

20CYS404

ANDROID APPLICATION DEVELOPMENT

FINAL LAB EXAM

BHARANI D
CH.EN.U4CYS21008

Experiment No 1:

1. Create an form to enter
 - I. Company name
 - II. Description
 - III. Founded Date
2. Save it
3. Immediately after saving, the company name should be displayed in the next page.
4. Enter like that for 5 company (Apple, Google, Microsoft, Amrita, Meta) and then in a fresh activity
5. Display all the companies details.
6. Create a Search View and if your press 'G' then only Google details should be displayed

MainActivity.java

```
package com.example.companydetailsapp;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
```

```

private Button btnAddCompany, btnViewAll;

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main); // Ensure this is correct

    btnAddCompany = findViewById(R.id.btnAddCompany);
    btnViewAll = findViewById(R.id.btnViewAllCompanies);

    btnAddCompany.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this, AddCompanyActivity.class);
            startActivity(intent);
        }
    });

    btnViewAll.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            Intent intent = new Intent(MainActivity.this,
ViewCompaniesActivity.class);
            startActivity(intent);
        }
    });
}
}

```

MainActivity.xml

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

    <TextView
        android:id="@+id/tvTitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Company Details App"
    >

```

```

        android:textSize="24sp"
        android:textStyle="bold"
        android:layout_gravity="center"/>

        <Button
            android:id="@+id/btnAddCompany"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="Add Company"
            android:layout_marginTop="20dp"/>

        <Button
            android:id="@+id/btnViewAllCompanies"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:text="View All Companies"
            android:layout_marginTop="20dp"/>
    </LinearLayout>

```

SQLiteHelper.java

```

package com.example.companydetailsapp;

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

public class SQLiteHelper extends SQLiteOpenHelper {
    private static final String DATABASE_NAME = "CompanyDB";
    private static final int DATABASE_VERSION = 1;

    public static final String TABLE_COMPANIES = "companies";
    public static final String COLUMN_ID = "id";
    public static final String COLUMN_NAME = "name";
    public static final String COLUMN_DESCRIPTION = "description";
    public static final String COLUMN_FOUNDED = "founded_date";

    public SQLiteHelper(Context context) {
        super(context, DATABASE_NAME, null, DATABASE_VERSION);
    }

    @Override

```

```

public void onCreate(SQLiteDatabase db) {
    // Adjust the SQL statement to include the `founded` column
    String CREATE_COMPANIES_TABLE = "CREATE TABLE companies ("
        + "id INTEGER PRIMARY KEY,"
        + "name TEXT,"
        + "description TEXT,"
        + "founded TEXT" // <-- Add this line
        + ")";
    db.execSQL(CREATE_COMPANIES_TABLE);
}

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

// Add a company to the database
public boolean addCompany(String name, String description, String foundedDate) {
    SQLiteDatabase db = this.getWritableDatabase();
    ContentValues values = new ContentValues();
    values.put(COLUMN_NAME, name);
    values.put(COLUMN_DESCRIPTION, description);
    values.put(COLUMN_FOUNDED, foundedDate);

    long result = db.insert(TABLE_COMPANIES, null, values);
    db.close();

    return result != -1; // Returns true if insert is successful
}

// Get all companies from the database
public Cursor getAllCompanies() {
    SQLiteDatabase db = this.getReadableDatabase();
    return db.rawQuery("SELECT name, description, founded FROM companies", null);
}
}

```

AddCompanyActivity.java

```

package com.example.companydetailsapp;

import android.os.Bundle;
import android.view.MenuItem;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class AddCompanyActivity extends AppCompatActivity {

    private EditText etCompanyName, etDescription, etFoundedDate;
    private SQLiteHelper dbHelper;
    private Button btnSave;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_add_company); // Ensure this matches your XML
file

        // Initialize the SQLite helper
        dbHelper = new SQLiteHelper(this);

        // Find views by ID (make sure these IDs match your XML layout)
        etCompanyName = findViewById(R.id.companyName); // Updated ID
        etDescription = findViewById(R.id.companyDescription); // Updated ID
        etFoundedDate = findViewById(R.id.foundedDate); // Updated ID
        btnSave = findViewById(R.id.btnSaveCompany); // Updated ID

        // Enable the "Up" button on the action bar
        if (getSupportActionBar() != null) {
            getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        }

        // Set the OnClickListener using a lambda expression
        btnSave.setOnClickListener(v -> {
            String name = etCompanyName.getText().toString();
            String description = etDescription.getText().toString();
            String founded = etFoundedDate.getText().toString();

            // Validate input fields
            if (name.isEmpty() || description.isEmpty() || founded.isEmpty()) {
                Toast.makeText(AddCompanyActivity.this, "All fields are required",
Toast.LENGTH_SHORT).show();
            } else {
                // Attempt to add the company to the database

```

```

        boolean success = dbHelper.addCompany(name, description, founded);
        if (success) {
            Toast.makeText(AddCompanyActivity.this, "Company added successfully",
Toast.LENGTH_SHORT).show();
            finish(); // Go back to the previous activity
        } else {
            Toast.makeText(AddCompanyActivity.this, "Failed to add company",
Toast.LENGTH_SHORT).show();
        }
    }
});
}

