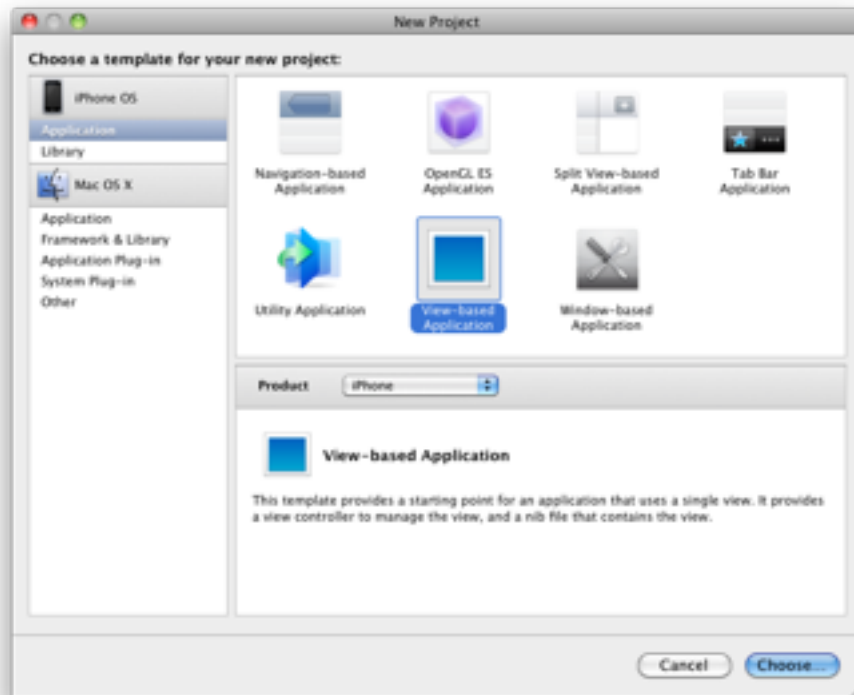


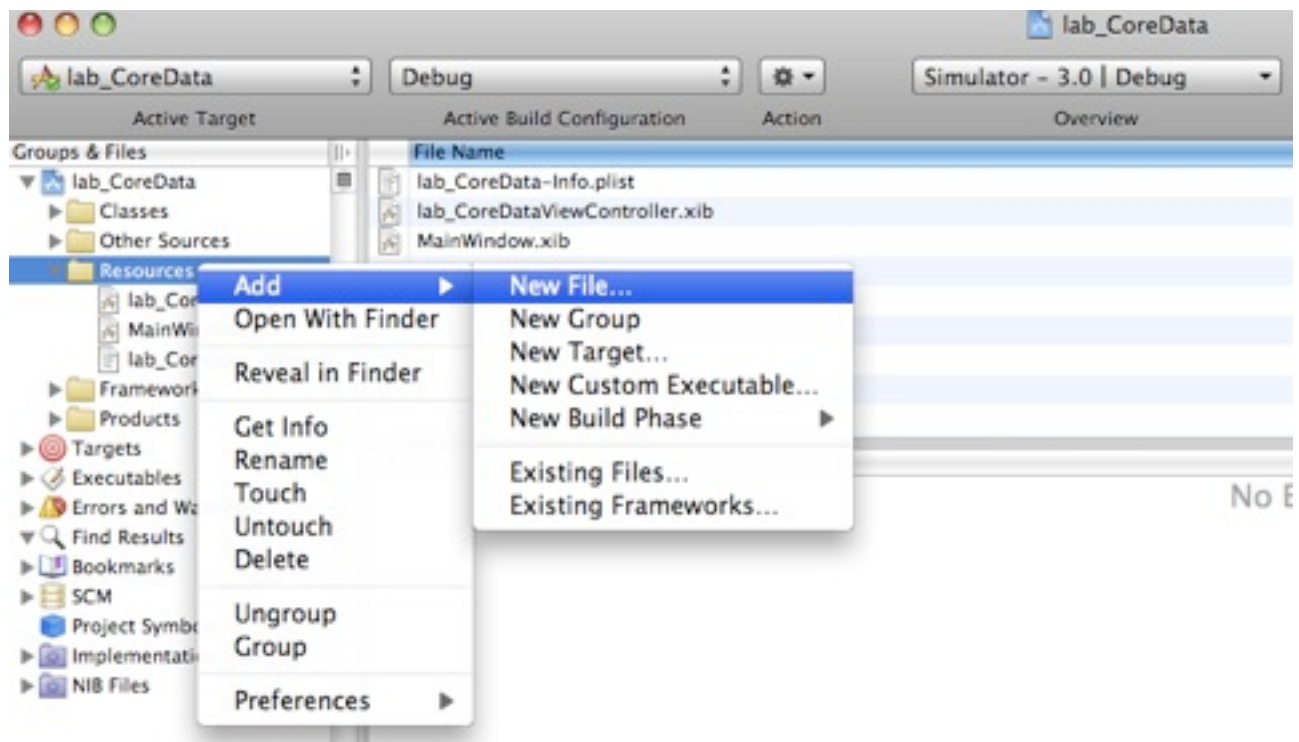
Lab CoreData

Step1. Create a new project

在File開啓一個新的project, 選擇 view