



# **VOCATIONAL SCHOOL GRADUATE ACADEMY**

# **Mobile Programmer**

Pertemuan 9: Proyek Aplikasi Data Persistence Pada Mobile







### **PROFIL PENGAJAR**



Jabatan Akademik (Lektor / Kepala LAB Prodi Teknik Komputer)
Latarbelakang Pendidikan Pengajar

- S1 STMIK Budi Darma (Skripsi : Aps Mobile Kompresi SMS)
- S2 Universitas Putra Indonesia YPTK Padang (Tesis : Aps Mobile Security SMS)

#### Riwayat Pekerjaan

- Dosen Tetap Politeknik Negeri Medan
- Trainer Pemrograman Java dan Mobile, Networking, Cyber Security, OS Server
- Konsultan Bidang Aplikasi , Networking, Cyber Security dan Server
- CEO PT. Nusa Tirta Teknologi

#### Sertifikat Kompetensi:

- Program : Senior Programmer (BNSP)
- Networking: Mikrotik, CISCO
- Server : Windows Server, Redhat
- Project : Comptia Project +

**Contact Pengajar** 

Ponsel: -

Email: azanuddin@polmed.ac.id



### Proyek

Membangung Aplikasi Android:

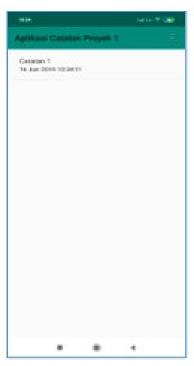
- Aplikasi catatan harian.
- Aplikasi validasi login.



### **Aplikasi Catatan Harian**



Gambar 1. Tampilan Splashscreen



Gambar 2. Tampilan Halaman Utama



Gambar 3. Tampilan Halaman Tambah Catatan

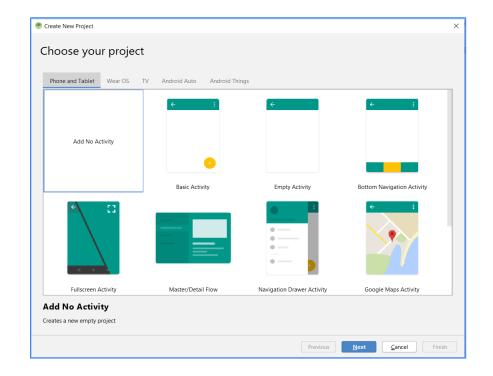


Gambar 4. Tampilan Konfirmasi Hapus Catatan



### **Membuat Proyek Baru**

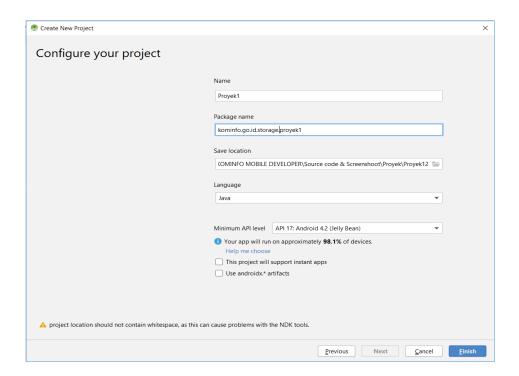
 Buatlah sebuah proyek baru pada android studio, dan berikan nama pada proyek yang akan anda buat (sebagai contoh Proyek1).





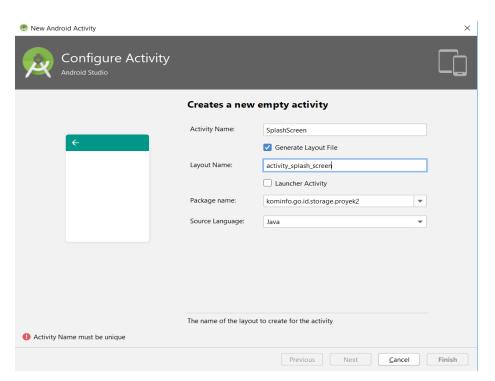
### **Membuat Proyek Baru**

 Tuliskan nama proyek dan package



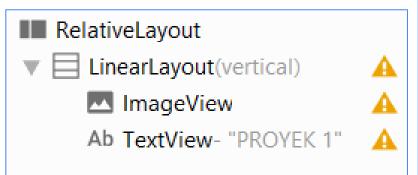


 Buatlah sebuah Activity, beri nama kelas SplashScreen.java beserta file layout dengan nama activity splash screen.xml





- Desainlah sebuah tampilan pada activity\_splash\_screen
- Struktur Komponen Layout







 Sesuaikan kode xml pada activity\_splash\_screen.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
   android:layout height="match parent"
   tools:context=".SplashScreen">
    <LinearLayout
       android:layout width="match parent"
       android:layout height="wrap content"
       android:layout centerInParent="true"
        android:orientation="vertical">
        <ImageView
            android:layout width="match parent"
            android:layout height="wrap content"
            android:adjustViewBounds="true"
            android:fitsSystemWindows="true"
            android:src="@drawable/logo" />
        <TextView
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout gravity="center horizontal"
            android:text="PROYEK 1"
            android:textColor="#000"
            android:textSize="30sp" />
    </LinearLayout>
</RelativeLayout>
```

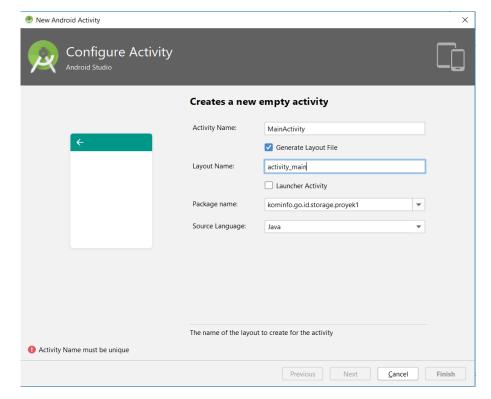


Pada kelas Java
 SplashScreen.java,
 tambahkan kode berikut

