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BDiOS

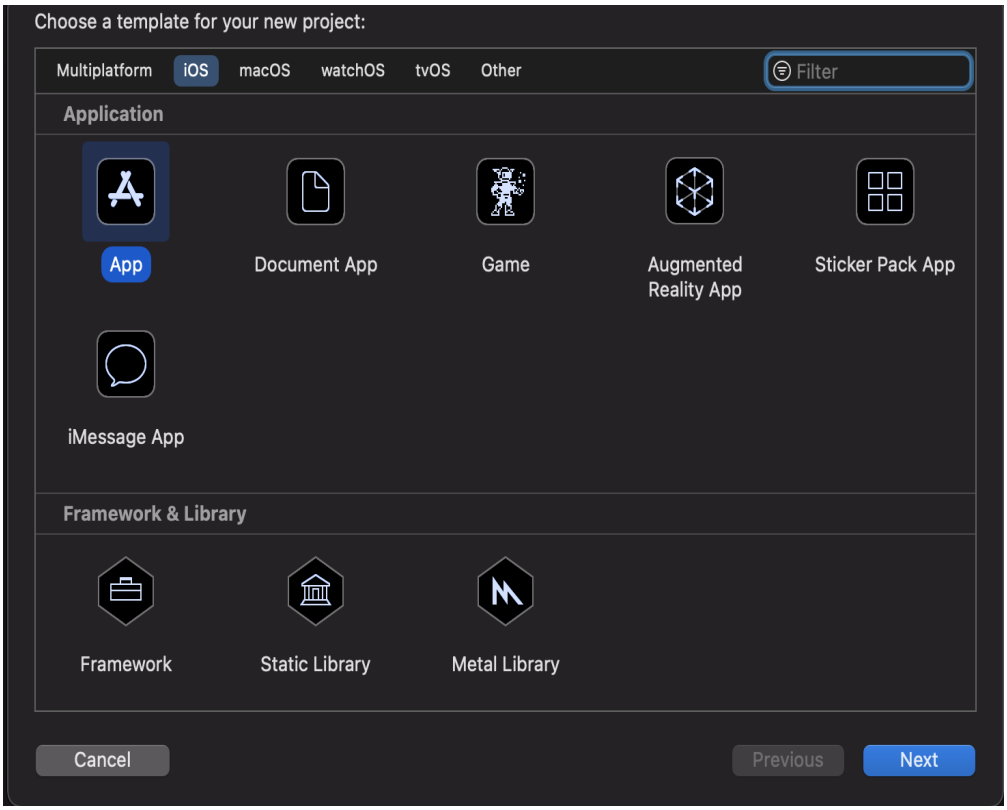
AppNote with Sqlite Swift

Créer un nouveau projet

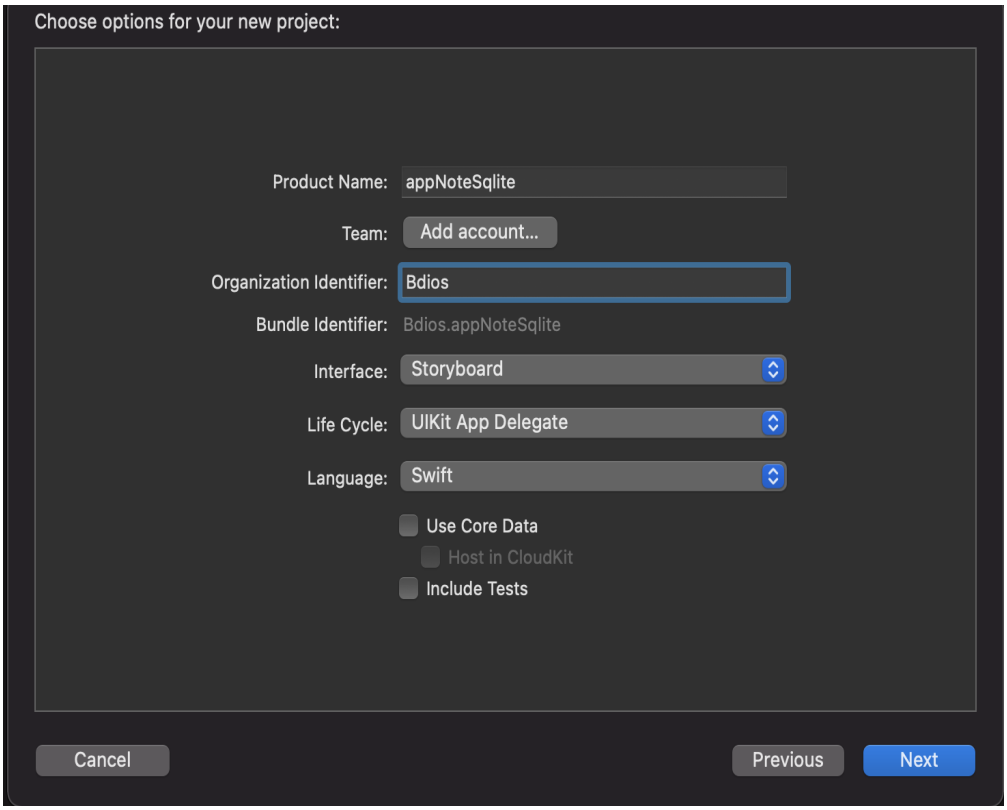
##AppNoteSqlite

Mise en place

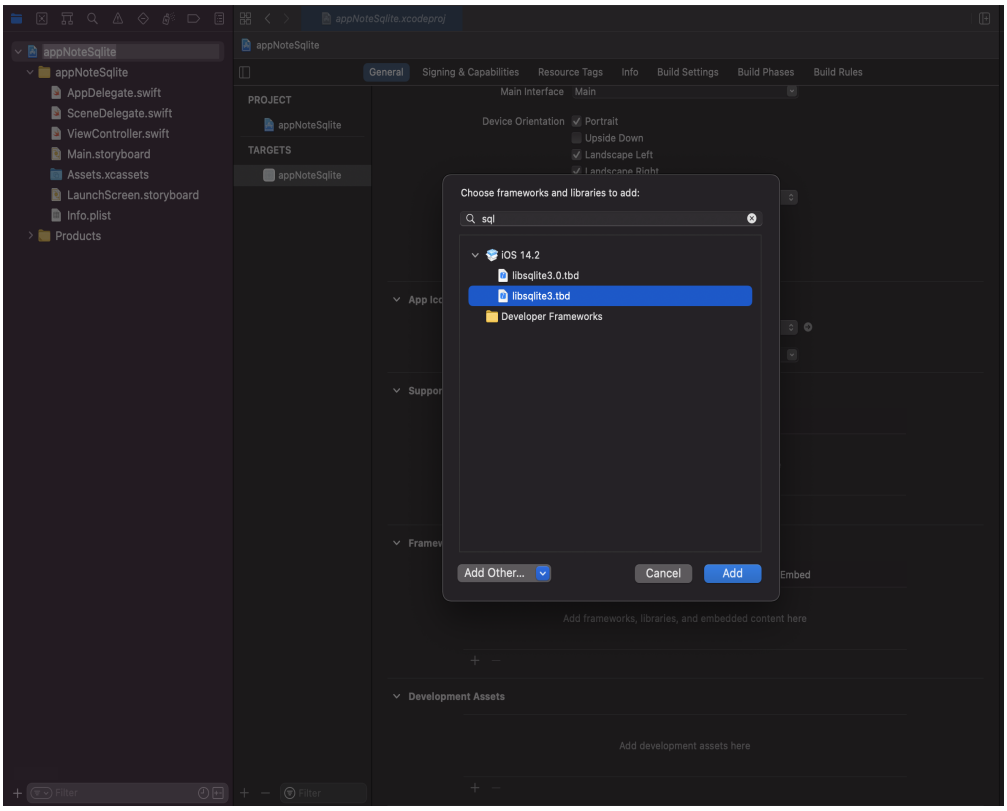
Selection du template



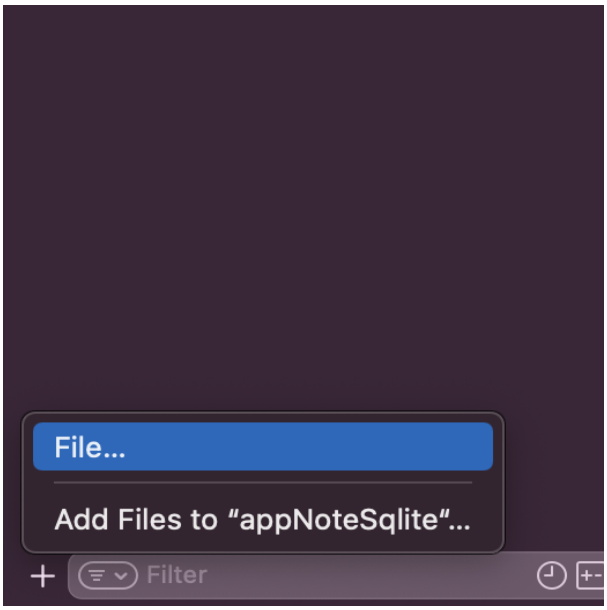
Option du projet

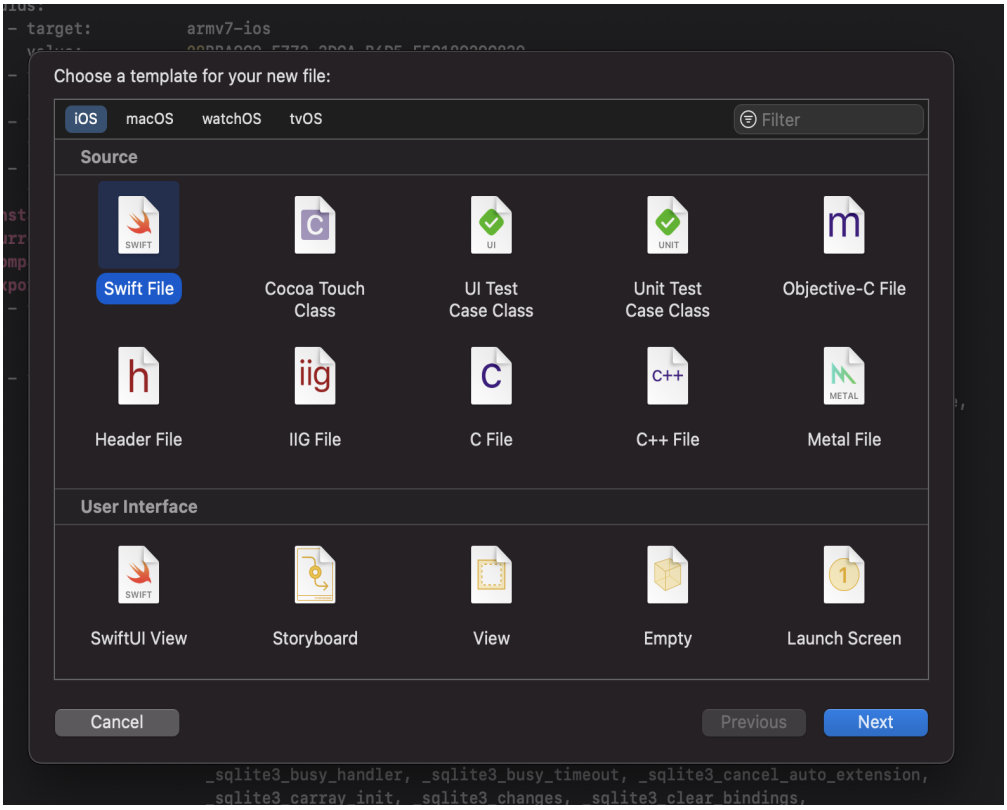


Ajout de Sqlite

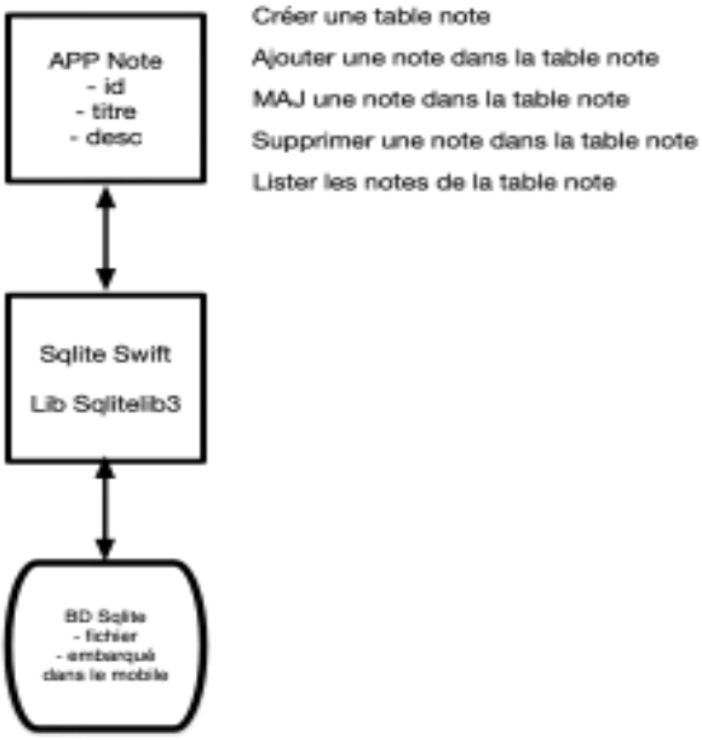


Ajout fichier swift pour Sqlite





Schema de notre application



Fichier SQlite

Ouvrir une dataBase

fichier Sqlite

On créer la base de donnée

```
// dans le fichier SQLITE
import Foundation
import SQLite3

class Sqlite{
/*
* A wrapper around an opaque C pointer
