

Step 1. Build the First Activity.

Step 2. Add Options Menu

Step 3. Add a new activity: the Edit Activity.

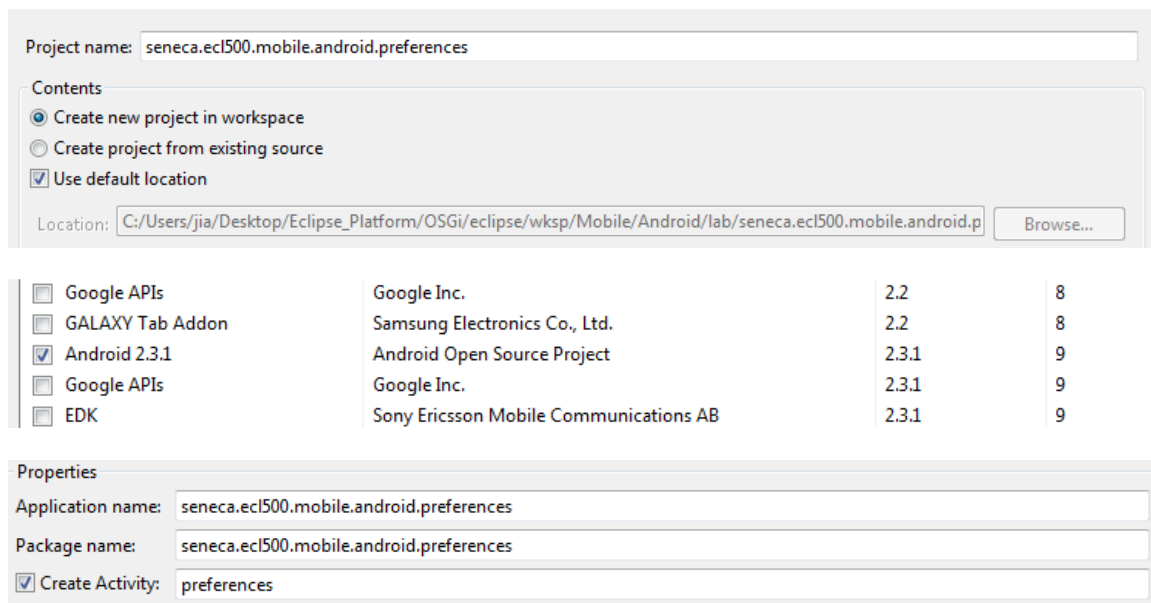
Step 4. Create a DB class for using SQLite

Step 5. Example of app failure trying to Write and Display data from DB.

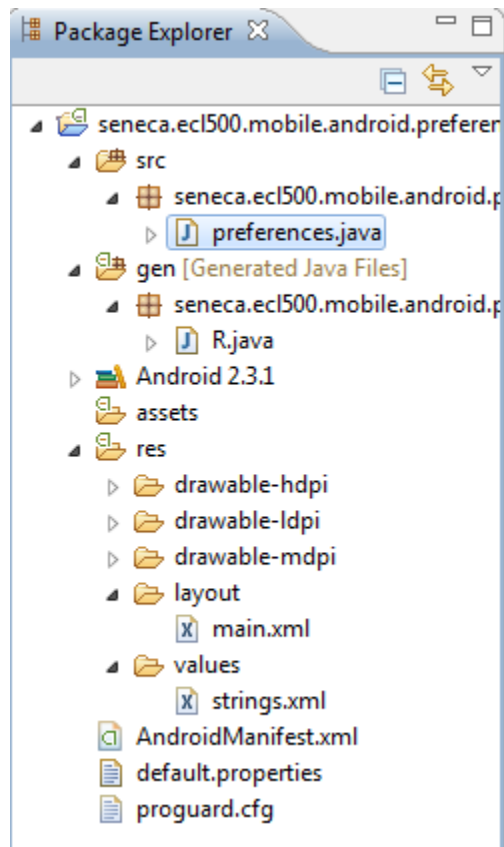
Step 0. Install all require Android SDK, in Eclipse Menu 'Windows'->'Preferences'->'Android'->'Browe...'->the Android SDK folder that just installed.->'Apply'->'OK'

Step 1. Build the First Activity.