```
package kominfo.go.id.storage.proyekl;
import android.content.Intent;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
public class SplashScreen extends AppCompatActivity (
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity splash screen);
        new Handler().postDelayed(new Runnable() {
            @Override
            public void run() {
                Intent intent = new Intent (SplashScreen.this,
MainActivity.class);
                startActivity(intent);
                finish();
        ). 3000);
```



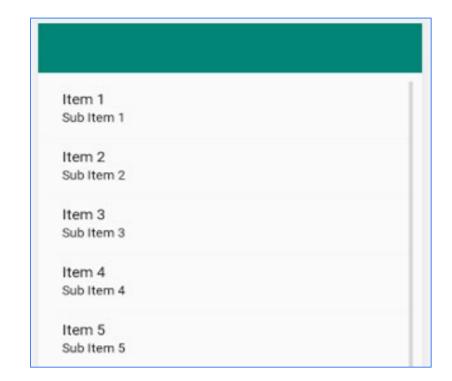
 Buatlah sebuah Activity, beri nama kelas
 MainActivity.java beserta file layout dengan nama activity\_main.xml





- Desainlah sebuah tampilan
   View pada activity\_main
   sebagaimana berikut :
- Struktur Layout pada activity\_main

```
☐ LinearLayout(vertical)
☐ toolbar
☐ listView
```





 Sesuaikan kode xml pada 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: layout width="match parent"
   android:layout height="match parent"
   android:orientation="vertical"
    tools:context=".MainActivity">
    <android.support.v7.widget.Toolbar</pre>
        android:id="@+id/toolbar"
        android:layout width="match parent"
        android:layout height="wrap content"
        android:background="?attr/colorPrimary"
        android:minHeight="?attr/actionBarSize"
        android:theme="?attr/actionBarTheme" />
    <ListView
        android:id="0+id/listView"
        android:layout width="match parent"
        android:layout height="match parent"
        android:padding="10dp"/>
</LinearLayout>
```



Pada class Java MainActivity.java, tambahkan kode

```
package kominfo.go.id.storage.proyekl;
import android.Manifest:
import android.content.DialogInterface;
import android.content.Intent:
import android.content.pm.PackageManager;
import android.os.Build:
import android.os.Environment;
import android.support.annotation.NonNull:
import android.support.v4.app.ActivityCompat;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.util.Log:
import android, view, Menu:
import android.view.MenuItem;
import android.view.View:
import android.widget.AdapterView;
import android.widget.ListView;
import android.widget.SimpleAdapter;
import android.widget.Toast;
import java.io.File;
import java.text.SimpleDateFormat;
import java.util.ArrayList;
import java.util.Date:
import java.util.HashMap:
import java.util.Map;
public class MainActivity extends AppCompatActivity (
```

```
public class MainActivity extends AppCompatActivity (
    public static final int REQUEST CODE STORAGE - 100;
    LintVine LintVine:
    Soverride
    protected void onCreate(Bundle savedInstanceState)
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity main);
        Toolbar toolbar = findViewById(R.id.toolbar);
        setSupportActionBar(toolbar);
        getSupportActionBar().setTitle("Aplikasi Catatan Proyek 1");
        listView = findViewById(R.id.listView);
        listView.setOnItenClickListener(new
AdapterView.OnItemClickListener() {
            #Override
            public void onItemClick(AdapterView<?> parent, View view,
int position, long id)
                Intent intent - new Intent (MainActivity, this.
InsertAndViewActivity.class);
                Map(String, Object) data = (Map(String, Object))
parent.getAdapter().getItem(position);
                intent.putExtra("filename".
data.get("name").toString());
```



Lanjutan class Java MainActivity.java

```
Toast.makeText(MainActivity.this, "You clicked " +
data.get("name"), Toast.LENGTH_SHORT).show();
                startActivity(intent);
        11:
        listView.setOnItemLongClickListener(new
AdapterView.OnItemLongClickListener() (
            public boolean onItemLongClick(AdapterView<?> parent, View
view, int position, long id) (
                Map<String, Object> data = (Map<String, Object>)
parent.getAdapter().getItem(position);
tampilkanDialogKonfirmasiNapusCatatan(data.get("name").toString());
                return true;
        332
    protected void onResume() (
        super.onResume();
        if (Build. VERSION. SDK INT >= 23) |
            if (periksalzinPenyimpanan()) (
                mengambillistFilePadaFolder();
            mengambilListFilePadaFolder();
```

```
public boolean periksalzinPenyimpanan() {
        if (Build. VERSION. SDK INT >= 23) {
(checkSelfPermission(android.Manifest.permission.MRITE EXTERNAL STORAGE
                    -- PackageManager.PERMISSION GRANTED)
                return true:
            | else |
                ActivityCompat.requestPermissions(this, new
String[] [Manifest.permission.WRITE EXTERNAL STORAGE),
REQUEST CODE STORAGE) ;
                return false:
          alse
            return true:
    90werride.
    public void onRequestPermissionsResult(int requestCode, @NonNull
String[] permissions, @NonNull int[] grantResults) {
        super.onRequestPermissionsResult (requestCode, permissions,
```



Lanjutan class Java MainActivity.java

```
grantResults;
        switch (requestCode) (
            case REQUEST CODE STORAGE:
                if (grantResults[0] --
PackageManager.PERMISSION GRANTED)
                    mengambilListFileFadaFolder();
                breakt
    void mencambilListFilePadaFolder() {
        String path -
Environment.getExternalStorageDirectory().toString() +
"/kominfo.proyekl";
        File directory - new File (path);
        if (directory.exists())
            File[] files = directory.listFiles();
            String[] filenames = new String[files.length];
            String[] dateCreated = new String[files.length]:
            SimpleDateFormat simpleDateFormat - new
SimpleDateFormat("dd MMM YYYY HH:mm:ss");
            ArrayList (Map (String, Object>) itemDataList = new
ArrayList (Map(String, Object>>();
```

```
for (int i = 0; i < files.length; i++) (
                filenames(i) - files(i).getName();
                Date lastModDate - new Date(files[i].lastModified());
                dateCreated[i] = mimpleDateFormat.format(lastModDate);
                Map<String, Object> listItenMap - new HashMap<>();
                listItemNap.put("name", filenames[i]);
                listItemMap.put("date", dateCreated(i));
                itemDataList.add(listItemMap);
            SimpleAdapter simpleAdapter = new SimpleAdapter(this,
itemDataList, android.R.lavout.simple list item 2.
                    new String[]("name", "date"), new
int[] (android, R.id, text1, android, R.id, text2));
            listView.setAdapter(simpleAdapter);
            simpleAdapter.notifyDataSetChanged();
    90verride
    public boolean onCresteOptionsMenu(Menu menu) (
        getMenuInflater().inflate(R.menu.menu, menu);
        return true:
    public boolean onOptionsItemSelected (MenuItem item)
        switch (item.getItemId()) (
            case R.id.action tambah:
                Intent intent = new Intent (this.
```