* see https://developer.apple.com/documentation/swift/opaquepointer
*/
```

```
var dbPtr: OpaquePointer? = nil
let sqlitePath: String

init?(path: String){
    sqlitePath = path
    dbPtr = self.openDatabase(path: sqlitePath)
}

    func openDatabase(path: String) -> OpaquePointer {
        var connectdb: OpaquePointer? = nil
        var dbStatus : Int32 = SQLITE_ERROR

        dbStatus = sqlite3_open(path, &connectdb)

        if dbStatus != SQLITE_OK {
            print("unable to open dataBase. Error: ", dbStatus)
        }
        return connectdb!
    }

}
```

Créer une table

```
// dans le fichier SQLITE
func createTable(_ tableName: String, columnInfo: [String]) -> Int32 {
        var dbStatus: Int32 = SQLITE_ERROR
        let sqlCmd: String = "create table if not exist \(tableName) " + "
(\(columnInfo.joined(separator: ",")))"
        dbStatus = sqlite3_exec(dbPtr, String(sqlCmd), nil, nil, nil)

        if dbStatus == SQLITE_OK {
            print("table create ")
        }
        return dbStatus
    }
```

Tester

- StoryBoard : button create ntables note
- class ViewController
- liaison button dans la classe : action createTable

fichier ViewController

Initialiser la Bd

- nous avons besoin du chemin absolue
- dans le constructeur de la classe *ViewController*

```
//Dans le viewController
 override func viewDidLoad(){
        super.viewDidLoad()
        do {
            let documentDirectory = try FileManager.default.url(for:
.documentDirectory, in: .userDomainMask, appropriateFor: nil, create:
true)
            let dbFileUrl =
documentDirectory.appendingPathComponent("myNotes").appendingPathExtension
("sqlite3")
            print(dbFileUrl.path)
            db = Sqlite(path: dbFileUrl.absoluteString)
        }catch{
            print("error")
        }
    }
```

```
//Dans le viewController
// on creer la table au click sur le bouton
    let dbTableName: String = "myNote"
    var db: Sqlite?

    @IBAction func createTable(_ sender: Any) {
        if db != nil {
            let dbStatus = db!.createTable(
                dbTableName,
                columnInfo: ["id interger primary key autoincrement",
                "title text",
                "desc text",
                "date_creation date"]
            )
        }
    }
```