'File'->'New'->' Android Project'



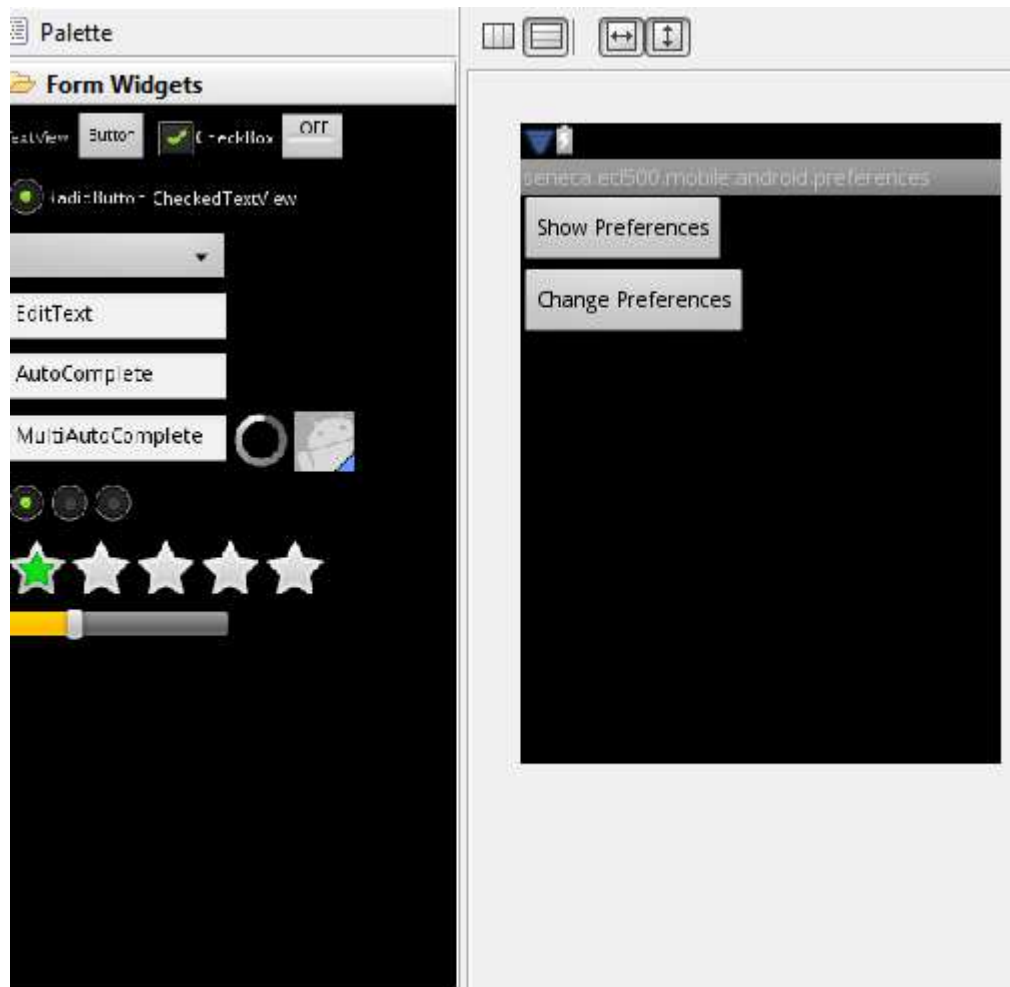
Full in 'Project name' with 'seneca.ec1500.mobile.android.preferences', 'Application name' with 'seneca.ec1500.mobile.android.preferences', 'package name' with 'seneca.ec1500.mobile.android.preferences', and 'Create Activity' with 'preferences', select 'Build Target' with 'Android 2.3.1', 'Finish', get the folder structure below