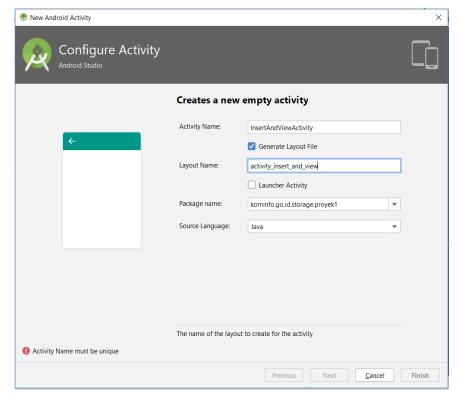


Lanjutan class Java MainActivity.java

```
InsertAndViewActivity.class);
                startActivity(intent);
                break;
       return super.onOptionsItemSelected(item);
   void tampilkanDialogKonfirmasiHapusCatatan(final String filename) {
       new AlertDialog.Builder(this)
                .setTitle("Hapus Catatan ini?")
                .setMessage("Apakah Anda yakin ingin menghapus Catatan
"+filename+"?")
                .setIcon(android.R.drawable.ic dislog slert)
                .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener() {
                    public void onClick(DialogInterface dialog, int
whichButton) (
                        hapusFile (filename);
                .setNegativeButton(android.R.string.no, null).show();
    void hapusFile (String filename) {
       String path =
Environment.getExternalStorageDirectory().toString() +
"/kominfo.proyek1";
       File file = new File(path, filename);
       if (file.exists()) {
            file.delete();
       mengambilListFilePadaFolder();
```

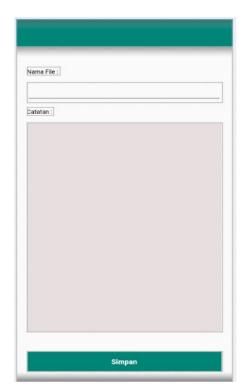


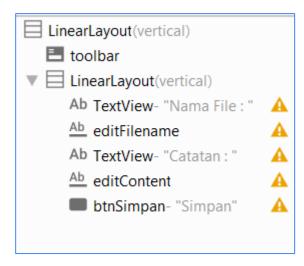
 Tambahkan Activity baru, berikan nama Activity dengan InsertAndViewActivity, serta nama layout activity\_insert\_and\_view





 Buatlah sebuah desain layout, dengan tampilan sebagaimana berikut:







 Sesuaikan kode xml pada layout activity\_insert\_and\_view sebagaimana kode berikut

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout</p>
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
   android: layout height="match parent"
    android:orientation="vertical"
    tools:context=".InsertAndViewActivity">
        <android.support.v7.widget.Toolbar</pre>
            android:id="8+id/toolbar"
            android:layout width="match parent"
            android:layout height="wrap content"
            android:background="?attr/colorPrimary"
            android:minHeight="?attr/actionBarSize"
            android:theme="?attr/actionBarTheme" />
    <LinearLayout</p>
        android:layout width="match parent"
        android:layout_height="match_parent"
        android:orientation="vertical"
        android:padding="20dp">
        <TextView
            android:layout width="wrap content"
            android: layout_height="wrap_content"
            android:layout marginBottom="5dp"
            android:text="Nama File : "
            android:layout marginTop="20dp"
            android:textColor="#000"
            android:textSize="12sp" />
        < EditText
            android:id="%+id/editFilename"
            android:layout width="match parent"
            android: layout height="40dp"
            android:layout marginTop="10dp"
            android:padding="5dp"
            android:singleLine="true"
            android:textSize="14sp" />
```



 Lanjutan kode xml pada layout activity\_insert\_and\_view:

```
<TextView
           android:layout width="wrap content"
           android: layout height="wrap content"
           android:layout_marginTop="10dp"
           android:layout marginBottom="5dp"
           android:text="Catatan : "
           android:textColor="#000"
           android:textSize="12sp" />
       android:id="8+id/editContent"
           android: layout width="match parent"
           android:layout height="match parent"
           android:layout marginTop="10dp"
           android:layout weight="1"
           android:gravity="top|left"
           android:background="#E6DFDF"
           android:singleLine="false"
           android:padding="5dp"
           android:textColor="#000"
           android:textSize="14sp" />
           android:id="8+id/btnSimpan"
           android: layout width="match parent"
           android: layout height="40dp"
           android:layout_marginTop="40dp"
           android:background="@color/colorPrimary"
           android:text="Simpan"
           android:textAllCaps="false"
           android:textColor="#FFF"
           android:textSize="14sp"
           android:textStyle="bold" />
   </LinearLayout>
(/LinearLayout)
```



Pada class java InsertAndViewActivity, tambahkan kode berikut ini :

```
package kominfo.go.id.storage.proyekl;
import android.Manifest;
import android.content.DialogInterface;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.os.Build;
import android.os.Environment;
import android.support.annotation.NonNull;
import android.support.v4.app.ActivityCompat;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
import java.io.OutputStreamWriter;
```

```
public class InsertAndViewActivity extends AppCompatActivity implements
View.OnClickListener {
    public static final int REQUEST CODE STORAGE = 100;
    int eventID = 0:
    EditText edtFileName, edtContent;
    Button btnSimpan;
    boolean isEditable = false:
    String fileName = "";
    String tempCatatan = "";
    @Override
    protected void onCreate(Bundle savedInstanceState)
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity insert and view);
        Toolbar toolbar = findViewBvId(R.id.toolbar);
        setSupportActionBar(toolbar);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayShowHomeEnabled(true);
        edtFileName = findViewById(R.id.editFilename);
        edtContent = findViewBvId(R.id.editContent);
        btnSimpan = findViewBvId(R.id.btnSimpan);
        btnSimpan.setOnClickListener(this);
        Bundle extras = getIntent().getExtras();
        if (extras != null) -
```