based application,取名為 lab_CoreData



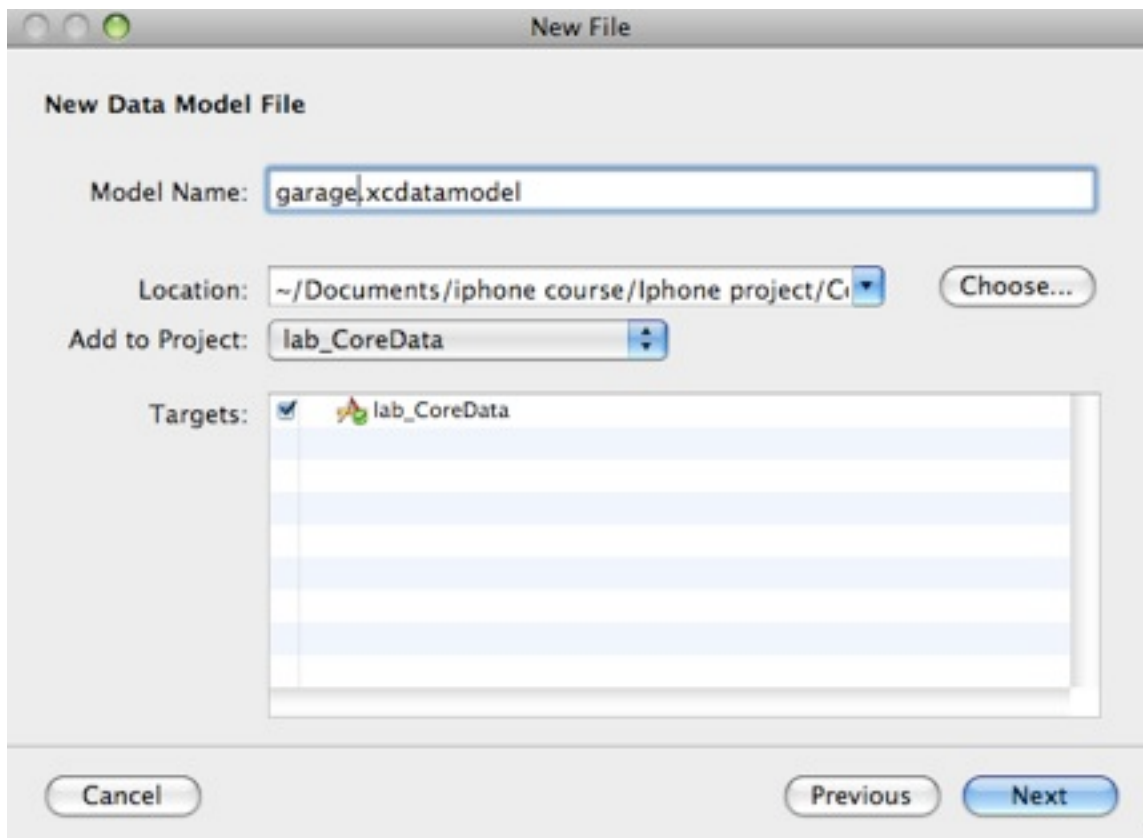
Step2. Add model file



Step 3. Choose data model

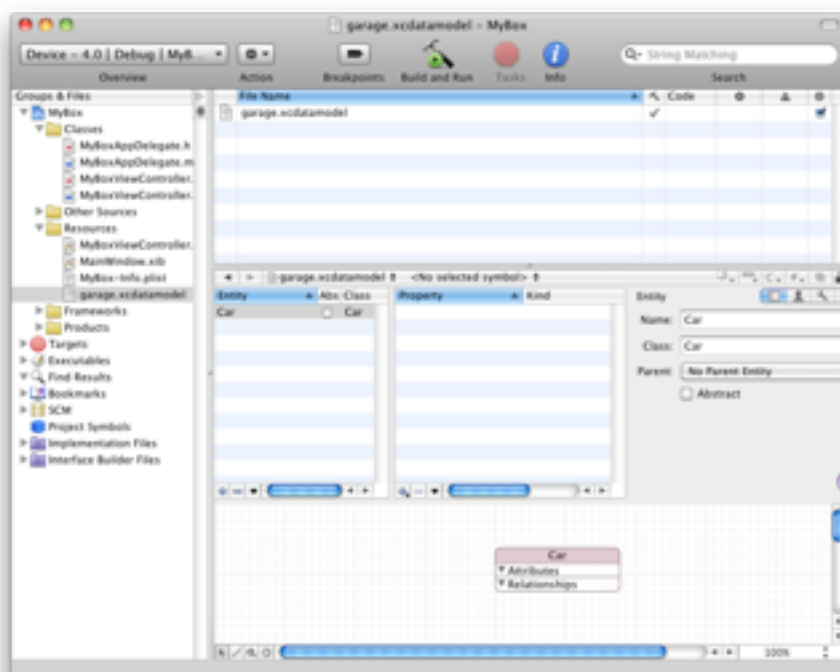
