

**SCHOOL OF
COMPUTING
CHENNAI**

20CYS404

**Android Application
Development**

**End – Semester
Lab Exam
Company Explorer**

Name : M.Aravind

Roll No : CH.EN.U4CYS21006

Aim:

To develop an application that can store in database and display details about companies.

Code:

File : activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="@drawable/gradient_background"
    android:padding="16dp">

    <ImageView
        android:id="@+id/logo"
        android:layout_width="72dp"
        android:layout_height="72dp"
        android:src="@drawable/logoamrita"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/titleText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Aravind M"
        android:textColor="#FFFFFF"
        android:textSize="16sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

    <TextView
        android:id="@+id/codeText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="[CH.EN.U4CYS21006]"
        android:textColor="#FFFFFF"
        android:textSize="12sp"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintTop_toBottomOf="@id/titleText" />

    <EditText
        android:id="@+id/etCompanyName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Company Name"
        app:layout_constraintTop_toBottomOf="@id/logo"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintEnd_toEndOf="parent">
```

```

        android:layout_marginTop="24dp" />

<EditText
    android:id="@+id/etDescription"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Description"
    app:layout_constraintTop_toBottomOf="@id/etCompanyName"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />

<EditText
    android:id="@+id/etFoundedDate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Founded Date (e.g., 01/01/2000)"
    app:layout_constraintTop_toBottomOf="@id/etDescription"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />

<Button
    android:id="@+id/btnSave"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="Save"
    app:layout_constraintTop_toBottomOf="@id/etFoundedDate"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />

<Button
    android:id="@+id/btnSearch"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="View Companies"
    app:layout_constraintTop_toBottomOf="@id/btnSave"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

File : activity_company_list.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    android:background="@drawable/gradient_background"
    android:padding="16dp">

```

```

<ImageView
    android:id="@+id/logo"
    android:layout_width="72dp"
    android:layout_height="72dp"
    android:src="@drawable/logoamrita"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/titleText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Aravind M"
    android:textColor="#FFFFFF"
    android:textSize="16sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toTopOf="parent" />

<TextView
    android:id="@+id/codeText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="[CH.EN.U4CYS21006]"
    android:textColor="#FFFFFF"
    android:textSize="12sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintTop_toBottomOf="@id/titleText" />

<SearchView
    android:id="@+id/searchView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textColor="#FFFFFF"
    android:queryHint="Search by Company Name"
    app:layout_constraintTop_toBottomOf="@id/codeText"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />

<ListView
    android:id="@+id/listView"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textColor="#FFFFFF"
    app:layout_constraintTop_toBottomOf="@id/searchView"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    android:layout_marginTop="16dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

File : gradient_background.xml

```
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <gradient
        android:startColor="#001F3F"
        android:endColor="#000000"
        android:angle="270"/>
</shape>
```

File : MainActivity.java

```
package com.example.companyapp;

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.appcompat.app.AppCompatActivity;
import com.google.firebase.database.DatabaseReference;
import com.google.firebase.database.FirebaseDatabase;

public class MainActivity extends AppCompatActivity {

    DatabaseHelper myDb;
    DatabaseReference firebaseDb;
    EditText etCompanyName, etDescription, etFoundedDate;
    Button btnSave, btnSearch;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        myDb = new DatabaseHelper(this);
        firebaseDb =
        FirebaseDatabase.getInstance().getReference("companies");

        etCompanyName = findViewById(R.id.etCompanyName);
        etDescription = findViewById(R.id.etDescription);
        etFoundedDate = findViewById(R.id.etFoundedDate);
        btnSave = findViewById(R.id.btnSave);
        btnSearch = findViewById(R.id.btnSearch);

        btnSave.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String name = etCompanyName.getText().toString();
                String description =
                etDescription.getText().toString();
                String founded = etFoundedDate.getText().toString();
```

```

        boolean isInserted = myDb.insertData(name,
description, founded);
        firebaseDb.push().setValue(new Company(name,
description, founded));

        if (isInserted) {
            Toast.makeText(MainActivity.this, "Data Saved",
Toast.LENGTH_SHORT).show();
            etCompanyName.setText("");
            etDescription.setText("");
            etFoundedDate.setText("");
        } else {
            Toast.makeText(MainActivity.this, "Error Saving
Data", Toast.LENGTH_SHORT).show();
        }
    }
});

btnSearch.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent intent = new Intent(MainActivity.this,
CompanyListActivity.class);
        startActivity(intent);
    }
});
}
}