```
fileName = extras.getString("filename");
            edtFileName.setText(fileName);
            getSupportActionBar().setTitle("Ubah Catatan");
            getSupportActionBar().setTitle("Tambah Catatan");
       eventID = 1:
       if (Build. VERSION. SDK INT >= 23) {
            if (periksaIzinPenyimpanan())
               bacaFile();
         else {
           bacaFile();
   @Override
   public void onClick(View v) {
       switch (v.getId()) {
            case R.id.btnSimpan:
               eventID = 2;
(!tempCatatan.equals(edtContent.getText().toString())) {
                    if (Build.VERSION.SDK INT >= 23)
                        if (periksaIzinPenyimpanan()) {
                            tampilkanDialogKonfirmasiPenyimpanan();
                    } else {
                        tampilkanDialogKonfirmasiPenyimpanan();
               break:
```



```
public void onRequestPermissionsResult(int requestCode, @NonNull
String[] permissions, @NonNull int[] grantResults)
        super.onRequestPermissionsResult(requestCode, permissions,
grantResults);
        switch (requestCode)
            case REQUEST CODE STORAGE:
                if (grantResults[0] ==
PackageManager. PERMISSION GRANTED) {
                    if (eventID == 1) {
                        bacaFile():
                        tampilkanDialogKonfirmasiPenvimpanan();
                break:
    void bacaFile() {
        String path =
Environment.getExternalStorageDirectory().toString() +
"/kominfo.proyek1";
        File file = new File(path, edtFileName.getText().toString());
        if (file.exists()) {
            StringBuilder text = new StringBuilder();
            trv
                BufferedReader br = new BufferedReader(new
FileReader(file)):
                String line = br.readLine();
```

```
while (line != null)
                    text.append(line);
                    line = br.readLine();
                br.close():
            } catch (IOException e) {
                System.out.println("Error " + e.getMessage());
            tempCatatan = text.toString();
            edtContent.setText(text.toString());
    void buatDanUbah()
        String state = Environment.getExternalStorageState();
        if (!Environment.MEDIA MOUNTED.equals(state)) {
            return;
        String path =
Environment.getExternalStorageDirectory().toString() +
"/kominfo.proyek1";
        File parent = new File(path);
        if (parent.exists()) {
            File file = new File(path,
```



```
edtFileName.getText().toString());
            FileOutputStream outputStream = null;
                file.createNewFile();
                outputStream = new FileOutputStream(file);
                OutputStreamWriter streamWriter = new
OutputStreamWriter(outputStream);
                streamWriter.append(edtContent.getText());
                streamWriter.flush():
                streamWriter.close();
                outputStream.flush();
                outputStream.close();
            } catch (Exception e) {
                e.printStackTrace();
          else
            parent.mkdir();
            File file = new File(path,
edtFileName.getText().toString());
            FileOutputStream outputStream = null;
            try
                file.createNewFile();
                outputStream = new FileOutputStream(file, false);
outputStream.write(edtContent.getText().toString().getBytes());
                outputStream.flush();
                outputStream.close();
            } catch (Exception e) {
                e.printStackTrace();
```

```
onBackPressed();
    void tampilkanDialogKonfirmasiPenyimpanan()
        new AlertDialog.Builder(this)
                .setTitle("Simpan Catatan")
                .setMessage("Apakah Anda yakin ingin menyimpan Catatan
ini?")
                .setIcon(android.R.drawable.ic dialog alert)
                .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener()
                    public void onClick(DialogInterface dialog, int
whichButton)
                        buatDanUbah();
                .setNegativeButton(android.R.string.no, null).show();
    @Override
   public void onBackPressed()
        if (!tempCatatan.equals(edtContent.getText().toString())) {
            tampilkanDialogKonfirmasiPenyimpanan();
```



```
super.onBackPressed();

