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ANDROID DATABASE TUTORIAL

Storage Options

- Android provides several options for you to save persistent application data.

Your data storage options are the following:

1. **Shared Preferences** : Store private primitive data in key-value pairs.
2. **Internal Storage** : Store private data on the device memory.
3. **External Storage** : Store public data on the shared external storage.
4. **SQLite Databases** : Store structured data in a private database.
5. **Network Connection** : Store data on the web with your own network server.

Using SharedPreferences

- Preferences are typically name value pairs. They can be stored as “Shared Preferences” across various activities in an application (note currently it cannot be shared across processes).
- The context object lets you retrieve

Retrival

```
SharedPreferences myPrefs = this.getSharedPreferences("myPrefs",  
MODE_WORLD_READABLE);
```

```
String prefName = myPrefs.getString("Name", "nothing");
```

```
String wallPaper = myPrefs.getString("Desig", null);
```

Introduction

- 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.
- Here we will see how to create and manage database using SQLite Database.

Things to consider when dealing with SQLite:

1. Data type integrity is not maintained in SQLite, you can put a value of a certain data type in a column of another datatype (put string in an integer and vice versa).
2. Referential integrity is not maintained in SQLite, there is no FOREIGN KEY constraints or JOIN statements.
3. SQLite Full Unicode support is optional and not installed by default.

Database Structure

Database Name: **demoDB**

Table Name: **tblemployees**

Field Name	Type
<u>empid</u>	Integer (Primary Key)
empname	Text

Creating Database and Tables

- By default, SQLite on Android does not have a management interface or an application to create and manage databases from, so we're going to create the database ourselves by code.

```
static final String dbName="demoDB";
```

```
static final String employeeTable="Employees";
```

```
static final String colID="EmpId";
```

```
static final String colName="EmpName";
```

Demo – Database and Table

```
private SQLiteDatabase db;
```

```
db = openOrCreateDatabase("demodb",  
    SQLiteDatabase.CREATE_IF_NECESSARY, null);
```

```
db.setLocale(Locale.getDefault());
```

```
db.setLockingEnabled(true);
```

```
db.setVersion(1);
```

```
db.execSQL("CREATE TABLE employee(  
empid INTEGER PRIMARY KEY, empname TEXT)");
```

Insert Operation

Syntax

```
insert(String tableName, String nullColumnHack,  
ContentValues values);
```

```
//Get Values from control
```

```
ContentValues cv = new ContentValues();  
cv.put("empid",txteno.getText().toString());  
cv.put("empname",txtenm.getText().toString());
```

```
long count = db.insert("employee", null, cv);
```


Update Operation

Syntax

```
update(String tableName, ContentValues values,  
String whereClause, String[]whereArgs);
```

```
//Get Values from control
```

```
ContentValues cv = new ContentValues();  
cv.put("empname",txtenm.getText().toString());
```

```
long count = db.update("employee", cv,"empid=?",  
new String[] {txteno.getText().toString()} );
```

Delete Operation

Syntax

```
delete(String tableName, String whereClause,  
String[] whereArgs);
```

```
//Get Values from control
```

```
long count = db.delete("employee","empid=?", new  
String[] {txteno.getText().toString()} );
```

Select Operation

Syntax

```
query(String tableName, String[] columns, String selection,  
String[] selectionArgs, String groupBy, String having, String  
orderBy);
```

```
//Get Values from control
```

```
Cursor c = db.query("employee", null, null, null, null, null, null);  
c.moveToFirst();  
while(c.isAfterLast())  
{Toast.makeText(getApplicationContext(), "*" + c.getString(0) + "|" +  
c.getString(1), Toast.LENGTH_SHORT).show();  
c.moveToNext();}
```

Thank You



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