Open '/res/layout/main.xml', edit it to

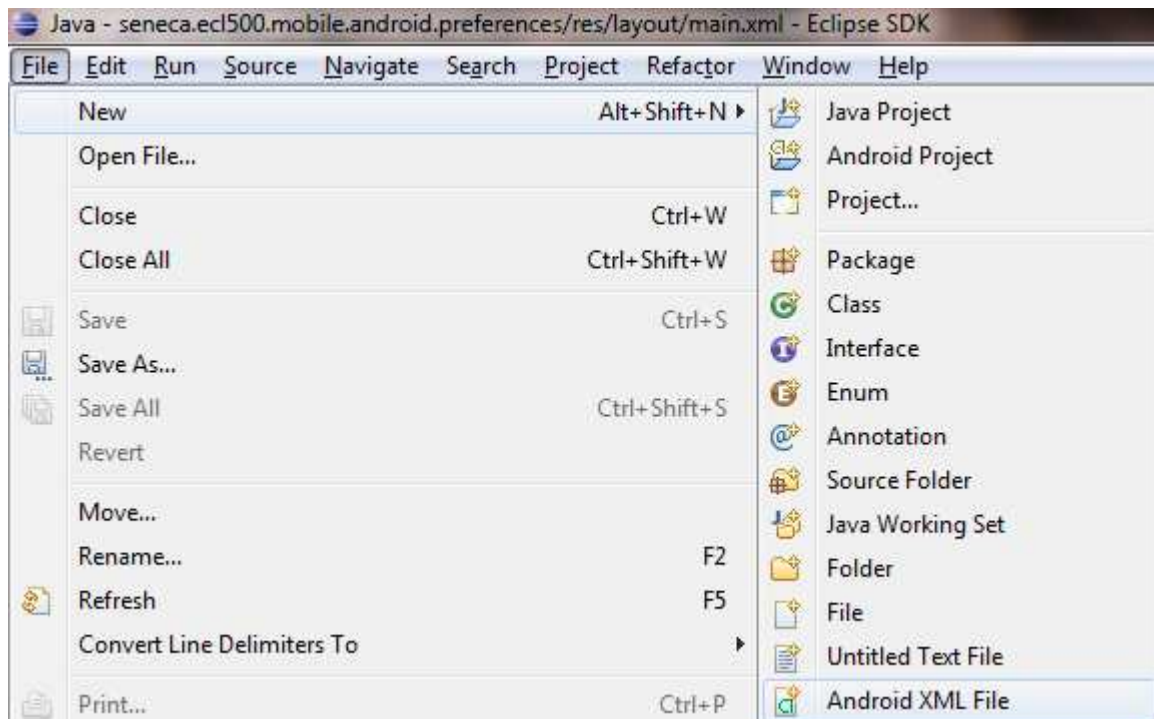
```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    android:orientation="vertical" android:layout_width="fill_parent"
    android:layout_height="fill_parent">
    <Button android:id="@+id/Button01"
android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="Show
Preferences"></Button>
    <Button android:id="@+id/Button02"
android:layout_width="wrap_content"
    android:layout_height="wrap_content" android:text="Change
Preferences"></Button>
</LinearLayout>, save
```