@Override
public boolean onOptionsItemSelected(MenuItem item) {
    if (item.getItemId() == android.R.id.home) {
        onBackPressed();
    }
    return super.onOptionsItemSelected(item);
}
```



 Jalankan aplikasi tersebut, lalu ujilah fungsionalitasnya baik untuk fungsi tambah, ubah, hapus, dan baca data

Tampilan Awal Aplikasi Catatan Harian



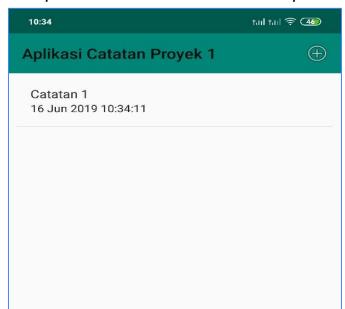
Tampilan Form Tambah Catatan

10:35		ករៅ ករៅ 🤿 🐠
← Ta	mbah Catatan	
Nama File :		
Catatan :		
Catatair.		



 Jalankan aplikasi tersebut, lalu ujilah fungsionalitasnya baik untuk fungsi tambah, ubah, hapus, dan baca data.

Tampilan Saat Catatan telah disimpan



Tampilan Form Ubah Catatan





 Jalankan aplikasi tersebut, lalu ujilah fungsionalitasnya baik untuk fungsi tambah, ubah, hapus, dan baca data.

Tampilan saat Hapus Catatan (ada konfirmasi hapus)





- Penyimpanan file (data persistence) menggunakan internal storage.
- Perhatikan beberapa tampilan berikut ini :



Register

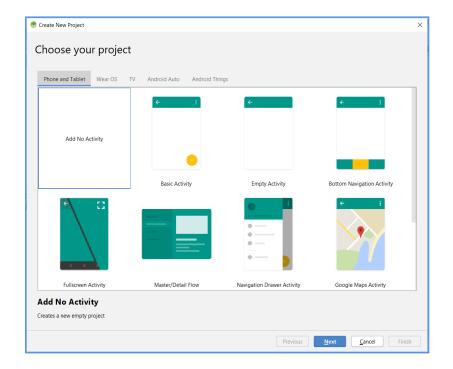
Logie



- Melakukan pengecekan terhadap data user yang tersimpan pada file teks.
- Pertama kali aplikasi dijalankan akan muncul splahscreen,
- Apabila user belum teregistrasi, maka dapat melakukan registrasi pada halaman registrasi,
- Apabila sudah memiliki akun dapat login menggunakan akun tersebut pada halaman login.
- Setelah berhasil login, aplikasi akan masuk ke halaman utama yang memunculkan data user.
- Tersedia juga tombol logout untuk keluar dari aplikasi.

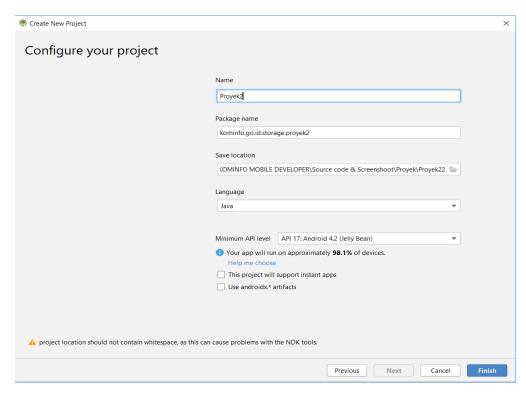


 Buatlah sebuah proyek baru pada android studio, dan berikan nama pada proyek yang akan anda buat (sebagai contoh Proyek2).



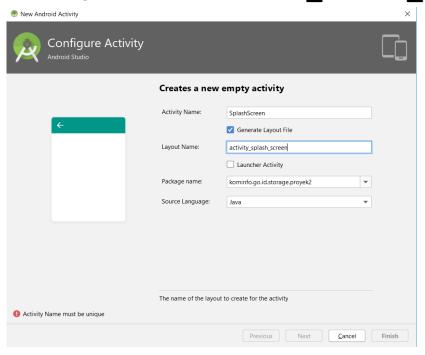


 Tuliskan nama proyek dan package





2. Buatlah sebuah *Activity*, beri nama kelas **SplashScreen.java** beserta file layout dengan nama **activity\_splash\_screen.xml** 



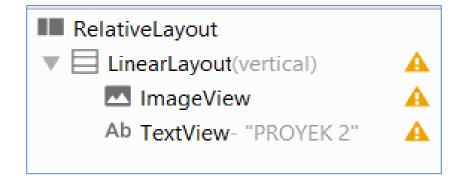


3. Desainlah sebuah tampilan pada **activity\_splash\_screen** sebagaimana berikut ini :



Desain Tampilan SplashScreen





Struktur Layout Komponennya



#### Membuat Halaman Splashscreen

Sesuaikan kode xml pada activity\_splash\_screen.xml sebagaimana berikut :

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLavout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout width="match parent"
    android:layout height="match parent"
    tools:context=".SplashScreen">
    <LinearLayout
        android: layout width="match parent"
        android: layout height="wrap content"
        android:layout centerInParent="true"
        android:orientation="vertical">
        <ImageView</pre>
            android: layout width="match parent"
            android: layout height="wrap content"
            android:adjustViewBounds="true"
            android:fitsSystemWindows="true"
            android:src="@drawable/logo" />
        <TextView
            android:layout width="wrap content"
            android:layout height="wrap content"
            android:layout gravity="center horizontal"
            android:text="PROYEK 2"
            android:textColor="#000"
            android:textSize="30sp" />
    </LinearLayout>
</RelativeLayout>
```



#### Membuat Halaman Splashscreen

5. Pada kelas Java **SplashScreen.java**, tambahkan kode berikut ini :

```
package kominfo.go.id.storage.proyek2;
import android.content.Intent;
import android.os.Handler;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.io.IOException;
public class SplashScreen extends AppCompatActivity (
    public static final String FILENAME = "login";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity splash screen);
        new Handler().postDelayed(new Runnable() {
            @Override
            public void run()
```



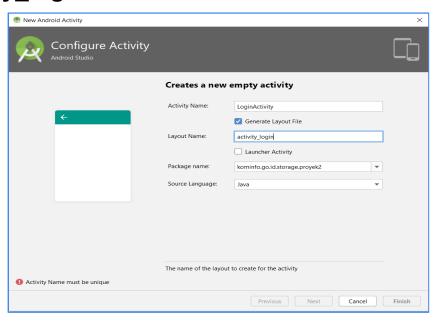
#### Membuat Halaman Splashscreen

5. Pada kelas Java SplashScreen.java, tambahkan kode berikut ini :

```
if (isLogin()) {
                    Intent intent = new Intent(SplashScreen.this,
MainActivity.class);
                    startActivity(intent);
                 } else {
                    Intent intent = new Intent(SplashScreen.this,
LoginActivity.class);
                    startActivity(intent);
                finish();
        3000);
    boolean isLogin() {
        File sdcard = getFilesDir();
        File file = new File(sdcard, FILENAME);
        if (file.exists()) {
            return true:
            return false:
```



1. Buatlah sebuah *Activity*, beri nama kelas **LoginActivity.java** beserta file layout dengan nama **activity\_login.xml**.

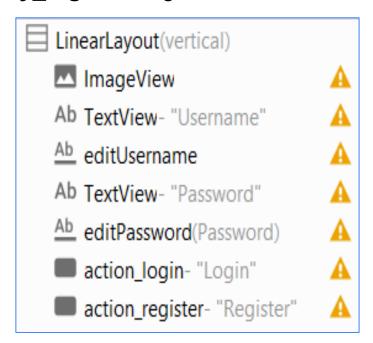


Tambahkan LoginActivity dan Layout activity\_login



2. Desainlah sebuah tampilan pada activity\_login sebagaimana berikut :





Desain Tampilan pada activity login

Struktur Layout pada activity\_main



3. Sesuaikan kode xml pada activity\_login.xml sebagaimana berikut:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android: layout width="match parent"
   android: layout height="match parent"
    android:background="#FFF"
    android:orientation="vertical"
   android:padding="20dp"
   tools:context=".LoginActivity">
    <ImageView</pre>
        android:layout width="200dp"
        android:layout height="wrap content"
        android:layout gravity="center horizontal"
        android:layout_marginTop="40dp"
        android:adjustViewBounds="true"
        android:fitsSystemWindows="true"
        android:src="@drawable/logo" />
    <TextView
        android:layout width="wrap content"
        android:layout height="wrap content"
        android:text="Username"
        android:textColor="#000"
        android:textSize="14sp" />
    <EditText
        android:id="@+id/editUsername"
        android:layout width="match parent"
        android:layout height="40dp"
        android:layout marginTop="5dp"
```