// Handle the back button press from the action bar
@Override
public boolean onOptionsItemSelected(MenuItem item) {
    if (item.getItemId() == android.R.id.home) {
        finish(); // Close the activity and return to the previous screen
        return true;
    }
    return super.onOptionsItemSelected(item);
}
}

```

Activity_add_companies.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="match_parent"
    android:padding="16dp">

    <!-- Header with logo and details -->
    <LinearLayout
        android:orientation="horizontal"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:gravity="center">

        <!-- Add a logo (replace with your own) -->
        <ImageView
            android:layout_width="50dp"
            android:layout_height="50dp"
            android:src="@drawable/img" />
    </LinearLayout>

```

```

<!-- Name and Roll Number -->
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Bharani D"
    android:paddingLeft="10dp" />
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="[ CH.EN.U4YS21008 ]"
    android:paddingLeft="10dp" />
</LinearLayout>

<!-- Input Fields for Company Details -->
<EditText
    android:id="@+id/companyName"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Company Name" />

<EditText
    android:id="@+id/companyDescription"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Company Description" />

<EditText
    android:id="@+id/foundedDate"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter Founded Date" />

<Button
    android:id="@+id/btnSaveCompany"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Save" />

</LinearLayout>

```

ViewCompanyActivity.java

```

package com.example.companydetailsapp;

import android.database.Cursor;
import android.os.Bundle;
import android.text.Editable;
import android.text.TextWatcher;
import android.widget.AdapterView;
import android.widget.EditText;
import android.widget.ListView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;
import android.util.Log;

public class ViewCompaniesActivity extends AppCompatActivity {

    private ListView listViewCompanies;
    private EditText etSearch;
    private SQLiteHelper dbHelper;
    private ArrayList<String> companyList;
    private ArrayAdapter<String> adapter;

    private static final int DATABASE_VERSION = 2; // Increment this if you've changed
the schema

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

        // Initialize SQLiteHelper
        dbHelper = new SQLiteHelper(this);

        // Find views by ID
        listViewCompanies = findViewById(R.id.listViewCompanies); // Correct ID for
ListView
        etSearch = findViewById(R.id.etSearch); // Correct ID for EditText

        // Initialize the company list
        companyList = new ArrayList<>();

        // Initialize the adapter with companyList (before calling loadCompanies)
        adapter = new ArrayAdapter<>(this, android.R.layout.simple_list_item_1,
companyList);
        listViewCompanies.setAdapter(adapter); // Set adapter to ListView

```



```

        // Load companies from the database
        loadCompanies();

        // Set up search functionality
        etSearch.addTextChangedListener(new TextWatcher() {
            @Override
            public void beforeTextChanged(CharSequence s, int start, int count, int
after) {}

            @Override
            public void onTextChanged(CharSequence s, int start, int before, int count) {
                adapter.getFilter().filter(s); // Filter the list based on search input
            }

            @Override
            public void afterTextChanged(Editable s) {}
        });
    }

    private void loadCompanies() {
        Cursor cursor = dbHelper.getAllCompanies(); // Get all companies from the
database
        companyList.clear(); // Clear the list before adding new items

        if (cursor != null && cursor.moveToFirst()) {
            do {
                // Fetch the column index
                int nameIndex = cursor.getColumnIndex(SQLiteHelper.COLUMN_NAME);
                int descriptionIndex =
cursor.getColumnIndex(SQLiteHelper.COLUMN_DESCRIPTION);

                // Add logging for column indices
                Log.d("ColumnIndex", "Name Index: " + nameIndex + ", Description Index: "
+ descriptionIndex);

                // Check if the columns exist in the cursor
                if (nameIndex != -1 && descriptionIndex != -1) {
                    String name = cursor.getString(nameIndex);
                    String description = cursor.getString(descriptionIndex);

                    // Combine company details to display (without founded)
                    String companyDetails = name + " - " + description;
                    companyList.add(companyDetails); // Add the combined details to the
list
                } else {
                    Log.e("DatabaseError", "One or more columns not found in the result

```

```

set.");
        }
    } while (cursor.moveToNext());

    cursor.close(); // Close the cursor to free resources
    adapter.notifyDataSetChanged(); // Notify the adapter that the data has
changed
    } else {
        companyList.add("No companies found.");
    }
}
}
}

```

Activity_list_company.xml:

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    android:padding="16dp">

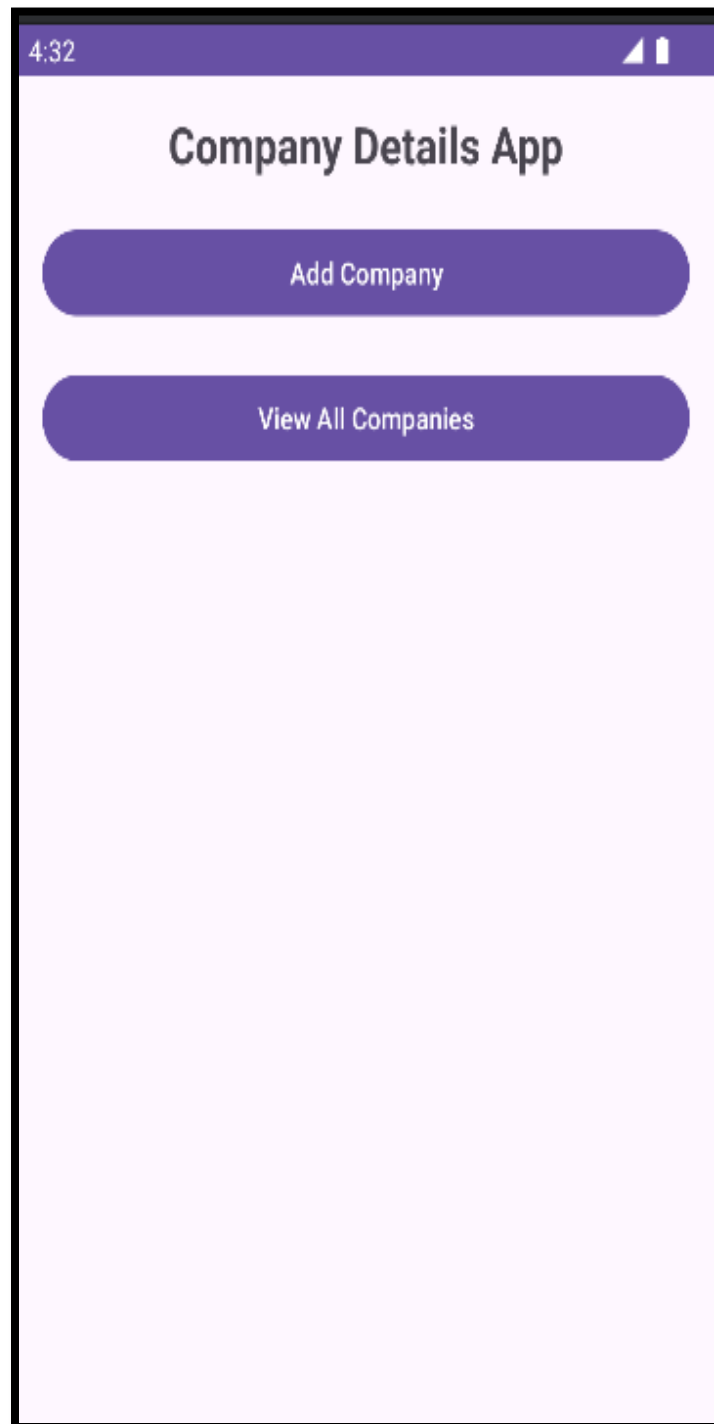
    <!-- Search bar -->
    <EditText
        android:id="@+id/etSearch"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Search Companies"
        android:padding="10dp"
        android:background="@android:drawable/editbox_background"
        android:inputType="text" />

    <!-- ListView to display companies -->
    <ListView
        android:id="@+id/listViewCompanies"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:divider="@android:color/darker_gray"
        android:dividerHeight="1dp" />

</LinearLayout>

```

Output :



4:33



Bharani D [CH.EN.U4YS21008]

Enter Company Name

Enter Company Description

Enter Founded Date

Save

4:34



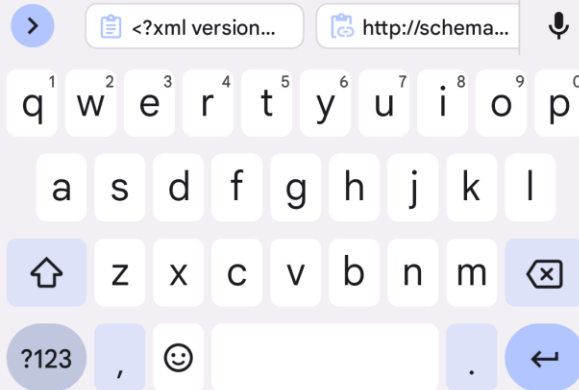
Bharani D [CH.EN.U4YS21008]

AVV

Amrita Vishwa Vidyapeetham

1994

Save



4:35



Company Details App

Add Company

View All Companies



Company added successfully

4:51



Bharani D [CH.EN.U4YS21008]

Company name

Description

Founded Date

SEARCH

SAVE

5:05



Bharani D [CH.EN.U4YS21008]

Company name

Description

Founded Date

SEARCH

SAVE

AVV
Amrita Vishwa Vidyapeetham.
1994

4:49



Bharani D [CH.EN.U4YS21008]

Company name

Description

Founded Date

SEARCH

SAVE

Android Authority
Independent online publication for millions of android
technology enthusiasts
01/01/2007

Google
Multinational tech company, specialising in search, cloud
computing, software and online advertising, among
others.
04/09/1998

Amazon
Electronic commerce and cloud computing giant, with
increasing consumer electronics presence
05/07/1994