

**LAPORAN WORKSHOP
MOBILE APPLICATION FRAMEWORK**



Oleh :

Dimas Pratama Putra

E41211234

Golongan C

**PROGRAM STUDI TEKNIK INFORMATIKA
JURUSAN TEKNOLOGI INFORMASI
POLITEKNIK NEGERI JEMBER**

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ACARA 29 : SHARED PREFERENCE

Shared Preferences

Pada Android, terdapat beberapa opsi penyimpanan (storage). Salah satunya adalah Shared Preferences. Karakter dari penyimpanan (storage) ini adalah key-value storage, sehingga hanya bisa menyimpan data dengan tipe sederhana seperti String, Double atau float, Integer, Boolean, dan Long. Shared Preferences menyimpan data melalui penggunaan pasangan nama / nilai. Misalnya, tentukan nama untuk data yang ingin disimpan, dan kemudian keduanya beserta nilainya akan disimpan secara otomatis ke dalam file XML. Oleh karena itu, penyimpanan ini tergolong sangat minimalis dan sangat cocok untuk penyimpanan data yang sedikit.

ACARA 30 - 32 : IMPLEMENTASI SHARED PREFERENCE PADA ANDROID

Prosedur Kerja

1. Buat class baru dengan nama Preferences dan masukkan syntax berikut

```
package com.example.sharedpreferences;

import ...

11 usages
public class Preferences {

    2 usages
    static final String KEY_USER_TEREGISTER = "user", KEY_PASS_TEREGISTER = "pass";
    3 usages
    static final String KEY_USERNAME_SEDANG_LOGIN = "Username_logged_in";
    3 usages
    static final String KEY_STATUS_SEDANG_LOGIN = "Status_logged_in";

    9 usages
    private static SharedPreferences getSharedPreferences(Context context){
        return PreferenceManager.getDefaultSharedPreferences(context);
    }

    1 usage
    public static void setRegisteredUser(Context context, String username){
        SharedPreferences.Editor editor = getSharedPreferences(context).edit();
        editor.putString(KEY_USER_TEREGISTER, username);
        editor.apply();
    }

    3 usages
    public static String getRegisteredUser(Context context){
        return getSharedPreferences(context).getString(KEY_USER_TEREGISTER, "");
    }

    1 usage
    public static void setRegisteredPass(Context context, String password){
        SharedPreferences.Editor editor = getSharedPreferences(context).edit();
        editor.putString(KEY_PASS_TEREGISTER, password);
        editor.apply();
    }

    1 usage
    public static String getRegisteredPass(Context context){
        return getSharedPreferences(context).getString(KEY_PASS_TEREGISTER, "");
    }

    1 usage
    public static void setLoggedInUser(Context context, String username){
        SharedPreferences.Editor editor = getSharedPreferences(context).edit();
        editor.putString(KEY_USERNAME_SEDANG_LOGIN, username);
        editor.apply();
    }
}
```

```

1 usage
public static String getLoggedInUser(Context context){
    return getSharedPreferences(context).getString(KEY_USERNAME_SEDANG_LOGIN, "");
}

1 usage
public static void setLoggedInStatus(Context context, boolean status){
    SharedPreferences.Editor editor = getSharedPreferences(context).edit();
    editor.putBoolean(KEY_STATUS_SEDANG_LOGIN, status);
    editor.apply();
}

1 usage
public static boolean getLoggedInStatus(Context context){
    return getSharedPreferences(context).getBoolean(KEY_STATUS_SEDANG_LOGIN, false);
}

1 usage
public static void clearLoggedInUser (Context context){
    SharedPreferences.Editor editor = getSharedPreferences(context).edit();
    editor.remove(KEY_USERNAME_SEDANG_LOGIN);
    editor.remove(KEY_STATUS_SEDANG_LOGIN);
    editor.apply();
}