選擇 Resources > Data model, 取名 garage



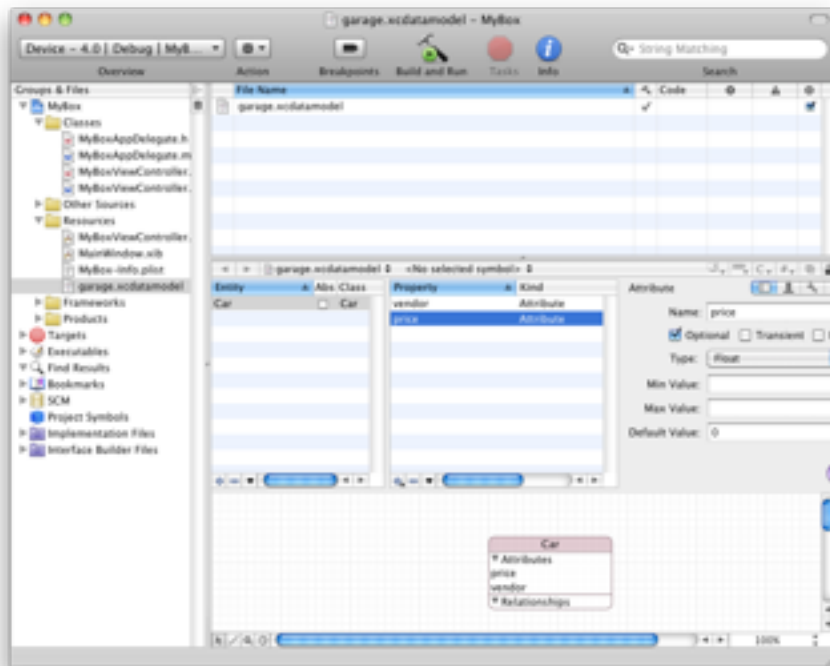


點選 Next, 接著直接選擇 Finish

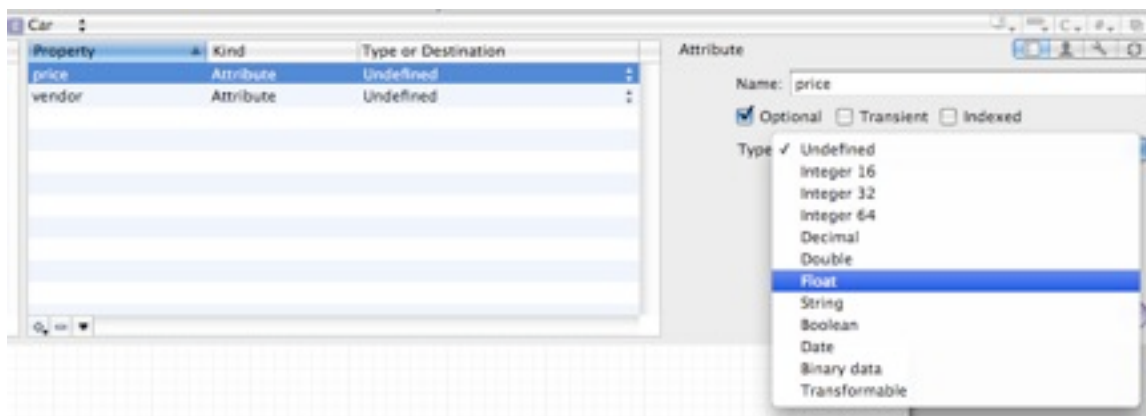