Inserer ligne dans une table

```
// dans le fichier SQLITE
func insert(_ tableName: String, rowInfo: [String: String]) -> Int32 {
        var dbStatus: Int32 = SQLITE_ERROR

        let sqlCmd: String = "insert into \(tableName) "
            + "(\(rowInfo.keys.joined(separator: ",")))"
            + "values (\(rowInfo.values.joined(separator: ",")))"

        dbStatus = sqlite3_exec(self.dbPtr, String(sqlCmd), nil, nil, nil)

        return dbStatus
    }
```

Tester

```
//Dans le viewController
 @IBAction func InsertNote(_ sender: Any) {
        let alert = UIAlertController(title: "Insert Note", message: nil,
preferredStyle: .alert)

                alert.addTextField { (tf) in tf.placeholder = "Title" }
                alert.addTextField { (tf) in tf.placeholder = "Descrption"
}

                let action = UIAlertAction(title: "Save", style: .default)
{
                    (action) in
                    guard let noteTitle = alert.textFields?.first?.text,
                        let noteDesc = alert.textFields?.last?.text
                        else {return}

                    if self.db != nil {
                        let noteDateCreation = NSDate() as Date
                        let dbStatus = self.db!.insert("'\
(self.dbTableName)'",
                            rowInfo: ["title":"'\(noteTitle)'",
                                "desc":"'\(noteDesc)'",
                                "date_creation":"'\(noteDateCreation)'"])

                        if dbStatus == SQLITE_OK {
                            print("A new note is inserted")
                        } else {
                            print("Failed : insert note")
                        }
                    }
                } //fin du callback
        alert.addAction(action)
        present(alert, animated: true, completion: nil)
    }
```

Lister toutes les lignes de la table

```
// dans le fichier SQLITE
func fetch(_ tableName: String, cond: String?, sortBy order: String?,
offset: Int?) -> OpaquePointer {
        var dbStatus: Int32 = SQLITE_ERROR

        var sqlCmd: String = "select * from \(tableName)"
        if let condition = cond {
            sqlCmd += " where \(condition)"
        }
```

```
        if let orderBy = order {
            sqlCmd += " order by \(orderBy)"
        }
        sqlCmd += " limit \(rowCount)"
        if let offsetNum = offset {
            sqlCmd += " offset \(offsetNum)"
        }

        var statement: OpaquePointer? = nil
        dbStatus = sqlite3_prepare_v2(self.dbPtr,
String(sqlCmd),-1,&statement, nil)

        return statement!
    }
```

Tester

```
//Dans le viewController
@IBAction func listNote(_ sender: Any) {
        let statement = db!.fetch(self.dbTableName, cond: nil, sortBy:
nil, offset: nil)

                while sqlite3_step(statement) == SQLITE_ROW {
                    let noteId = sqlite3_column_int(statement, 0)
                    let noteTitle = String(cString:
sqlite3_column_text(statement, 1))
                    let noteDesc = String(cString:
sqlite3_column_text(statement, 2))
                    let noteDateCreation = String(cString:
sqlite3_column_text(statement, 3))

                    print("""
                    --------------------
                    noteId : \(noteId),
                    title : \(noteTitle),
                    desc: \(noteDesc),
                    date: \(noteDateCreation)
                    --------------------
                    """)
                }
    }
```

Update line

```
// dans le fichier SQLITE
func update(_ tableName: String, cond: String?, rowInfo: [String: String])
-> Int32 {

        var dbStatus: Int32 = SQLITE_ERROR
```

```
        var sqlCmd: String = "update \(tableName) set "
        var info: [String] = []
        for (key, value) in rowInfo {
            info.append("\(key) = \(value)")
        }
        sqlCmd += info.joined(separator: ",")
        if let condition = cond {
            sqlCmd += " where \(condition)"
        }

        var statement: OpaquePointer? = nil

        dbStatus = sqlite3_prepare_v2(self.dbPtr, String(sqlCmd),-1,
&statement, nil)
        if dbStatus == SQLITE_OK && sqlite3_step(statement) == SQLITE_DONE
{
            print("Update data sucess")
            return dbStatus
        }
        sqlite3_finalize(statement)
        return dbStatus
    }
```