```

2. Tambahkan syntax berikut pada class MainActivity

```

public class MainActivity extends AppCompatActivity {

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

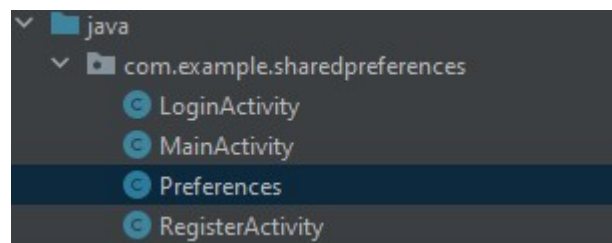
        TextView nama = findViewById(R.id.tv_namaMain);

        nama.setText(Preferences.getLoggedInUser(getBaseContext()));

        findViewById(R.id.button_logoutMain).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Preferences.clearLoggedInUser(getBaseContext());
                startActivity(new Intent(getBaseContext(), LoginActivity.class));
                finish();
            }
        });
    }
}

```

3. Buat activity baru dengan nama LoginActivity dan RegisterActivity



4. Dan otomatis akan membuat file layout activity_login.xml dan activity_register.xml

5. Pada activity_login.xml masukkan syntax seperti 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:gravity="center"
    android:orientation="vertical"
    android:padding="18dp"
    tools:context=".LoginActivity">

    <EditText
        android:id="@+id/et_emailSignin"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:imeOptions="actionNext"
        android:inputType="textEmailAddress"
        android:maxLines="1"
        android:minHeight="48dp"
        android:singleLine="true" />

    <EditText
        android:id="@+id/et_passwordSignin"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginBottom="30dp"
        android:hint="Password"
        android:imeActionId="0"
        android:imeActionLabel="Sign In"
        android:imeOptions="actionDone"
        android:inputType="textPassword"
        android:maxLines="1"
        android:minHeight="48dp"
        android:singleLine="true" />

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <Button
            android:id="@+id/button_signupSignin"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:backgroundTint="#538AC5"
            android:text="Register" />

        <Button
            android:id="@+id/button_signinSignin"
            android:layout_width="0dp"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:backgroundTint="#538AC5"
            android:text="Login" />

    </LinearLayout>

</LinearLayout>
```

6. Pada LoginActivity.java masukkan syntax berikut

```
package com.example.sharedpreferences;

import ...

3 usages
public class LoginActivity extends AppCompatActivity {

    7 usages
    private EditText mViewUser, mViewPassword;

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

        mViewUser=findViewById(R.id.et_emailSignin);
        mViewPassword =findViewById(R.id.et_passwordSignin);

        mViewPassword.setOnEditorActionListener(new TextView.OnEditorActionListener() {
            @Override
            public boolean onEditorAction(TextView v, int actionId, KeyEvent event) {
                if (actionId == EditorInfo.IME_ACTION_DONE || actionId == EditorInfo.IME_NULL) {
                    razia();
                    return true;
                }
                return false;
            }
        });

        findViewById(R.id.button_signinSignin).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) { razia(); }
        });

        findViewById(R.id.button_signupSignin).setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                startActivity(new Intent(getApplicationContext(), RegisterActivity.class));
            }
        });
    }

    @Override
    protected void onStart() {
        super.onStart();
        if (Preferences.getLoggedInStatus(getApplicationContext())){
            startActivity(new Intent(getApplicationContext(), MainActivity.class));
            finish();
        }
    }

    private void razia(){

        mViewUser.setError(null);
        mViewPassword.setError(null);
        View fokus = null;
        boolean cancel = false;

        String user = mViewUser.getText().toString();
        String password = mViewPassword.getText().toString();

        if (TextUtils.isEmpty(user)){
            mViewUser.setError("Data perlu diisi");
            fokus = mViewUser;
            cancel = true;
        }else if(!cekUser(user)){
            mViewUser.setError("Username tidak valid");
            fokus = mViewUser;
            cancel = true;
        }
    }
}
```