```
android: digits="ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopgrstuvwxyz123
4567890"
        android:inputType="textFilter"
        android:textColor="#000"
        android:textSize="14sp" />
    <TextView
        android:layout width="wrap content"
        android:layout_height="wrap_content"
        android:layout marginTop="10dp"
        android:text="Password"
        android:textColor="#000"
        android:textSize="14sp" />
    <EditText
        android:id="@+id/editPassword"
        android:layout width="match parent"
        android:layout_height="40dp"
        android:layout marginTop="5dp"
        android:inputType="textPassword"
        android:textColor="#000"
        android:textSize="14sp" />
```



```
<Button
        android:id="0+id/action login"
        android:layout width="match parent"
        android:layout height="40dp"
        android:layout marginTop="20dp"
        android:background="@color/colorPrimary"
        android:text="Login"
        android:textColor="#FFF"
        android:textSize="16sp"
        android:textStyle="bold"
        1>
   <Button
        android:id="@+id/action register"
        android:layout width="match parent"
        android:layout height="40dp"
        android:layout marginTop="20dp"
        android:background="@color/colorPrimary"
        android:text="Register"
        android:textColor="#FFF"
        android:textSize="16sp"
        android:textStyle="bold"
</LinearLayout>
```



4. Pada kelas Java LoginActivity.java, tambahkan kode berikut ini :

```
package kominfo.go.id.storage.proyek2;
import android.content.Intent;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileOutputStream;
import java.io.FileReader;
import java.io.IOException;
public class LoginActivity extends AppCompatActivity {
    public static final String FILENAME = "login";
    EditText editUsername, editPassword;
    Button btnLogin, btnRegister;
    @Override
    protected void onCreate (Bundle savedInstanceState) (
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity login);
        editUsername = findViewById(R.id.editUsername);
        editPassword = findViewById(R.id.editPassword);
        btnLogin = findViewById(R.id.action login);
        btnRegister = findViewById(R.id.action register);
```



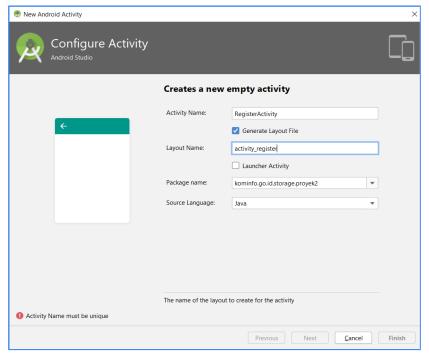
```
btnLogin.setOnClickListener(new View.OnClickListener()
            @Override
            public void onClick(View v) {
                login();
        1);
        btnRegister.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent (LoginActivity.this,
RegisterActivity.class);
                startActivity(intent);
        });
    void simpanFileLogin() {
        String isiFile = editUsername.getText().toString() + ";" +
editPassword.getText().toString();
        File file = new File(getFilesDir(), FILENAME);
        FileOutputStream outputStream = null;
        try {
            file.createNewFile();
            outputStream = new FileOutputStream(file, false);
            outputStream.write(isiFile.getBytes());
            outputStream.flush();
            outputStream.close();
        } catch (Exception e) {
            e.printStackTrace();
        Toast.makeText(this, "Login Berhasil",
Toast. LENGTH SHORT) . show();
        onBackPressed();
```



```
void login() {
        File sdcard = getFilesDir();
        File file = new File(sdcard,
editUsername.getText().toString());
        if (file.exists()) {
            StringBuilder text = new StringBuilder();
            try (
                BufferedReader br =
                        new BufferedReader(new FileReader(file));
                String line = br.readLine();
                while (line != null)
                    text.append(line);
                    line = br.readLine();
                br.close();
            } catch (IOException e) {
                System.out.println("Error " + e.getMessage());
            String data = text.toString();
            String[] dataUser = data.split(";");
            if (dataUser[1].equals(editPassword.getText().toString()))
                simpanFileLogin();
                Intent intent = new Intent(this, MainActivity.class);
                startActivity(intent);
                finish();
                Toast.makeText(this, "Password Tidak Sesuai",
Toast. LENGTH SHORT) . show();
        } else {
            Toast.makeText(this, "User Tidak Ditemukan",
Toast. LENGTH SHORT) . show();
```

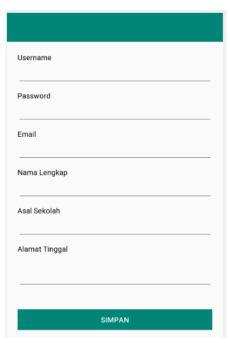


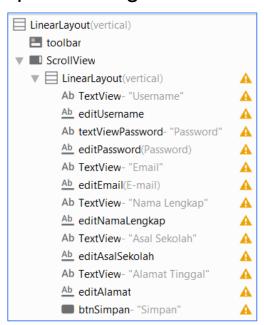
1. Selanjutnya, tambahkan *Activity* baru, berikan nama *Activity* dengan RegisterActivity, serta nama layout activity\_register.





2. Buatlah sebuah desain layout, dengan tampilan sebagaimana berikut :







```
<?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:layout width="match parent"
    android:layout height="match parent"
    android:orientation="vertical"
    tools:context=".RegisterActivity">
    <android.support.v7.widget.Toolbar</pre>
        android:id="@+id/toolbar"
        android:layout width="match parent"
        android:layout height="wrap content"
        android:background="?attr/colorPrimary"
        android:minHeight="?attr/actionBarSize"
        android:theme="?attr/actionBarTheme" />
    <ScrollView
        android:layout width="match parent"
        android:layout height="match parent">
        <LinearLayout
            android:layout width="match parent"
            android:layout height="match parent"
            android:orientation="vertical"
            android:padding="20dp">
            <TextView
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:text="Username"
                android:textColor="#000"
                android:textSize="14sp" />
```



