

API

DbHelper.java

```
package com.rohan.q3api;

import android.content.Context;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.Nullable;

public class DbHelper extends SQLiteOpenHelper {

    private static final String DATABASE_NAME = "api.db";
    private static final int Version = 1;

    public static final String ID = "id";
    public static final String PRODUCT_NAME = "name";
    public static final String PRODUCT_PRICE = "price";
    public static final String PRODUCT_QUANTITY = "quantity";
    public static final String PURCHASE_DATE = "purchaseDate";

    public static final String TABLE_PRODUCT = "tblProduct";

    private static final String CREATE_TABLE_PRODUCT = "CREATE TABLE " +
TABLE_PRODUCT + "("
        + ID + " INTEGER PRIMARY KEY AUTOINCREMENT,"
        + PRODUCT_NAME + " TEXT,"
        + PRODUCT_PRICE + " INTEGER,"
        + PRODUCT_QUANTITY + " INTEGER,"
        + PURCHASE_DATE + " TEXT)";

    public DbHelper(@Nullable Context context) {
        super(context, DATABASE_NAME, null, Version);
    }

    @Override
    public void onCreate(SQLiteDatabase db) {
        db.execSQL(CREATE_TABLE_PRODUCT);
    }

    @Override
    public void onUpgrade(SQLiteDatabase db, int oldVersion, int
newVersion) {
        db.execSQL("DROP TABLE IF EXISTS " + TABLE_PRODUCT);
        onCreate(db);
    }
}
```

DbManager.java

```
package com.rohan.q3api;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
```

```

import java.sql.SQLException;

public class DbManager {

    Context context;
    DbHelper dbHelper;
    SQLiteDatabase db;

    public DbManager(Context context) {
        this.context = context;
    }

    // Open Database
    public DbManager open() throws SQLException {
        dbHelper = new DbHelper(context);
        db = dbHelper.getWritableDatabase();
        return this;
    }

    // Close Database
    public void close() {
        dbHelper.close();
    }

    // Insert Product
    public long addProduct(String name, int price, int quantity, String
date) {
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.PRODUCT_NAME, name);
        cv.put(dbHelper.PRODUCT_PRICE, price);
        cv.put(dbHelper.PRODUCT_QUANTITY, quantity);
        cv.put(dbHelper.PURCHASE_DATE, date);

        long insert = db.insert(dbHelper.TABLE_PRODUCT, null, cv);
        return insert;
    }

    // Select Product
    public Cursor getProducts() {
        Cursor c = db.query(dbHelper.TABLE_PRODUCT, null, null, null, null,
null, null);
        return c;
    }

    // Update Product
    public int updateProduct(int pid, String name, int price, int quantity,
String date) {
        ContentValues cv = new ContentValues();
        cv.put(dbHelper.PRODUCT_NAME, name);
        cv.put(dbHelper.PRODUCT_PRICE, price);
        cv.put(dbHelper.PRODUCT_QUANTITY, quantity);
        cv.put(dbHelper.PURCHASE_DATE, date);

        int update = db.update(dbHelper.TABLE_PRODUCT, cv, dbHelper.ID + "
=?", new String[]{String.valueOf(pid)});
        return update;
    }
}

```

```

        // Delete Product
        public boolean deleteProduct(int pid) {
            int delete = db.delete(dbHelper.TABLE_PRODUCT, dbHelper.ID + " =?",
new String[]{String.valueOf(pid)});
            if(delete > 0){
                return true;
            } else {
                return false;
            }
        }
    }
}

```

activity_main.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="10dp"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <Button
        android:id="@+id/btnAddProduct"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="+ Add Product" />

    <TextView
        android:id="@+id/empty"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:text="No Record Found!"
        android:textAlignment="center"
        android:textSize="20dp"
        android:textStyle="bold"
        android:visibility="gone"/>

    <ListView
        android:id="@+id/lvProducts"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:layout_marginTop="10dp"
        android:divider="@android:color/darker_gray"
        android:dividerHeight="2dp" />