```

        if (TextUtils.isEmpty(password)){
            mViewPassword.setError("Data perlu diisi");
            fokus = mViewPassword;
            cancel = true;
        }else if (!cekPassword(password)){
            mViewPassword.setError("Password tidak valid");
            fokus = mViewPassword;
            cancel = true;
        }

        if (cancel) fokus.requestFocus();
        else masuk();
    }

    1 usage
    private void masuk(){
        Preferences.setLoggedInUser(getBaseContext(), Preferences.getRegisteredUser(getBaseContext()));
        Preferences.setLoggedInStatus(getBaseContext(), status: true);
        startActivity(new Intent(getBaseContext(), MainActivity.class)); finish();
    }

    1 usage
    private boolean cekPassword(String password){
        return password.equals(Preferences.getRegisteredPass(getBaseContext()));
    }

    1 usage
    private boolean cekUser(String user){
        return user.equals(Preferences.getRegisteredUser(getBaseContext()));
    }
}

```

7. Selanjutnya membuat tampilan layout pada form register pada register_activity.xml. Masukkan syntax 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:gravity="center"
    android:padding="18dp"
    android:orientation="vertical"
    tools:context=".RegisterActivity">

    <EditText
        android:id="@+id/et_emailSignup"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Username"
        android:inputType="textEmailAddress"
        android:maxLines="1"
        android:singleLine="true"
        android:imeOptions="actionNext"/>

```



```

<EditText
    android:id="@+id/et_passwordSignup"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Password"
    android:inputType="textPassword"
    android:maxLines="1"
    android:singleLine="true"
    android:imeOptions="actionNext"/>

<EditText
    android:id="@+id/et_passwordSignup2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_marginBottom="30dp"
    android:hint="Confirm Password"
    android:inputType="textPassword"
    android:maxLines="1"
    android:singleLine="true"
    android:imeActionLabel="Register"
    android:imeOptions="actionDone"/>

<Button
    android:id="@+id/button_signupSignup"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#538AC5"
    android:text="Sign Up" />

</LinearLayout>

```

8. Pada RegisterActivity.java dibiarkan default tanpa adanya perubahan

```

public class RegisterActivity extends AppCompatActivity {

    7 usages
    private EditText mViewUser, mViewPassword, mViewRepassword;

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

        mViewUser = findViewById(R.id.et_emailSignup);
        mViewPassword = findViewById(R.id.et_passwordSignup);
        mViewRepassword = findViewById(R.id.et_passwordSignup2);

        mViewRepassword.setOnEditorActionListener(new TextView.OnEditorActionListener() {
            @Override
            public boolean onEditorAction(TextView v, int actionId, KeyEvent event) {
                if (actionId == EditorInfo.IME_ACTION_DONE || actionId == EditorInfo.IME_NULL) {
                    razia();
                    return true;
                }
                return false;
            }
        });
    }
}

```

9. Terakhir, jangan lupa untuk mengubah code pada file AndroidManifest.xml untuk mendeklarasikan activity baru yang telah dibuat sebelumnya, dengan LoginActivity sebagai activity utamanya. Berikut code dari AndroidManifest.xml.

```
<application
    android:allowBackup="true"
    android:dataExtractionRules="@xml/data_extraction_rules"
    android:fullBackupContent="@xml/backup_rules"
    android:icon="@mipmap/ic_launcher"
    android:label="SharedPreferences"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:supportsRtl="true"
    android:theme="@style/Theme.SharedPreferences"
    tools:targetApi="31">
    <activity
        android:name=".RegisterActivity"
        android:exported="false" />
    <activity
        android:name=".MainActivity"
        android:exported="false" />
    <activity
        android:name=".LoginActivity"
        android:exported="true">
        <intent-filter>
            <action android:name="android.intent.action.MAIN" />

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

10. Build dan Run aplikasinya, maka akan muncul tampilan seperti berikut

