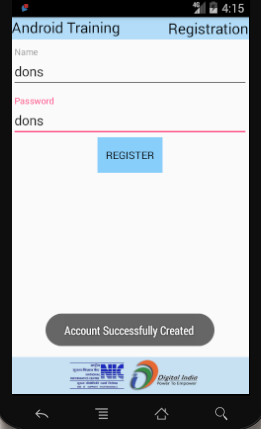
**CHAPTER4**

***SQLite***

Android provides several ways to store user and app data. SQLite is one way of storing user data. SQLite is a very light weight database which comes with Android OS. In this example we are creating a Login form and registration form using sqlite.

Create Registration Form  


Create DatabaseHelper.java and add below codes  
**package** in.nic.kerala.training;  
  
**import** android.content.Context;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
**import** android.util.Log;  
  
**public class** DataBaseHelper **extends** SQLiteOpenHelper {  
 **public** DataBaseHelper(Context context, String name, SQLiteDatabase.CursorFactory factory, **int** version)  
 {  
 **super**(context, name, factory, version);  
 }  
 *// Called when no database exists in disk and the helper class needs  
 // to create a new one.* @Override  
 **public void** onCreate(SQLiteDatabase \_db)  
 {  
 \_db.execSQL(**LoginDataBaseAdapter**.DATABASE\_CREATE);  
  
 }  
 *// Called when there is a database version mismatch meaning that the version  
 // of the database on disk needs to be upgraded to the current version.* @Override  
 **public void** onUpgrade(SQLiteDatabase \_db, **int** \_oldVersion, **int** \_newVersion)  
 {  
 *// Log the version upgrade.* Log.*w*(**"TaskDBAdapter"**, **"Upgrading from version "** +\_oldVersion + **" to "** +\_newVersion + **", which will destroy all old data"**);  
  
 *// Upgrade the existing database to conform to the new version. Multiple  
 // previous versions can be handled by comparing \_oldVersion and \_newVersion  
 // values.  
 // The simplest case is to drop the old table and create a new one.* \_db.execSQL(**"DROP TABLE IF EXISTS "** + **"TEMPLATE"**);  
 *// Create a new one.* onCreate(\_db);  
 }  
  
}

Create LoginDataBaseAdapter.java and add below codes

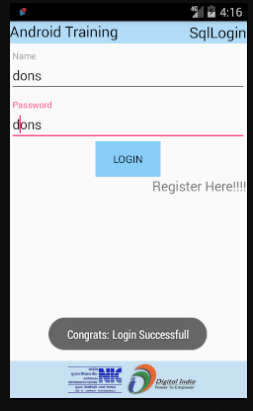
**package** in.nic.kerala.training;  
  
**import** android.content.ContentValues;  
**import** android.content.Context;  
**import** android.database.Cursor;  
**import** android.database.SQLException;  
**import** android.database.sqlite.SQLiteDatabase;  
  
  
**public class** LoginDataBaseAdapter  
{  
  
 **static final** String ***DATABASE\_NAME*** = **"login.db"**;  
 **static final int *DATABASE\_VERSION*** = 1;  
 **public static final int *NAME\_COLUMN*** = 1;  
 *//* ***TODO: Create public field for each column in your table.*** *// SQL Statement to create a new database.* **static final** String ***DATABASE\_CREATE*** = **"create table "**+**"LOGIN"**+ **"( "** +**"ID"**+**" integer primary key autoincrement,"**+ **"USERNAME text,PASSWORD text); "**;  
 *// Variable to hold the database instance* **public** SQLiteDatabase **db**;  
 *// Context of the application using the database.* **private final** Context **context**;  
 *// Database open/upgrade helper* **private** DataBaseHelper **dbHelper**;  
 **public** LoginDataBaseAdapter(Context \_context)  
 {  
 **context** = \_context;  
 **dbHelper** = **new** DataBaseHelper(**context**, ***DATABASE\_NAME***, **null**, ***DATABASE\_VERSION***);  
 }  
 **public** LoginDataBaseAdapter open() **throws** SQLException  
 {  
 **db** = **dbHelper**.getWritableDatabase();  
 **return this**;  
 }  
 **public void** close()  
 {  
 **db**.close();  
 }  
  
 **public** SQLiteDatabase getDatabaseInstance()  
 {  
 **return db**;  
 }  
  
 **public void** insertEntry(String userName,String password)  
 {  
 ContentValues newValues = **new** ContentValues();  
 *// Assign values for each row.* newValues.put(**"USERNAME"**, userName);  
 newValues.put(**"PASSWORD"**,password);  
  