It should look like in Graphical

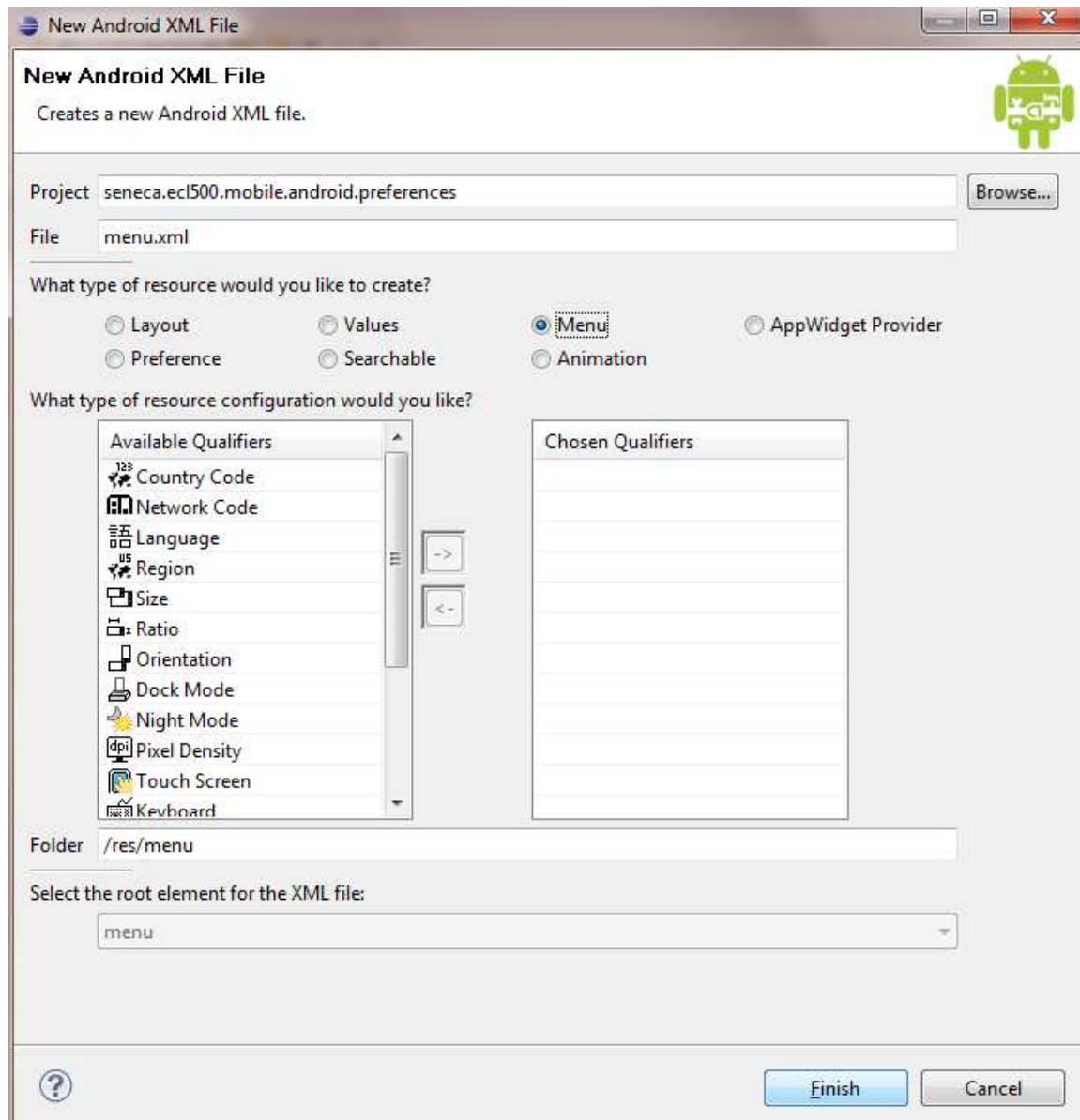


Step 2. Add Options Menu

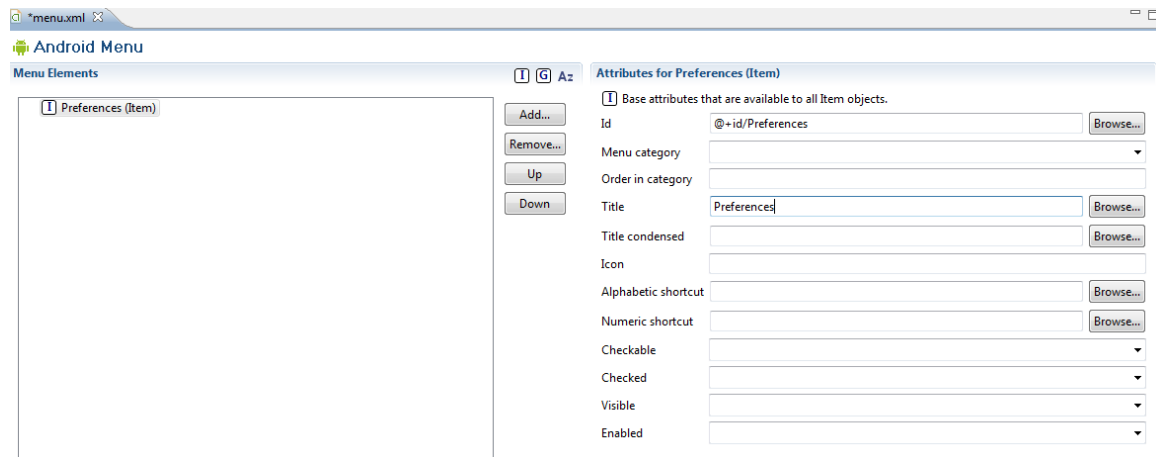
'File' -> 'New' - 'Android XML file'



Full in 'File' with 'menu.xml', select 'Menu', 'Finish'