</LinearLayout>

```

MainActivity.java

```
package com.rohan.q3api;

import android.content.Intent;
import android.database.Cursor;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.ListView;
import android.widget.SimpleCursorAdapter;
import android.widget.TextView;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;

import org.json.JSONArray;
import org.json.JSONException;
import org.json.JSONObject;

import java.sql.SQLException;
import java.util.ArrayList;

public class MainActivity extends AppCompatActivity {

    Button btnAddProduct;
    ListView lvProducts;
    DbManager db;
    DbHelper dbHelper;
    ArrayList<String> idList, nameList, priceList, quantityList, dateList;
    String selectURL = "http://192.168.1.7/API/android/select.php";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_main);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        dbHelper = new DbHelper(this);
        db = new DbManager(this);
```

```

        try {
            db.open();
        } catch (SQLException e) {
            throw new RuntimeException(e);
        }

        idList = new ArrayList<String>();
        nameList = new ArrayList<String>();
        priceList = new ArrayList<String>();
        quantityList = new ArrayList<String>();
        dateList = new ArrayList<String>();

        controlInitialization();
        buttonClicks();
//        displayProducts();
        fetchFromAPI();
    }

    protected void buttonClicks() {
        btnAddProduct.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(),
AddProduct.class));
            }
        });
    }

    protected void displayProducts() {
        Cursor c = db.getProducts();
        String from[] = {dbHelper.ID, dbHelper.PRODUCT_NAME,
dbHelper.PRODUCT_PRICE, dbHelper.PRODUCT_QUANTITY, dbHelper.PURCHASE_DATE};
        int to[] = {R.id.lblId, R.id.lblName, R.id.lblPrice,
R.id.lblQuantity, R.id.lblDate};

        SimpleCursorAdapter adapter = new SimpleCursorAdapter(this,
R.layout.custom_product_list, c, from, to);

        if (adapter.getCount() > 0) {
            lvProducts.setAdapter(adapter);

            lvProducts.setOnItemClickListener(new
AdapterView.OnItemClickListener() {
                @Override
                public void onItemClick(AdapterView<?> parent, View view,
int position, long id) {
                    TextView lblId = view.findViewById(R.id.lblId);
                    TextView lblName = view.findViewById(R.id.lblName);
                    TextView lblPrice = view.findViewById(R.id.lblPrice);
                    TextView lblQuantity =
view.findViewById(R.id.lblQuantity);
                    TextView lblDate = view.findViewById(R.id.lblDate);

                    Intent i = new Intent(getApplicationContext(),
AddProduct.class);
                    i.putExtra("id", lblId.getText().toString());
                    i.putExtra("name", lblName.getText().toString());
                    i.putExtra("price", lblPrice.getText().toString());
                    i.putExtra("quantity",
lblQuantity.getText().toString());
                    i.putExtra("date", lblDate.getText().toString());

```

```

        startActivity(i);
    }
    });
} else {
    lvProducts.setEmptyView(findViewById(R.id.empty));
    adapter.notifyDataSetChanged();
    lvProducts.setAdapter(adapter);
    Toast.makeText(this, "no record found!",
        Toast.LENGTH_SHORT).show();
}

protected void fetchFromAPI() {

    StringRequest request = new StringRequest(Request.Method.GET,
        selectURL, new Response.Listener<String>() {
        @Override
        public void onResponse(String response) {
            try {
                if (response != null && !response.isEmpty() &&
                    !response.equals("0 results")) {
                    JSONObject jsonObject = new JSONObject(response);
                    JSONArray jsonArray =
                        jsonObject.getJSONArray("data");

                    for (int i = 0; i < jsonArray.length(); i++) {
                        JSONObject object = jsonArray.getJSONObject(i);

                        idList.add(object.getString("id"));
                        nameList.add(object.getString("Product_Name"));
                        priceList.add(object.getString("Price"));
                        quantityList.add(object.getString("Quantity"));