```

File : DatabaseHelper.java

```

package com.example.companyapp; // Use your actual package name
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

public class DatabaseHelper extends SQLiteOpenHelper {

    private static final String DATABASE_NAME = "company_db";
    private static final String TABLE_NAME = "companies";
    private static final String COL_ID = "id";
    private static final String COL_NAME = "name";
    private static final String COL_DESCRIPTION = "description";
    private static final String COL_FOUNDED = "founded_date";

    public DatabaseHelper(Context context) {
        super(context, DATABASE_NAME, null, 1);
    }

    @Override

```

```

    public void onCreate(SQLiteDatabase db) {
        String createTable = "CREATE TABLE " + TABLE_NAME +
            " (" + COL_ID + " INTEGER PRIMARY KEY AUTOINCREMENT, "
+
            COL_NAME + " TEXT, " +
            COL_DESCRIPTION + " TEXT, " +
            COL_FOUNDED + " TEXT)";
        db.execSQL(createTable);
    }

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

    public boolean insertData(String name, String description, String
founded) {
        SQLiteDatabase db = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put(COL_NAME, name);
        contentValues.put(COL_DESCRIPTION, description);
        contentValues.put(COL_FOUNDED, founded);
        long result = db.insert(TABLE_NAME, null, contentValues);
        return result != -1;
    }

    public Cursor getAllData() {
        SQLiteDatabase db = this.getWritableDatabase();
        return db.rawQuery("SELECT * FROM " + TABLE_NAME, null);
    }

    public Cursor searchByName(String query) {
        SQLiteDatabase db = this.getWritableDatabase();
        return db.rawQuery("SELECT * FROM " + TABLE_NAME + " WHERE " +
COL_NAME + " LIKE ?",
            new String[]{"%" + query + "%"});
    }
}

```

File : Company.java

```

package com.example.companyapp;

public class Company {
    public String name;
    public String description;
    public String foundedDate;

    public Company() {
        // Default constructor required for Firebase
    }
}

```

```

    public Company(String name, String description, String
foundedDate) {
        this.name = name;
        this.description = description;
        this.foundedDate = foundedDate;
    }
}