 *// Insert the row into your table* **db**.insert(**"LOGIN"**, **null**, newValues);  
 }  
 **public int** deleteEntry(String UserName)  
 {  
 *//String id=String.valueOf(ID);* String where=**"USERNAME=?"**;  
 **int** numberOFEntriesDeleted= **db**.delete(**"LOGIN"**, where, **new** String[]{UserName}) ;  
 **return** numberOFEntriesDeleted;  
 }  
 **public** String getSinlgeEntry(String userName)  
 {  
 Cursor cursor=**db**.query(**"LOGIN"**, **null**, **" USERNAME=?"**, **new** String[]{userName}, **null**, **null**, **null**);  
 **if**(cursor.getCount()<1) *// UserName Not Exist* {  
 cursor.close();  
 **return "NOT EXIST"**;  
 }  
 cursor.moveToFirst();  
 String password= cursor.getString(cursor.getColumnIndex(**"PASSWORD"**));  
 cursor.close();  
 **return** password;  
 }  
 **public void** updateEntry(String userName,String password)  
 {  
 *// Define the updated row content.* ContentValues updatedValues = **new** ContentValues();  
 *// Assign values for each row.* updatedValues.put(**"USERNAME"**, userName);  
 updatedValues.put(**"PASSWORD"**,password);  
  
 String where=**"USERNAME = ?"**;  
 **db**.update(**"LOGIN"**,updatedValues, where, **new** String[]{userName});  
 }  
}

Create empty activity named RegisterActivity

Update contents of RegisterActivity.java as  
**package** in.nic.kerala.training;  
  
**import** android.os.Bundle;  
**import** android.support.annotation.Nullable;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
  
**public class** RegisterActivity **extends** AppCompatActivity {  
 Button **btnreg**;  
 EditText **edtuser**, **edtpass**;  
 String **username**, **password**;  
 LoginDataBaseAdapter **loginDataBaseAdapter**;  
  
 @Override  
 **protected void** onCreate(@Nullable Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_register***);  
  
  
*// get Instance of Database Adapter* **loginDataBaseAdapter** = **new** LoginDataBaseAdapter(RegisterActivity.**this**);  
 **loginDataBaseAdapter** = **loginDataBaseAdapter**.open();  
 **edtuser** = (EditText) findViewById(R.id.***usertext***);  
 **edtpass** = (EditText) findViewById(R.id.***passtext***);  
 **btnreg** = (Button) findViewById(R.id.***reg***);  
 View includedLayout = findViewById(R.id.***head***);  
  
 TextView txttitle = (TextView) includedLayout.findViewById(R.id.***txttitile***);  
 txttitle.setText(**"Registration"**);  
  
 **btnreg**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
  
 **if** (**edtuser**.getText().toString().equals(**""**)) {  
 **edtuser**.requestFocus();  
 **edtuser**.setError(**"Plaese enter username"**);  
 } **else if** (**edtpass**.getText().toString().equals(**""**)) {  
 **edtpass**.requestFocus();  
 **edtpass**.setError(**"Please enter password"**);  
 } **else** {  
  
 **username** = **edtuser**.getText().toString();  
 **password** = **edtpass**.getText().toString();  
  
 **loginDataBaseAdapter**.insertEntry(**username**, **password**);  
 Toast.*makeText*(getApplicationContext(), **"Account Successfully Created "**, Toast.***LENGTH\_LONG***).show();  
 }  
 }  
 });  
 }  
  
 @Override  
 **protected void** onDestroy() {  
 *//* ***TODO Auto-generated method stub* super**.onDestroy();  
  
 **loginDataBaseAdapter**.close();  
 }  
}

Update contents of activity\_register.xml as  
*<?***xml version="1.0" encoding="utf-8"***?>*<**RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
 <**include  
 android:id="@+id/head"  
 layout="@layout/activity\_title"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"** />  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/userlayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/head"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="10dp"**>  
  
 <**EditText  
 android:id="@+id/usertext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Name"** />  
 </**android.support.design.widget.TextInputLayout**>  
  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/passlayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/userlayout"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="10dp"**>  
  
 <**EditText  
 android:id="@+id/passtext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Password"** />  
 </**android.support.design.widget.TextInputLayout**>  
  
  
 <**Button  
 android:id="@+id/reg"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/passlayout"  
 android:layout\_centerHorizontal="true"  
 android:background="@drawable/buttoncustom"  
 android:text="Register"  
 android:textColor="#000000"** />  
  
 <**LinearLayout  
 android:id="@+id/in"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="49dp"  
 android:layout\_alignParentBottom="true"  
 android:background="@drawable/fooo"  
 android:orientation="horizontal"** />  
</**RelativeLayout**>

Now create a login page when we enter name and password it checks in the db whether the values are present. If available it shows success

  
Create a new activity named SqlActivity or any other name as you wish.But please link accordingly in the DashboardActivity and ImageAdapter