Add new item like this



Edit 'preferences.java' to

```

package seneca.ecl500.mobile.android.preferences;

import android.app.Activity;
import android.os.Bundle;
import android.view.*;
import android.widget.Toast;

public class preferences extends Activity {
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.menu, menu);
        return true;
    }

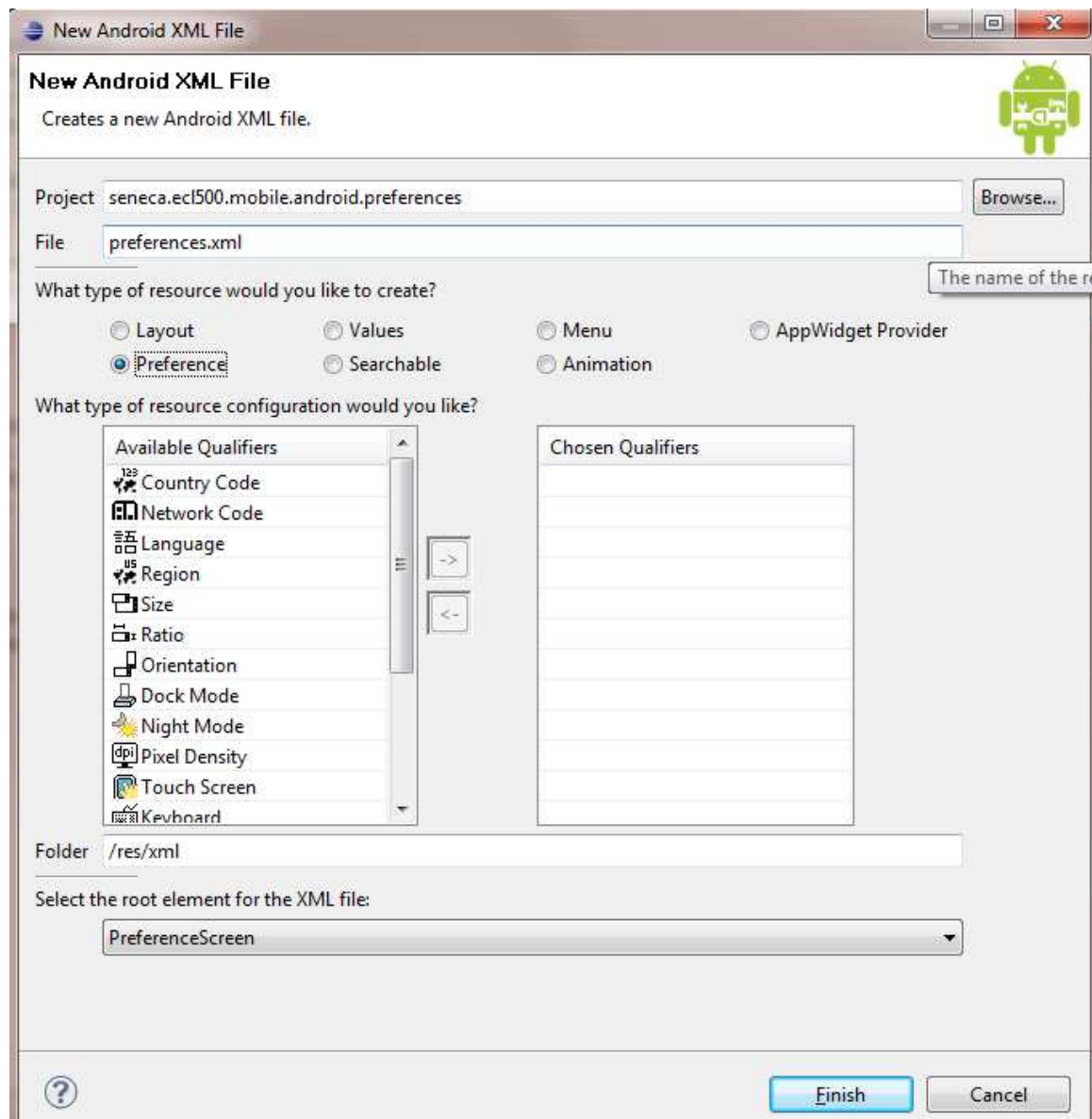
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        Toast.makeText(this, "Just a test",
        Toast.LENGTH_SHORT).show();
        return true;
    }
}

```

Run it.