                        dateList.add(object.getString("Purchase_Date"));
                    }

                    CustomAdapter adapter = new
                        CustomAdapter(MainActivity.this, idList, nameList, priceList, quantityList,
                            dateList);

                    if (adapter.getCount() > 0) {
                        lvProducts.setAdapter(adapter);

                        lvProducts.setOnItemClickListener(new
                            AdapterView.OnItemClickListener() {
                                @Override
                                public void onItemClick(AdapterView<?>
                                    parent, View view, int position, long id) {
                                    TextView lblId =
                                        view.findViewById(R.id.lblId);
                                    TextView lblName =
                                        view.findViewById(R.id.lblName);
                                    TextView lblPrice =
                                        view.findViewById(R.id.lblPrice);
                                    TextView lblQuantity =
                                        view.findViewById(R.id.lblQuantity);
                                    TextView lblDate =
                                        view.findViewById(R.id.lblDate);

                                    Intent i = new
                                        Intent(getApplicationContext(), AddProduct.class);

```

```

lblId.getText().toString());
lblName.getText().toString());
lblPrice.getText().toString());
lblQuantity.getText().toString());
lblDate.getText().toString());
        i.putExtra("id",
        i.putExtra("name",
        i.putExtra("price",
        i.putExtra("quantity",
        i.putExtra("date",
        startActivity(i);
    }
    });
} else {

lvProducts.setEmptyView(findViewById(R.id.empty));
        adapter.notifyDataSetChanged();
        lvProducts.setAdapter(adapter);
        Toast.makeText(MainActivity.this, "no records
found!", Toast.LENGTH_SHORT).show();
    }
    } else {
        lvProducts.setEmptyView(findViewById(R.id.empty));
        Toast.makeText(MainActivity.this, "No records
found!", Toast.LENGTH_SHORT).show();
    }
    } catch (JSONException e) {
        throw new RuntimeException(e);
    }
}
}, new Response.ErrorListener() {
    @Override
    public void onErrorResponse(VolleyError error) {
        Toast.makeText(getApplicationContext(), "Error: " + error,
Toast.LENGTH_SHORT).show();
        error.printStackTrace();
    }
});

RequestQueue queue = Volley.newRequestQueue(this);
queue.add(request);
}

protected void controlInitialization() {
    btnAddProduct = findViewById(R.id.btnAddProduct);
    lvProducts = findViewById(R.id.lvProducts);
}
}

```

activity_add_product.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"

```

```
        android:layout_margin="10dp"
        android:orientation="vertical"
        tools:context=".AddProduct">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Add Product Form"
            android:textAlignment="center"
            android:textSize="25dp"
            android:textStyle="bold" />

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:orientation="horizontal">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Name: "
                android:textSize="20dp"
                android:textStyle="bold" />

            <EditText
                android:id="@+id/txtName"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginHorizontal="10dp" />
        </LinearLayout>

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:orientation="horizontal">

            <TextView
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:text="Price: "
                android:textSize="20dp"
                android:textStyle="bold" />

            <EditText
                android:id="@+id/txtPrice"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_marginHorizontal="10dp"
                android:inputType="number" />
        </LinearLayout>

        <LinearLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:orientation="horizontal">
```



```

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Quantity: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <EditText
            android:id="@+id/txtQuantity"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="10dp"
            android:inputType="number" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Purchase Date: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <EditText
            android:id="@+id/txtPurchaseDate"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="10dp"
            android:inputType="date" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:orientation="horizontal">

        <Button
            android:id="@+id/btnSave"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginRight="10dp"
            android:text="Save" />

        <Button
            android:id="@+id/btnDelete"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:visibility="gone"
            android:text="Delete" />
    </LinearLayout>
</LinearLayout>