```
<?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:layout width="match parent"
    android:layout height="match parent"
    android:orientation="vertical"
    tools:context=".RegisterActivity">
    <android.support.v7.widget.Toolbar</pre>
        android:id="@+id/toolbar"
        android:layout width="match parent"
        android:layout height="wrap content"
        android:background="?attr/colorPrimary"
        android:minHeight="?attr/actionBarSize"
        android:theme="?attr/actionBarTheme" />
    <ScrollView
        android:layout width="match parent"
        android:layout height="match parent">
        <LinearLayout
            android:layout width="match parent"
            android:layout height="match parent"
            android:orientation="vertical"
            android:padding="20dp">
            <TextView
                android:layout width="wrap content"
                android:layout height="wrap content"
                android:text="Username"
                android:textColor="#000"
                android:textSize="14sp" />
```



```
android:layout height="40dp"
    android:layout marginTop="5dp"
    android:inputType="textPassword"
    android:textColor="#000"
    android:textSize="14sp" />
<TextView
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="10dp"
    android:text="Email"
    android:textColor="#000"
    android:textSize="14sp" />
<EditText
    android:id="@+id/editEmail"
    android:layout width="match parent"
    android:layout height="40dp"
    android:layout marginTop="5dp"
    android:inputType="textEmailAddress"
    android:textColor="#000"
    android:textSize="14sp" />
<TextView
    android:layout width="wrap content"
    android:layout height="wrap content"
    android:layout marginTop="10dp"
    android:text="Nama Lengkap"
    android:textColor="#000"
    android:textSize="14sp" />
```



```
<EditText
   android:id="@+id/editNamaLengkap"
   android:layout width="match parent"
   android:layout height="40dp"
   android:layout marginTop="5dp"
   android:textColor="#000"
   android:textSize="14sp" />
<TextView
   android:layout width="wrap content"
   android:layout height="wrap content"
   android:layout marginTop="10dp"
   android:text="Asal Sekolah"
   android:textColor="#000"
   android:textSize="14sp" />
<EditText
   android:id="@+id/editAsalSekolah"
   android:layout width="match parent"
   android:layout height="40dp"
   android:layout marginTop="5dp"
   android:textColor="#000"
   android:textSize="14sp" />
<TextView
   android:layout width="wrap content"
```



```
android:layout height="wrap content"
                android:layout marginTop="10dp"
                android:text="Alamat Tinggal"
                android:textColor="#000"
                android:textSize="14sp" />
            <EditText
                android:id="@+id/editAlamat"
                android:layout width="match parent"
                android:layout height="wrap content"
                android:layout marginTop="5dp"
                android:gravity="top|left"
                android:lines="3"
                android:padding="5dp"
                android:singleLine="false"
                android:textColor="#000"
                android:textSize="14sp" />
            <Button
                android:id="@+id/btnSimpan"
                android:layout width="match parent"
                android:layout height="40dp"
                android:layout marginTop="40dp"
                android:background="@color/colorPrimary"
                android:text="Simpan"
                android:textColor="#FFF"
                android:textSize="14sp" />
       </LinearLayout>
   </ScrollView>
</LinearLayout>
```



4. Pada kelas Java RegisterActivity.java, tambahkan kode berikut ini:

```
package kominfo.go.id.storage.proyek2;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import java.io.File;
import java.io.FileOutputStream;
public class RegisterActivity extends AppCompatActivity {
    EditText editUsername, editPassword, editEmail, editNamaLengkap,
editAsalSekolah, editAlamat;
    Button btnSimpan;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity register);
        Toolbar toolbar = findViewBvId(R.id.toolbar);
        setSupportActionBar(toolbar);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setDisplayShowHomeEnabled(true);
        getSupportActionBar().setTitle("Register");
```



4. Pada kelas Java RegisterActivity.java, tambahkan kode berikut ini:

```
editUsername = findViewById(R.id.editUsername);
        editPassword = findViewById(R.id.editPassword);
        editEmail = findViewById(R.id.editEmail);
        editNamaLengkap = findViewById(R.id.editNamaLengkap);
        editAsalSekolah = findViewById(R.id.editAsalSekolah);
        editAlamat = findViewById(R.id.editAlamat);
        btnSimpan = findViewById(R.id.btnSimpan);
        btnSimpan.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                if (isValidation()) {
                    simpanFileData();
                else
                    Toast.makeText(RegisterActivity.this, "Mohon
Lengkapi Seluruh Data", Toast.LENGTH SHORT).show();
    boolean isValidation()
        if (editUsername.getText().toString().equals("")
```



4. Pada kelas Java

RegisterActivity. java,
tambahkan kode berikut ini:

```
editPassword.getText().toString().equals("") ||
editEmail.getText().toString().equals("") ||
editNamaLengkap.getText().toString().eguals("") ||
editAsalSekolah.getText().toString().equals("") ||
editAlamat.getText().toString().equals("")) {
            return false:
        else (
            return true;
    void simpanFileData() (
        String isiFile = editUsername.getText().toString() + ";" +
editPassword.getText().toString() + ";" +
editEmail.getText().toString() + ";" +
editNamaLengkap.getText().toString() + ";" +
editAsalSekolah.getText().toString() + ";" +
editAlamat.getText().toString();
        File file = new File(getFilesDir(),
editUsername.getText().toString());
        FileOutputStream outputStream = null;
        try
            file.createNewFile();
            outputStream = new FileOutputStream(file, false);
            outputStream.write(isiFile.getBytes());
            outputStream.flush();
            outputStream.close();
        } catch (Exception e) {
            e.printStackTrace();
        Toast.makeText(this, "Register Berhasil",
Toast. LENGTH SHORT) . show();
        onBackPressed();
```



```
package kominfo.go.id.storage.proyek2;
import android.content.DialogInterface;
import android.content.Intent;
import android.support.v7.app.AlertDialog;
import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.support.v7.widget.Toolbar;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
import android.widget.Toast;
import java.io.BufferedReader;
import java.io.File;
import java.io.FileReader;
import java.io.IOException;
public class MainActivity extends AppCompatActivity
    EditText editUsername, editPassword, editEmail, editNamaLengkap,
editAsalSekolah, editAlamat;
    Button btnSimpan;
    TextView textViewPassword;
    public static final String FILENAME = "login";
```