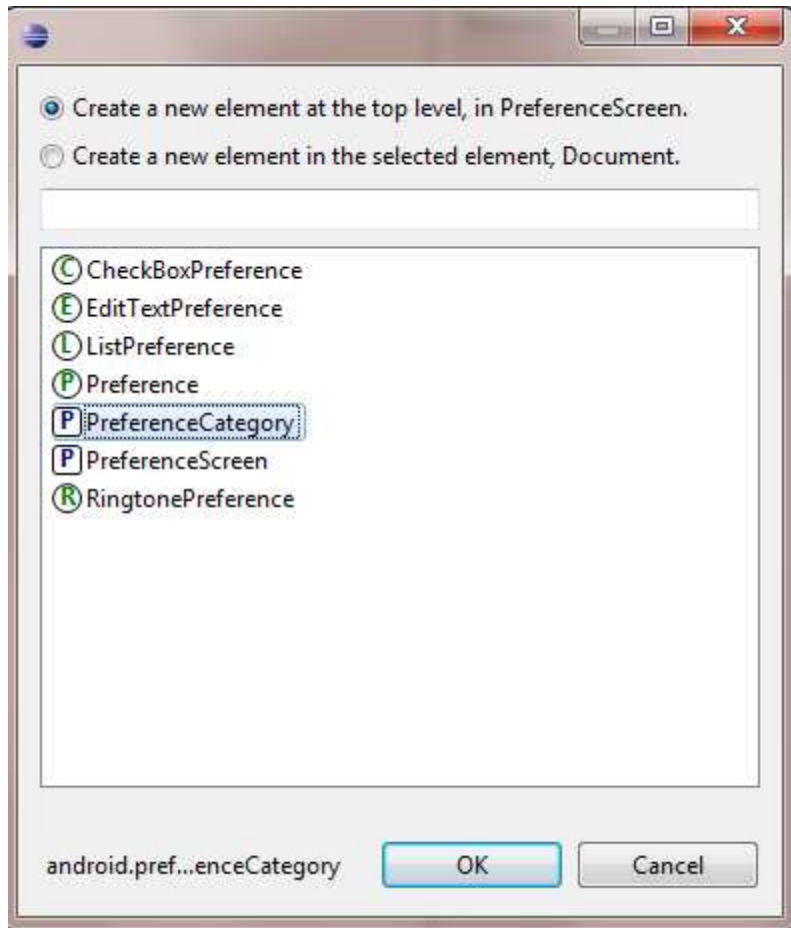
Step 3. Add a new activity: the Edit Activity.

New a Android XML File

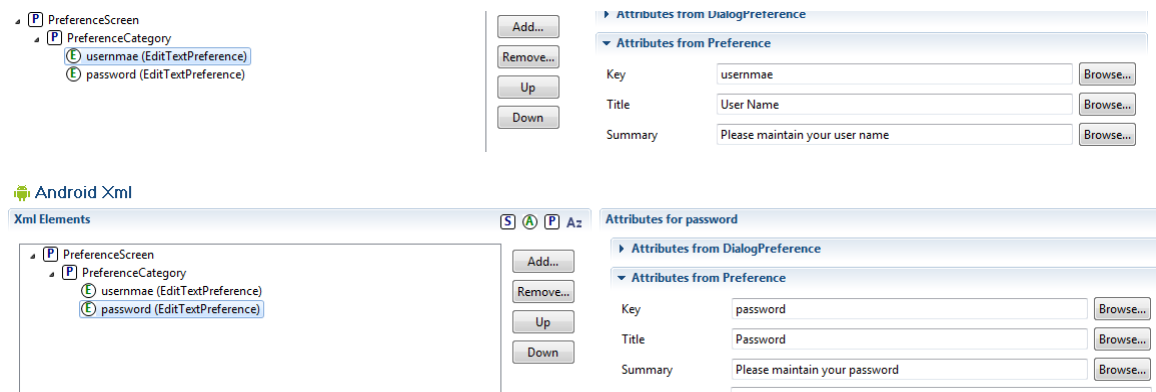


Fill in 'Project' with 'seneca.ec1500.mobile.android.preferences', 'File' with 'preferences.xml', select 'type of' with 'Preference', 'Folder' with '/res/xml', ->'Finish'