```

AddProduct.java

```
package com.rohan.q3api;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;

import com.android.volley.AuthFailureError;
import com.android.volley.Request;
import com.android.volley.RequestQueue;
import com.android.volley.Response;
import com.android.volley.VolleyError;
import com.android.volley.toolbox.JsonObjectRequest;
import com.android.volley.toolbox.StringRequest;
import com.android.volley.toolbox.Volley;

import org.json.JSONObject;

import java.sql.SQLException;
import java.util.HashMap;
import java.util.Map;

public class AddProduct extends AppCompatActivity {

    Button btnSave, btnDelete;
    EditText txtName, txtPrice, txtQuantity, txtPurchaseDate;
    DbManager db;
    int id = 0;

    String insertURL = "http://192.168.1.7/API/android/insert.php";
    String updateURL = "http://192.168.1.7/API/android/update.php";
    String deleteURL = "http://192.168.1.7/API/android/delete.php";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_add_product);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        try {
            db.open();
        }
```

```

    } catch (SQLException e) {
        throw new RuntimeException(e);
    }
    controlInitialization();
    buttonClicks();

    Intent i = getIntent();
    if (i.getStringExtra("id") != null) {
        id = Integer.parseInt(i.getStringExtra("id"));
        String name = i.getStringExtra("name");
        int price = Integer.parseInt(i.getStringExtra("price"));
        int quantity = Integer.parseInt(i.getStringExtra("quantity"));
        String date = i.getStringExtra("date");

        txtName.setText(name);
        txtPrice.setText(String.valueOf(price));
        txtQuantity.setText(String.valueOf(quantity));
        txtPurchaseDate.setText(date);
        btnDelete.setVisibility(View.VISIBLE);
    }
}

protected void buttonClicks() {

    btnSave.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            String name = txtName.getText().toString();
            int price =
Integer.parseInt(txtPrice.getText().toString());
            int quantity =
Integer.parseInt(txtQuantity.getText().toString());
            String purchaseDate = txtPurchaseDate.getText().toString();

            if (id == 0) {

                insertInAPI(name, price, quantity, purchaseDate);

//                long isInserted = db.addProduct(name, price,
quantity, purchaseDate);
//                if (isInserted > 0) {
//                    Toast.makeText(AddProduct.this, "Product Inserted
Successfully!", Toast.LENGTH_SHORT).show();
//                    insertInAPI(name, price, quantity, purchaseDate);
//                    startActivity(new Intent(getApplicationContext(),
MainActivity.class));
//                } else {
//                    Toast.makeText(getApplicationContext(), "Error in
updating Product!", Toast.LENGTH_SHORT).show();
//                }
            } else {

                updateInAPI(id, name, price, quantity, purchaseDate);

//                int isUpdated = db.updateProduct(id, name, price,
quantity, purchaseDate);
//                if (isUpdated > 0) {
//                    Toast.makeText(getApplicationContext(), "Product
updated Successfully!", Toast.LENGTH_SHORT).show();
//                    startActivity(new Intent(getApplicationContext(),

```

```

MainActivity.class));
//          } else {
//          Toast.makeText(getApplicationContext(), "Error in
updating Product!", Toast.LENGTH_SHORT).show();
//          }
    }
    });

    btnDelete.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            deleteFromAPI(id);

//            boolean isDeleted = db.deleteProduct(id);

//            if (isDeleted) {
//            Toast.makeText(getApplicationContext(), "Product
deleted Successfully!", Toast.LENGTH_SHORT).show();
//            startActivity(new Intent(getApplicationContext(),
MainActivity.class));
//            } else {
//            Toast.makeText(getApplicationContext(), "Error in
deleting Product!", Toast.LENGTH_SHORT).show();
//            }
        }
    });
}

    protected void insertInAPI(String name, int price, int quantity, String
date) {
        StringRequest request = new StringRequest(Request.Method.POST,
insertURL, new Response.Listener<String>() {
            @Override
            public void onResponse(String response) {
                Toast.makeText(getApplicationContext(), "Data stored in
JSON", Toast.LENGTH_SHORT).show();
                startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            }
        }, new Response.ErrorListener() {
            @Override
            public void onErrorResponse(VolleyError error) {
                Toast.makeText(getApplicationContext(), "Error: " + error,
Toast.LENGTH_SHORT).show();
                error.printStackTrace();
            }
        }) {
            @Override
            @Nullable
            protected Map<String, String> getParams() throws
AuthFailureError {
                Map<String, String> param = new HashMap<String, String>();
                param.put("Product_Name", name);
                param.put("Price", String.valueOf(price));
                param.put("Quantity", String.valueOf(quantity));
                param.put("Purchase_Date", date);

//                param.put("Product_Name", txtName.getText().toString());
//                param.put("Price", txtPrice.getText().toString());

