of this course
- Advantages of Room over SQLite with Examples
- The final project of this course
- The starter project of this course







# Room Fundamentals

Up Next