Tester

```
//Dans le viewController
@IBAction func UpdateNote(_ sender: Any) {
        let alert = UIAlertController(title: "Update Note", message: nil,
preferredStyle: .alert)

                alert.addTextField { (tf) in tf.placeholder = "Note Id" }
                alert.addTextField { (tf) in tf.placeholder = "Title" }

                let action = UIAlertAction(title: "Save", style: .default)
{
                    (_) in
                    guard let noteId =
Int((alert.textFields?.first?.text)!),
                        let noteTitle = alert.textFields?.last?.text
                        else {return}

                    if self.db != nil {
                        let dbStatus = self.db?.update(self.dbTableName,
                            cond: "id = '\(noteId)'",
                            rowInfo: ["title":"'\(noteTitle)'"])

                        if dbStatus == SQLITE_OK {
                            print("A note : \(noteId) is updated")
                        } else {
                            print("Failed to update note : \(noteId)")
```

```
                        }
                    }
                } //fin du callback
                alert.addAction(action)
                present(alert, animated: true, completion: nil)
    }
```

DElete Note

```
// dans le fichier SQLITE
func delete(_ tableName: String, cond: String?) -> Int32 {
        var dbStatus: Int32 = SQLITE_ERROR

        var sqlCmd: String = "delete from \(tableName)"

        if let condition = cond {
            sqlCmd += " where \(condition)"
        }

        var statement: OpaquePointer? = nil
        dbStatus = sqlite3_prepare_v2(self.dbPtr, String(sqlCmd), -1,
&statement, nil)
        if dbStatus == SQLITE_OK && sqlite3_step(statement) == SQLITE_DONE
{
            print("Delete data sucess")
            return dbStatus
        }
        sqlite3_finalize(statement)
        return dbStatus

    }
```

Tester

```
//Dans le viewController
    @IBAction func DeleteNote(_ sender: Any) {
        let alert = UIAlertController(title: "Delete Note", message: nil,
preferredStyle: .alert)

                alert.addTextField { (tf) in tf.placeholder = "Note Id" }
                let action = UIAlertAction(title: "Save", style: .default)
{
                    (_) in
                    guard let noteId =
Int((alert.textFields?.first?.text)!)
                    else {return}

                    if self.db != nil {
                        let dbStatus = self.db?.delete(self.dbTableName,
```

```
                                cond: "id = '\(noteId)'")

                            if dbStatus == SQLITE_OK {
                                print("A note : \(noteId) is deleteed")
                            } else {
                                print("Failed to delete note : \(noteId)")
                            }
                        }
                    } //fin du callback
                    alert.addAction(action)
                    present(alert, animated: true, completion: nil)
        }
```

Delete All

```
// dans le fichier SQLITE
    func deleteAll(_ tableName: String) -> Int32 {
            var dbStatus: Int32 = SQLITE_ERROR

            let sqlCmd: String = "delete from (tableName)"

            var statement: OpaquePointer? = nil
            dbStatus = sqlite3_prepare_v2(self.dbPtr, String(sqlCmd), -1,
&statement, nil)
            if dbStatus == SQLITE_OK && sqlite3_step(statement) ==
SQLITE_DONE {
                print("Delete data sucess")
                return dbStatus
            }
            sqlite3_finalize(statement)
            return dbStatus

        }
```

Tester

```
//Dans le viewController
   @IBAction func deleteAllEvent(_ sender: Any) {
        let alert = UIAlertController(title: "Delete All Events", message:
nil, preferredStyle: .alert)
        let actionDelete = UIAlertAction(title: "Delete", style:
.destructive) {_ in
            if self.db != nil {
                let dbStatus = self.db?.deleteAll(self.dbTableName)

                if dbStatus == SQLITE_OK {
                    print("A all event : is delete ")
                } else {
                    print("Failed to delete all event")
```

```
                }
            }
        } //fin du callback
        alert.addAction(actionDelete)
        let actionCancel = UIAlertAction(title: "Cancel", style: .cancel)
{_ in
            alert.dismiss(animated: true, completion: nil)
        } //fin du callback
        alert.addAction(actionCancel)
        present(alert, animated: true, completion: nil)
    }
```