```

```

//          param.put("Quantity", txtQuantity.getText().toString());
//          param.put("Purchase_Date",
txtPurchaseDate.getText().toString());
        return param;
    }
};

RequestQueue queue = Volley.newRequestQueue(this);
queue.add(request);
}

protected void updateInAPI(int id, String name, int price, int
quantity, String date) {
    StringRequest request = new StringRequest(Request.Method.POST,
updateURL, new Response.Listener<String>() {
        @Override
        public void onResponse(String response) {
            Toast.makeText(getApplicationContext(), "Data updated in
JSON", Toast.LENGTH_SHORT).show();
            startActivity(new Intent(getApplicationContext(),
MainActivity.class));
        }
    }, new Response.ErrorListener() {
        @Override
        public void onErrorResponse(VolleyError error) {
            Toast.makeText(getApplicationContext(), "Error: " + error,
Toast.LENGTH_SHORT).show();
            error.printStackTrace();
        }
    }) {
        @Override
        @Nullable
        protected Map<String, String> getParams() throws
AuthFailureError {
            Map<String, String> param = new HashMap<String, String>();
            param.put("id", String.valueOf(id));
            param.put("Product_Name", name);
            param.put("Price", String.valueOf(price));
            param.put("Quantity", String.valueOf(quantity));
            param.put("Purchase_Date", date);

//          param.put("Product_Name", txtName.getText().toString());
//          param.put("Price", txtPrice.getText().toString());
//          param.put("Quantity", txtQuantity.getText().toString());
//          param.put("Purchase_Date",
txtPurchaseDate.getText().toString());
            return param;
        }
    };

    RequestQueue queue = Volley.newRequestQueue(this);
    queue.add(request);
}

```

```

        protected void deleteFromAPI(int id) {
            StringRequest request = new StringRequest(Request.Method.POST,
deleteURL, new Response.Listener<String>() {
                @Override
                public void onResponse(String s) {
                    Toast.makeText(getApplicationContext(), "Data deleted from
JSON", Toast.LENGTH_SHORT).show();
                    startActivity(new Intent(getApplicationContext(),
MainActivity.class));
                }
            }, new Response.ErrorListener() {
                @Override
                public void onErrorResponse(VolleyError error) {
                    Toast.makeText(getApplicationContext(), "Error: " + error,
Toast.LENGTH_SHORT).show();
                    error.printStackTrace();
                }
            }) {
                @Nullable
                @Override
                protected Map<String, String> getParams() throws
AuthFailureError {
                    Map<String, String> params = new HashMap<>();
                    params.put("id", String.valueOf(id));
                    return params;
                }
            };

            RequestQueue queue = Volley.newRequestQueue(this);
            queue.add(request);
        }

        protected void controlInitialization() {
            btnSave = findViewById(R.id.btnSave);
            btnDelete = findViewById(R.id.btnDelete);
            txtName = findViewById(R.id.txtName);
            txtPrice = findViewById(R.id.txtPrice);
            txtQuantity = findViewById(R.id.txtQuantity);
            txtPurchaseDate = findViewById(R.id.txtPurchaseDate);
        }
    }
}

```

activity_edproduct.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:id="@+id/main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_margin="10dp"
    android:orientation="vertical"
    tools:context=".EDProduct">

```

```
<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Edit Product Form"
    android:textAlignment="center"
    android:textSize="25dp"
    android:textStyle="bold" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Name: "
        android:textSize="20dp"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/txtName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="10dp" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Price: "
        android:textSize="20dp"
        android:textStyle="bold" />