**Update Activity\_SQL.xml**

*<?***xml version="1.0" encoding="utf-8"***?>*<**RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"**>  
  
 <**include  
 android:id="@+id/head"  
 layout="@layout/activity\_title"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="wrap\_content"** />  
  
  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/userlayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/head"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="10dp"**>  
  
 <**EditText  
 android:id="@+id/usertext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Name"** />  
 </**android.support.design.widget.TextInputLayout**>  
  
 <**android.support.design.widget.TextInputLayout  
 android:id="@+id/passlayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/userlayout"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="10dp"**>  
  
 <**EditText  
 android:id="@+id/passtext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:hint="Password"** />  
 </**android.support.design.widget.TextInputLayout**>  
  
  
 <**Button  
 android:id="@+id/login"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/passlayout"  
 android:layout\_centerHorizontal="true"  
 android:background="@drawable/buttoncustom"  
 android:text="login"  
 android:textColor="#000000"** />  
  
 <**TextView  
 android:id="@+id/textreg"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_alignParentRight="true"  
 android:layout\_below="@+id/login"  
 android:text="Register Here!!!!"  
 android:textSize="18dip"** />  
  
 <**LinearLayout  
 android:id="@+id/in"  
 android:layout\_width="fill\_parent"  
 android:layout\_height="49dp"  
 android:layout\_alignParentBottom="true"  
 android:background="@drawable/fooo"  
 android:orientation="horizontal"** />  
  
  
</**RelativeLayout**>

**Update SQLActivity.java**  
**package** in.nic.kerala.training;  
  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.os.Bundle;  
  
**import** android.content.Intent;  
**import** android.os.Bundle;  
**import** android.support.annotation.Nullable;  
**import** android.support.design.widget.TextInputLayout;  
**import** android.support.v7.app.AppCompatActivity;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.TextView;  
**import** android.widget.Toast;  
  
  
**public class** SqlActivity **extends** AppCompatActivity {  
 TextInputLayout **txtlayoutuser**, **txtlayoutpass**;  
 LoginDataBaseAdapter **loginDataBaseAdapter**;  
 EditText **edtuser**, **edtpass**;  
 Button **login**;  
 String **username**, **password**;  
 TextView **txt**;  
  
 @Override  
 **protected void** onCreate(@Nullable Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_sql***);  
  
 **edtuser** = (EditText) findViewById(R.id.***usertext***);  
 **edtpass** = (EditText) findViewById(R.id.***passtext***);  
 **login** = (Button) findViewById(R.id.***login***);  
 **txt** = (TextView) findViewById(R.id.***textreg***);  
 **txtlayoutpass** = (TextInputLayout) findViewById(R.id.***passlayout***);  
 **txtlayoutuser** = (TextInputLayout) findViewById(R.id.***userlayout***);  
 View includedLayout = findViewById(R.id.***head***);  
  
 TextView txttitle = (TextView) includedLayout.findViewById(R.id.***txttitile***);  
 txttitle.setText(**"SqlLogin"**);  
  
 *// create a instance of SQLite Database* **loginDataBaseAdapter** = **new** LoginDataBaseAdapter(SqlActivity.**this**);  
 **loginDataBaseAdapter** = **loginDataBaseAdapter**.open();  
  
  
 **login**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 **username** = **edtuser**.getText().toString();  
 **password** = **edtpass**.getText().toString();  
  
 **if** (**edtuser**.getText().toString().equals(**""**)) {  
 **edtuser**.requestFocus();  
 **edtuser**.setError(**"Plese enter username"**);  
  
 } **else if** (**edtpass**.getText().toString().equals(**""**)) {  
 **edtpass**.requestFocus();  
 **edtpass**.setError(**"please enter password"**);  
  
 }  
 **else** {  
 login();  
 }  
  
 }  
  
 **private void** login() {  
 *// fetch the Password form database for respective user name* String storedPassword = **loginDataBaseAdapter**.getSinlgeEntry(**username**);  
  
 *// check if the Stored password matches with Password entered by user* **if** (**password**.equals(storedPassword)) {  
 Toast.*makeText*(SqlActivity.**this**, **"Congrats: Login Successfull"**, Toast.***LENGTH\_LONG***).show();  
  
 } **else** {  
 Toast.*makeText*(SqlActivity.**this**, **"User Name or Password does not match"**, Toast.***LENGTH\_LONG***).show();  
 }  
 }  
 });  
  
 **txt**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
 Intent i = **new** Intent(SqlActivity.**this**, RegisterActivity.**class**);  
 startActivity(i);  
 }  
 });  
  
 }  
  
 @Override  
 **protected void** onDestroy() {  
 **super**.onDestroy();  
 *// Close The Database* **loginDataBaseAdapter**.close();  
 }  
}