```
@Override
protected void onCreate (Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity register);
    Toolbar toolbar = findViewById(R.id.toolbar);
    setSupportActionBar(toolbar);
    getSupportActionBar().setTitle("Halaman Depan");
    editUsername = findViewById(R.id.editUsername);
    textViewPassword = findViewById(R.id.textViewPassword);
    editPassword = findViewById(R.id.editPassword);
    editEmail = findViewById(R.id.editEmail);
    editNamaLengkap = findViewById(R.id.editNamaLengkap);
    editAsalSekolah = findViewById(R.id.editAsalSekolah);
    editAlamat = findViewById(R.id.editAlamat);
    btnSimpan = findViewById(R.id.btnSimpan);
    btnSimpan.setVisibility(View.GONE);
    editUsername.setEnabled(false);
    editPassword.setVisibility(View.GONE);
    textViewPassword.setVisibility(View.GONE);
    editEmail.setEnabled(false);
    editNamaLengkap.setEnabled(false);
    editAsalSekolah.setEnabled(false):
```



```
editAlamat.setEnabled(false);
    bacaFileLogin();
void bacaFileLogin() {
    File sdcard = getFilesDir();
    File file = new File(sdcard, FILENAME);
    if (file.exists()) {
        StringBuilder text = new StringBuilder();
            BufferedReader br =
                    new BufferedReader(new FileReader(file));
            String line = br.readLine();
            while (line != null)
                text.append(line);
                line = br.readLine();
            br.close();
        } catch (IOException e) {
            System.out.println("Error " + e.getMessage());
        String data = text.toString();
        String[] dataUser = data.split(";");
        bacaDataUser(dataUser[0]);
```



```
void bacaDataUser(String fileName) {
    File sdcard = getFilesDir();
    File file = new File(sdcard, fileName);
    if (file.exists()) {
        StringBuilder text = new StringBuilder();
        try
            BufferedReader br =
                    new BufferedReader(new FileReader(file));
            String line = br.readLine();
            while (line != null) {
                text.append(line);
                line = br.readLine();
            br.close();
        } catch (IOException e)
            System.out.println("Error " + e.getMessage());
        String data = text.toString();
        String[] dataUser = data.split(";");
        editUsername.setText(dataUser[0]);
        editEmail.setText(dataUser[2]);
        editNamaLengkap.setText(dataUser[3]);
        editAsalSekolah.setText(dataUser[4]);
        editAlamat.setText(dataUser[5]);
     else (
        Toast.makeText(this, "User Tidak Ditemukan",
```



```
Toast.LENGTH SHORT).show();
    @Override
    public boolean onCreateOptionsMenu(Menu menu)
        getMenuInflater().inflate(R.menu.menu, menu);
        return true;
    @Override
    public boolean onOptionsItemSelected(MenuItem item) {
        switch (item.getItemId()) {
            case R.id.action logout:
                tampilkanDialogKonfirmasiLogout();
                break:
        return super.onOptionsItemSelected(item);
    void hapusFile()
        File file = new File(getFilesDir(), FILENAME);
        if (file.exists()) {
            file.delete();
```



```
void tampilkanDialogKonfirmasiLogout() {
        new AlertDialog.Builder(this)
                .setTitle("Logout")
                .setMessage("Apakah Anda yakin ingin Logout?")
                .setIcon(android.R.drawable.ic dialog alert)
                .setPositiveButton(android.R.string.yes, new
DialogInterface.OnClickListener() {
                    public void onClick(DialogInterface dialog, int
whichButton) {
                        hapusFile();
                        Intent intent = new Intent (MainActivity.this,
LoginActivity.class):
                        startActivity(intent);
                        finish():
                .setNegativeButton(android.R.string.no, null).show();
```



# Menguji Aplikasi Proyek 2

- 1. Jalankan aplikasi, lalu
- 2. Uji fungsionalitas registrasi, login dan logout.



#### Kesimpulan

- Proyek1, anda membuat aplikasi catatan harian dimana proses penyimpanannya menggunakan external storage.
- Proyek2, anda membuat aplikasi validasi login, dimana data user disimpan pada internal storage.
- Data persistence dapat digunakan untuk menyimpan data apapun sesuai kebutuhan dalam bentuk file. Data ini bersifat tetap dan tidak akan hilang selama tidak dihapus.



#### Tim Penyusun

- · Alif Akbar Fitrawan, S.Pd, M. Kom (Politeknik Negeri Banyuwangi);
- Anwar, S.Si, MCs. (Politeknik Negeri Lhokseumawe);
- Eddo Fajar Nugroho (BPPTIK Cikarang);
- Eddy Tungadi, S.T., M.T. (Politeknik Negeri Ujung Pandang);
- Fitri Wibowo (Politeknik Negeri Pontianak);
- Ghifari Munawar (Politeknik Negeri Bandung);
- Hetty Meileni, S.Kom., M.T. (Politeknik Negeri Sriwijaya) ;
- I Wayan Candra Winetra, S.Kom., M.Kom (Politeknik Negeri Bali);
- Irkham Huda (Vokasi UGM);
- Josseano Amakora Koli Parera, S.Kom., M.T. (Politeknik Negeri Ambon);
- I Komang Sugiartha, S.Kom., MMSI (Universitas Gunadarma);
- Lucia Sri Istiyowati, M.Kom (Institut Perbanas);
- · Maksy Sendiang, ST, MIT (Politeknik Negeri Manado);
- Medi Noviana (Universitas Gunadarma) ;
- Muhammad Nashrullah (Politeknik Negeri Batam);
- Nat. I Made Wiryana, S.Si., S.Kom., M.Sc. (Universitas Gunadarma);
- Rika Idmayanti, ST, M.Kom (Politeknik Negeri Padang);
- Rizky Yuniar Hakkun (Politeknik Elektronik Negeri Surabaya);
- · Robinson A.Wadu,ST.,MT (Politeknik Negeri Kupang);
- · Roslina. M.IT (Politeknik Negeri Medan);
- Sukamto, SKom., MT. (Politeknik Negeri Semarang);
- · Syamsi Dwi Cahya, M.Kom. (Politeknik Negeri Jakarta);
- Syamsul Arifin, S.Kom, M.Cs (Politeknik Negeri Jember);
   Jusmanudin (Universitas Gunadarma);

DTS 2Q2



# **#JADIJAGOANDIGITAL** TERIMA KASIH

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