    <EditText
        android:id="@+id/txtPrice"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginHorizontal="10dp"
        android:inputType="number" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginTop="10dp"
    android:orientation="horizontal">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Quantity: "
```

```

        android:textSize="20dp"
        android:textStyle="bold" />

        <EditText
            android:id="@+id/txtQuantity"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="10dp"
            android:inputType="number" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:orientation="horizontal">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Purchase Date: "
            android:textSize="20dp"
            android:textStyle="bold" />

        <EditText
            android:id="@+id/txtPurchaseDate"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginHorizontal="10dp"
            android:inputType="date" />
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:orientation="horizontal">

        <Button
            android:id="@+id/btnUpdate"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Update" />

        <Button
            android:id="@+id/btnDelete"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginLeft="10dp"
            android:text="Delete" />
    </LinearLayout>
</LinearLayout>

```


EDProduct.java

```
package com.rohan.q3api;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

import androidx.activity.EdgeToEdge;
import androidx.appcompat.app.AppCompatActivity;
import androidx.core.graphics.Insets;
import androidx.core.view.ViewCompat;
import androidx.core.view.WindowInsetsCompat;
import java.sql.SQLException;

public class EDProduct extends AppCompatActivity {

    Button btnUpdate, btnDelete;
    EditText txtName, txtPrice, txtQuantity, txtPurchaseDate;
    DbManager db;
    // String name, date;
    // int id, price, quantity;
    int id;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        EdgeToEdge.enable(this);
        setContentView(R.layout.activity_edproduct);
        ViewCompat.setOnApplyWindowInsetsListener(findViewById(R.id.main),
(v, insets) -> {
            Insets systemBars =
insets.getInsets(WindowInsetsCompat.Type.systemBars());
            v.setPadding(systemBars.left, systemBars.top, systemBars.right,
systemBars.bottom);
            return insets;
        });

        db = new DbManager(this);
        try {
            db.open();
        } catch (SQLException e) {
            throw new RuntimeException(e);
        }

        // Intent i = getIntent();
        // if (i != null) {
        //     String name, date;
        //     int id, price, quantity;
        //     id = Integer.parseInt(i.getStringExtra("id"));
        //     name = i.getStringExtra("name");
        //     price = Integer.parseInt(i.getStringExtra("price"));
        //     quantity = Integer.parseInt(i.getStringExtra("quantity"));
        //     date = i.getStringExtra("date");
        // }
        controlInitialization();
        setData();
        buttonClicks();
    }
}
```

```

protected void setData() {
    Intent i = getIntent();
    if (i != null) {
        id = Integer.parseInt(i.getStringExtra("id"));
        String name = i.getStringExtra("name");
        int price = Integer.parseInt(i.getStringExtra("price"));
        int quantity = Integer.parseInt(i.getStringExtra("quantity"));
        String date = i.getStringExtra("date");
        txtName.setText(name);
        txtPrice.setText(price);
        txtQuantity.setText(quantity);
        txtPurchaseDate.setText(date);
    }
}

protected void buttonClicks() {
    btnUpdate.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {

            String name = txtName.getText().toString();
            int price =
Integer.parseInt(txtPrice.getText().toString());
            int quantity =
Integer.parseInt(txtQuantity.getText().toString());
            String date = txtPurchaseDate.getText().toString();

            int isUpdated = db.updateProduct(id, name, price, quantity,
date);

            if (isUpdated > 0) {
                Toast.makeText(getApplicationContext(), "Product
updated Successfully!", Toast.LENGTH_SHORT).show();
                startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            } else {
                Toast.makeText(getApplicationContext(), "Error in
updating Product!", Toast.LENGTH_SHORT).show();
            }
        }
    });

    btnDelete.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            boolean isDeleted = db.deleteProduct(id);

            if (isDeleted) {
                Toast.makeText(getApplicationContext(), "Product
deleted Successfully!", Toast.LENGTH_SHORT).show();
                startActivity(new Intent(getApplicationContext(),
MainActivity.class));
            } else {
                Toast.makeText(getApplicationContext(), "Error in
deleting Product!", Toast.LENGTH_SHORT).show();
            }
        }
    });
}

```

