



# Android Arch - Room

android.arch.persistence.room

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## Room goal

- No boilerplate: SQL queries / Java data objects
- Compile-time verification

# Room components

- Entity
- Database
- Data Access Objects

# Entity

```
@Entity(tableName = "example")
class Example(

    @PrimaryKey
    val id: String,

    @ColumnInfo(name = "name")
    val name: String,

    val timestamp: Long,

    @Ignore
    val picture: Bitmap)
```

Example.kt

# Entity nested

```
class Nested (  
    val id: String,  
  
    @ColumnInfo(name = "nested_name")  
    val name: String)  
  
@Entity(tableName = "example")  
class Example(  
    @PrimaryKey  
    val id: String,  
  
    @Embedded  
    val nested: Nested)
```

Example.kt

Embedded fields can include embedded fields.

# Database

```
@Database(entities = arrayOf(Example::class), version = 1)
@TypeConverters(ConverterListString::class) // Optional
abstract class ExampleDatabase : RoomDatabase() {

    abstract fun exampleDao(): ExampleDao
}
```

ExampleDatabase.kt

# Database converter

```
class ConverterListString {  
  
    companion object {  
        val gson = Gson()  
        val listType = object : TypeToken<List<String>>() {}.type  
    }  
  
    @TypeConverter  
    fun fromString(value: String): List<String>? {  
        return gson.fromJson(value, listType)  
    }  
  
    @TypeConverter  
    fun fromArrayList(list: List<String>): String {  
        return gson.toJson(list)  
    }  
}
```

ConverterListString.kt

# DAO

```
@Dao
interface ExampleDao {

    @Insert(onConflict = OnConflictStrategy.REPLACE)
    fun put(example: Example)

    @Insert
    fun putAll(vararg examples: Example)

    @Query("SELECT * FROM example ORDER BY name DESC")
    fun get(): List<Example>

    @Query("SELECT * FROM example WHERE timestamp > :minTimestamp")
    fun get(minTimestamp: Long): List<Example>

    @Query("SELECT * FROM example WHERE is IN (:ids)")
```

ExampleDao.kt



# Create Database / Dao

```
fun provideExampleDAO(  
    application: MainApplication): ExampleDao {  
    val exampleDatabase = Room.databaseBuilder(  
        application,  
        ExampleDatabase::class.java,  
        "database_name.db").build()  
    return exampleDatabase.exampleDao()  
}
```

ExampleModule.kt

# Setup

- google() or maven { url '<https://maven.google.com>' }
- android.arch.persistence.room compile +  
annotProc/kapt

# And so much more

- RxJava
- Live Data
- ForeignKey

# DEMO

Source: [developer.android.com/topic/libraries/architecture/room.html](https://developer.android.com/topic/libraries/architecture/room.html)

Pres Source: [github.com/Mercandj/tracker-android](https://github.com/Mercandj/tracker-android)