```

File : AndroidManifest.xml

```

<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="@string/app_name"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportsRtl="true"
        android:theme="@style/Theme.CompanyApp"
        tools:targetApi="31">
        <activity android:name=".CompanyListActivity"
            android:parentActivityName=".MainActivity" />
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

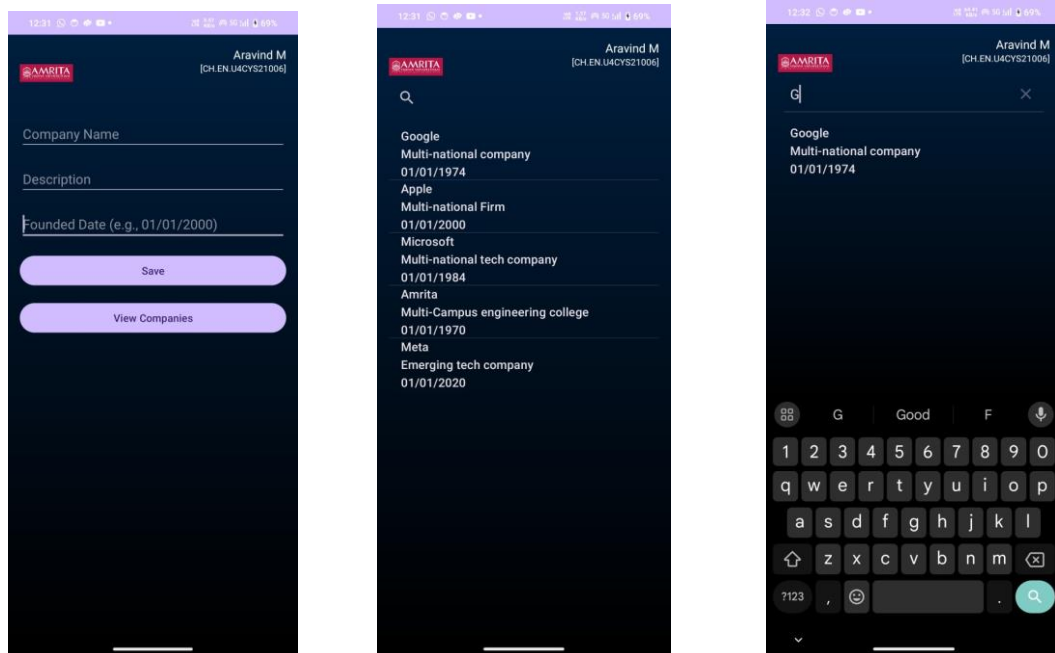
                <category
android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>

        </application>
        <uses-permission android:name="android.permission.INTERNET" />

    </manifest>

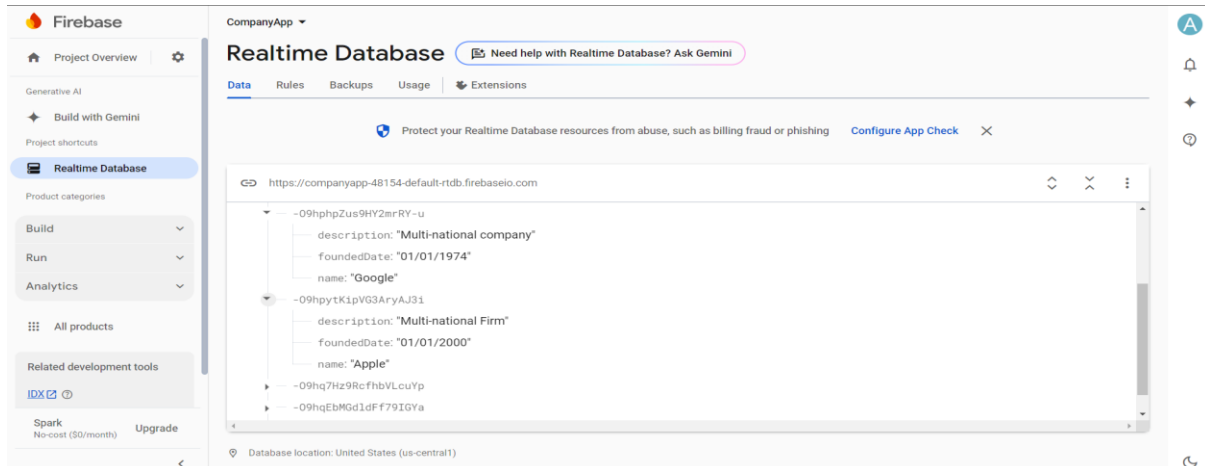
```


Output: Mobile Device



Database

Firestore



SQLite

DB 3				
1 SELECT * from "companies" LIMIT 10				
#	id	name	description	founded_date
1	1	Google	Multinational Tech Company	05/07/1994
2	2	Google	Multinational Tech Company	07/05/1994
3	3	Amrita School Of Computing	Multi-Campus Engineering College	01/01/1974
4	4	Amazon	E-Commerce Site	09/08/1995
5	5	Microsoft	Multi-National Company	01/01/2000
6	6	Oracle	Multi-National - Company	01/01/1980

Result:

A simple application that can store in database and display details about companies has been developed.