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NIM   : 23510015
MK   : Pemrograman Piranti Bergerak 1

Aplikasi CRUD

Activity_Main

```xml
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
    <androidx.recyclerview.widget.RecyclerView
        android:id="@+id/list_note"
        android:layout_width="0dp"
        android:layout_height="0dp"
        app:layout_constraintBottom_toTopOf="@+id/button_create"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        tools:listitem="@layout/adapter_main"/>
    <Button
        android:id="@+id/button_create"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:text="Tulis Catatan"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintBottom_toBottomOf="parent"

android:layout_margin="10dp"/></androidx.constraintlayout.widget.ConstraintLayout>
```

Activity_edit
```xml
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="20dp"
    tools:context=".EditActivity">
    <EditText
        android:id="@+id/edit_title"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Judul"
```

```xml
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        android:background="@drawable/edittextstyle"/>
<EditText
        android:id="@+id/edit_note"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Deskripsi Buku"
        android:minLines="3" app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/edit_title"
        android:layout_marginTop="10dp"
        android:gravity="top"
        android:background="@drawable/edittextstyle" />
<EditText
        android:id="@+id/edit_penulis"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Penulis Buku"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/edit_note"
        android:layout_marginTop="10dp"
        android:background="@drawable/edittextstyle" />
<EditText
        android:id="@+id/edit_penerbit"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Penerbit Buku"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/edit_penulis"
        android:layout_marginTop="10dp"
        android:background="@drawable/edittextstyle" />
<EditText
        android:id="@+id/edit_tahun"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:hint="Tahun Terbit"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/edit_penerbit"
        android:layout_marginTop="10dp"
        android:background="@drawable/edittextstyle" />

<Button
        android:id="@+id/button_save"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="224dp"
        android:text="SAVE"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/edit_note" />

<Button
```

```xml
        android:id="@+id/button_update"
        android:layout_width="0dp"
        android:layout_height="wrap_content"
        android:layout_marginTop="8dp"
        android:text="UPDATE"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/button_save" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.kt

```kotlin
package com.dedyalwi.crudroomapp

import android.content.Intent
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.util.Log
import androidx.appcompat.app.AlertDialog
import androidx.recyclerview.widget.LinearLayoutManager
import com.dedyalwi.crudroomapp.databinding.ActivityMainBinding
import com.dedyalwi.crudroomapp.room.Constant
import com.dedyalwi.crudroomapp.room.Note
import com.dedyalwi.crudroomapp.room.NoteDB
import kotlinx.coroutines.CoroutineScope
import kotlinx.coroutines.Dispatchers
import kotlinx.coroutines.launch
import kotlinx.coroutines.withContext

class MainActivity : AppCompatActivity() {
    private lateinit var binding : ActivityMainBinding
    lateinit var noteAdapter: NoteAdapter
    val db by lazy { NoteDB(this) }
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        binding = ActivityMainBinding.inflate(layoutInflater)
        setContentView(binding.root)
        setupListener()
        setupRecyclerView()
    }
    override fun onStart() {
        super.onStart()
        loadNote()
    }
    fun loadNote(){
        CoroutineScope(Dispatchers.IO).launch {
            val notes = db.noteDao().getNotes()
            Log.d("MainActivity", "dbResponse: $notes")
            withContext(Dispatchers.Main){noteAdapter.setData(notes)
            }
        }
    }
    private fun setupListener() {
        binding.buttonCreate.setOnClickListener {
//startActivity(Intent(this, EditActivity::class.java))
            intentEdit(0, Constant.TYPE_CREATE)
```

```kotlin
            }
        }
    fun intentEdit(noteId: Int, intentType: Int){
        startActivity(
            Intent(applicationContext, EditActivity::class.java)
                .putExtra("intent_id", noteId)
                .putExtra("intent_type", intentType)
        )
    }
    private fun setupRecyclerView() {
        noteAdapter = NoteAdapter(arrayListOf(), object :
NoteAdapter.OnAdapterListener{
            override fun onRead(note: Note) {
                intentEdit(note.id, Constant.TYPE_READ)
            }
            override fun onUpdate(note: Note) {
                intentEdit(note.id, Constant.TYPE_UPDATE)
            }
            override fun onDelete(note: Note) {
                deleteDialog(note)
            }
        })
        binding.listNote.apply {
            layoutManager = LinearLayoutManager(applicationContext)
            adapter = noteAdapter
        }
    }
    private fun deleteDialog(note: Note){
        val alertDialog = AlertDialog.Builder(this)
        alertDialog.apply {
            setTitle("Konfirmasi")
            setMessage("Yakin Hapus ${note.title}?" )
            setNegativeButton("Batal") { dialogInterface, i ->
                dialogInterface.dismiss()
            }
            setPositiveButton("Hapus") { dialogInterface, i ->
                dialogInterface.dismiss()
                CoroutineScope(Dispatchers.IO).launch {
                    db.noteDao().deleteNote(note)
                    loadNote()
                }
            }
        }
        alertDialog.show()
    }
}
```

Note.kt

```kotlin
package com.dedyalwi.crudroomapp.room

import androidx.room.Entity
import androidx.room.PrimaryKey

@Entity
data class Note (
    @PrimaryKey(autoGenerate = true)
```

```
    val id: Int,
    val title: String,
    val note: String,
    val penulis: String,
    val penerbit: String,
    val tahun: String
)
```

NoteDao.kt

```kotlin
package com.dedyalwi.crudroomapp.room

import androidx.room.Dao
import androidx.room.Delete
import androidx.room.Insert
import androidx.room.Query
import androidx.room.Update

@Dao
interface NoteDao {
    @Insert
    fun addNote(note: Note)
    @Update
    fun updateNote(note: Note)
    @Delete
    fun deleteNote(note: Note)
    @Query("SELECT * FROM note")
    fun getNotes(): List<Note>
    @Query("SELECT * FROM note WHERE id=:note_id")
    fun getNote(note_id: Int): List<Note>
}
```

NoteDB.kt

```kotlin
package com.dedyalwi.crudroomapp.room

import android.content.Context
import androidx.room.Database
import androidx.room.Room
import androidx.room.RoomDatabase

@Database(
    entities = [Note::class],
    version = 1
)
abstract class NoteDB: RoomDatabase() {
    abstract fun noteDao(): NoteDao
    companion object {
        @Volatile private var instance: NoteDB? = null
        private val LOCK = Any()
        operator fun invoke(context: Context) = instance ?:
synchronized(LOCK){
            instance ?: buildDatabase(context).also{
                instance = it}
        }
        private fun buildDatabase(context: Context)= Room.databaseBuilder(
            context.applicationContext,
```

```
            NoteDB::class.java,
            "note12345.db"
        ).build()
    }
}
```

Tampilan

Tulis Catatan

Judul

Deskripsi Buku

Penulis Buku

Penerbit Buku

Tahun Terbit

SAVE

Pancasila

Pancasila dan Undang-Undang Dasar 1945

Samsul

Stimata

2024

SAVE

Pancasila

Tulis Catatan

Pancasila

Pancasila dan Undang-Undang Dasar
1945

UPDATE

Stimata

2024

Pancasila

Konfirmasi

Yakin Hapus Pancasila?

Batal Hapus

Tulis Catatan