```

protected void controlInitialization() {
    btnUpdate = findViewById(R.id.btnUpdate);
    btnDelete = findViewById(R.id.btnDelete);
    txtName = findViewById(R.id.txtName);
    txtPrice = findViewById(R.id.txtPrice);
    txtQuantity = findViewById(R.id.txtQuantity);
    txtPurchaseDate = findViewById(R.id.txtPurchaseDate);
}
}

```

custom_product_list.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_margin="10dp">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginTop="10dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Id: "
            android:textSize="20dp"/>

        <TextView
            android:id="@+id/lblId"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textStyle="bold"
            android:textSize="20dp"/>
    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="horizontal"
        android:layout_marginTop="10dp">

        <TextView
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Product Name: "
            android:textSize="20dp"/>

        <TextView
            android:id="@+id/lblName"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:textStyle="bold"
            android:textSize="20dp"/>
    </LinearLayout>

```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_marginTop="10dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Product Price: "
        android:textSize="20dp"/>

    <TextView
        android:id="@+id/lblPrice"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textStyle="bold"
        android:textSize="20dp"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_marginTop="10dp">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Product Quantity: "
        android:textSize="20dp"/>

    <TextView
        android:id="@+id/lblQuantity"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textStyle="bold"
        android:textSize="20dp"/>
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:layout_marginTop="10dp">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Purchase Date: "
        android:textSize="20dp"/>

    <TextView
        android:id="@+id/lblDate"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textStyle="bold"
        android:textSize="20dp"/>
</LinearLayout>
</LinearLayout>
```

CustomAdapter.java

```
package com.rohan.q3api;

import android.content.Context;
import android.view.LayoutInflater;
import android.view.View;
import android.view.ViewGroup;
import android.widget.ArrayAdapter;
import android.widget.TextView;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;

import java.util.ArrayList;

public class CustomAdapter extends ArrayAdapter<String> {
    protected Context context;
    protected ArrayList<String> idList, nameList, priceList, quantityList,
    dateList;

    public CustomAdapter(@NonNull Context context, ArrayList<String>
    idList, ArrayList<String> nameList, ArrayList<String> priceList,
    ArrayList<String> quantityList, ArrayList<String> dateList) {
        super(context, R.layout.custom_product_list, nameList);
        this.context = context;
        this.idList = idList;
        this.nameList = nameList;
        this.priceList = priceList;
        this.quantityList = quantityList;
        this.dateList = dateList;
    }

    @NonNull
    @Override
    public View getView(int position, @Nullable View convertView, @NonNull
    ViewGroup parent) {
        LayoutInflater inflater = LayoutInflater.from(parent.getContext());
        View view = inflater.inflate(R.layout.custom_product_list, parent,
        false);

        TextView lblId = view.findViewById(R.id.lblId);
        TextView lblName = view.findViewById(R.id.lblName);
        TextView lblPrice = view.findViewById(R.id.lblPrice);
        TextView lblQuantity = view.findViewById(R.id.lblQuantity);
        TextView lblDate = view.findViewById(R.id.lblDate);

        lblId.setText(idList.get(position));
        lblName.setText(nameList.get(position));
        lblPrice.setText(priceList.get(position));
        lblQuantity.setText(quantityList.get(position));
        lblDate.setText(dateList.get(position));
        return view;
    }
}
```

network_security_config.xml

```
<?xml version="1.0" encoding="utf-8"?>
<network-security-config
xmlns:android="http://schemas.android.com/apk/res/android">
  <domain-config cleartextTrafficPermitted="true">
    <domain includeSubdomains="true">192.168.1.7</domain>
  </domain-config>
</network-security-config>
```