'Add'->'Create a new element at the top level, in PreferenceScreen'->'PreferenceCategory'->'OK'



'Add' -> two 'EditTextPreferences' 'username' and 'password', under the 'PreferenceCategory'



Create a new java class 'NewPreferences' to extends the class of 'PreferenceActivity'
 package seneca.ecl500.mobile.android.preferences;

```
import android.os.Bundle;
import android.preference.PreferenceActivity;

public class NewPreferences extends PreferenceActivity {
```

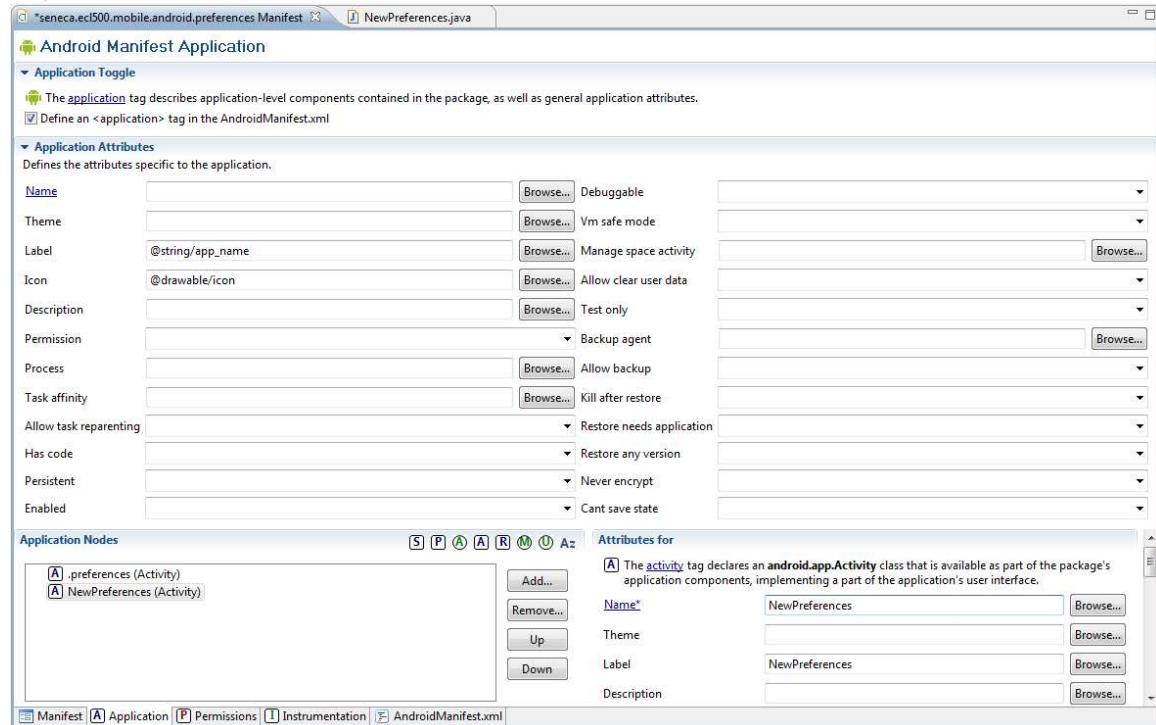


```

/** Called when the activity is first created. */
@Override
public void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    addPreferencesFromResource(R.xml.preferences);
}
}

```

register this class in 'AndroidManifest.xml'



Edit the class 'preferences' to

```

package seneca.ec1500.mobile.android.preferences;

import android.app.Activity;
import android.content.SharedPreferences;
import android.content.SharedPreferences.Editor;
import android.os.Bundle;
import android.preference.PreferenceManager;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.Toast;

public class preferences extends Activity {
    SharedPreferences preferences;
    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.main);
        Button button = (Button) findViewById(R.id.Button01);
        // Initialize preferences
        preferences =
PreferenceManager.getDefaultSharedPreferences(this);

        button.setOnClickListener(new OnClickListener() {

```

```

        public void onClick(View v) {
            String username =
preferences.getString("username", "n/a");
            String password =
preferences.getString("password", "n/a");
            Toast.makeText(
                preferences.this,
                "You entered user: " +
username + " and password: "
                + password,
Toast.LENGTH_LONG).show();
        }
    });

    Button buttonChangePreferences = (Button)
findViewById(R.id.Button02);
    buttonChangePreferences.setOnClickListener(new
OnClickListener() {
        public void onClick(View v) {
            Editor edit = preferences.edit();
            String username =
preferences.getString("username", "n/a");
            // We will just revert the current user
name and save again

            StringBuffer buffer = new StringBuffer();
            for (int i = username.length() - 1; i >=
0; i--) {

                buffer.append(username.charAt(i));
            }
            edit.putString("username",
buffer.toString());

            edit.commit();
            // A toast is a view containing a quick
little message for the

            // user. We give a little feedback
            Toast.makeText(preferences.this,
                "Reverted string sequence of
user name.",
                Toast.LENGTH_LONG).show();
        }
    });
}
}
}

```

And 'NewPreferences' to

```
package seneca.ecl500.mobile.android.preferences;
```

```
import android.os.Bundle;
```

```
import android.preference.PreferenceActivity;
```

```
import android.view.*;
```

```
import android.content.Intent;
```

```
import android.widget.Toast;
```

```
public class NewPreferences extends PreferenceActivity {
```

```

    /** Called when the activity is first created. */
    @Override
    public void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        addPreferencesFromResource(R.xml.preferences);
    }

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        MenuInflater inflater = getMenuInflater();
        inflater.inflate(R.menu.menu, menu);
        return true;
    }

    // This method is called once the menu is selected
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            // We have only one menu option
            case R.id.Preferences:
                // Launch Preference activity
                Intent i = new Intent(NewPreferences.this,
NewPreferences.class);
                startActivity(i);
                // Some feedback to the user
                Toast.makeText(NewPreferences.this,
                                "Here you can maintain your user
credentials.",
                                Toast.LENGTH_LONG).show();
                break;
        }
        return true;
    }
}

```

Run it.

Step 4. Create a DB class for using SQLite

Create a java class that have some method to(select, insert, update, and delete your data form the database), inside that class, extents a inner class from 'SQLiteOpenHelper' , override the method 'onCreate 'and 'onUpgrade'

When call 'getWritableDatabase' method, it return the connect of the SQLite database. Keep the connect object, you can do every database operate like other JDBC API.

```
package seneca.ecl500.mobile.android.preferences;
```

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

```
public class PreferencesDb {
    private static final String DB_NAME = "stocks.db";
```

```

private static final int DB_VERSION = 1;
private static final String TABLE_NAME = "preference";
private static final String CREATE_TABLE = "CREATE TABLE " +
TABLE_NAME + " (id INTEGER PRIMARY KEY, myname TEXT,
preference text)";
private static final String INSERT_SQL = "INSERT INTO " +
TABLE_NAME +
" (myname, preference) " +
"VALUES (?,?)";
private static final String READ_SQL = "SELECT id, myname,
preference FROM " + TABLE_NAME;
private final Context context;
private final SQLiteOpenHelper helper;
private final SQLiteStatement stmt;
private final SQLiteDatabase db;

public PreferencesDb(Context context){
this.context = context;
helper = new SQLiteOpenHelper(context, DB_NAME, null,
DB_VERSION){
@Override
public void onCreate(SQLiteDatabase db) {
db.execSQL(CREATE_TABLE);
}

@Override
public void onUpgrade(SQLiteDatabase db, int
oldVersion,
int newVersion) {
throw new UnsupportedOperationException();
}
};
db = helper.getWritableDatabase();
stmt = db.compileStatement(INSERT_SQL);
}

public void addPreference(String nmae, String preference){
stmt.bindString(1, nmae);
stmt.bindString(2, preference);
stmt.executeInsert();
return ;
}

public void deletePreference(String name){
db.execSQL("delete from "+TABLE_NAME +" where
name='"+name+"'");
return ;
}

public void close(){
helper.close();
}
}

```

Step 5. Example of app failure trying to Write and Display data from DB.

In the example, when call the 'addPreference' and 'deletePreference' method, use try and catch block to hander [SQLiteException](#)

```
Try
```

```
{
```

```
    new PreferencesDb().addPreference(nmae, preference);
```

```
    new PreferencesDb().deletePreference(name);
```

```
}
```

```
Catch(SQLiteException ex)
```

```
{
```

```
}
```