Step 4. Add Entity



點選 garage.xcdatamodel, 點選在 entity 框中的 + 號, 加入一個 entity, 將 Name, Class 命名為 Car.

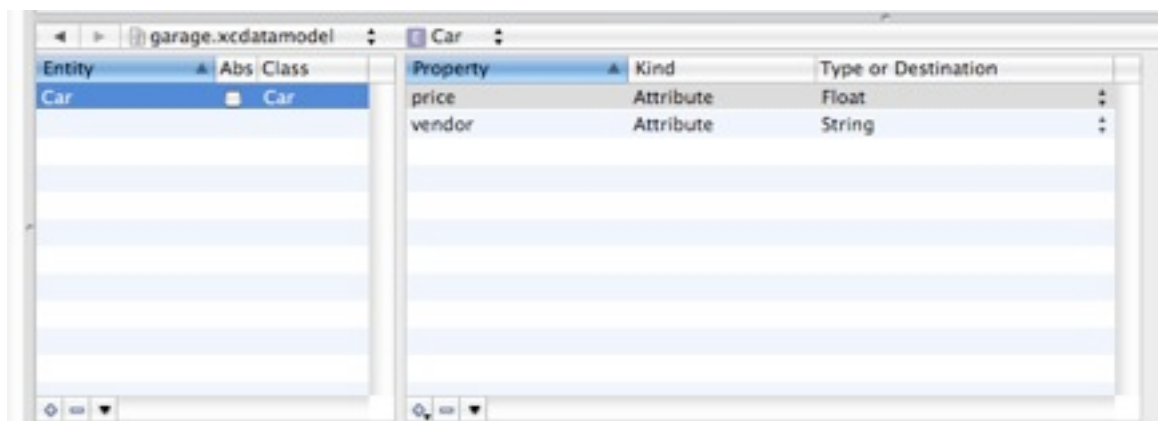


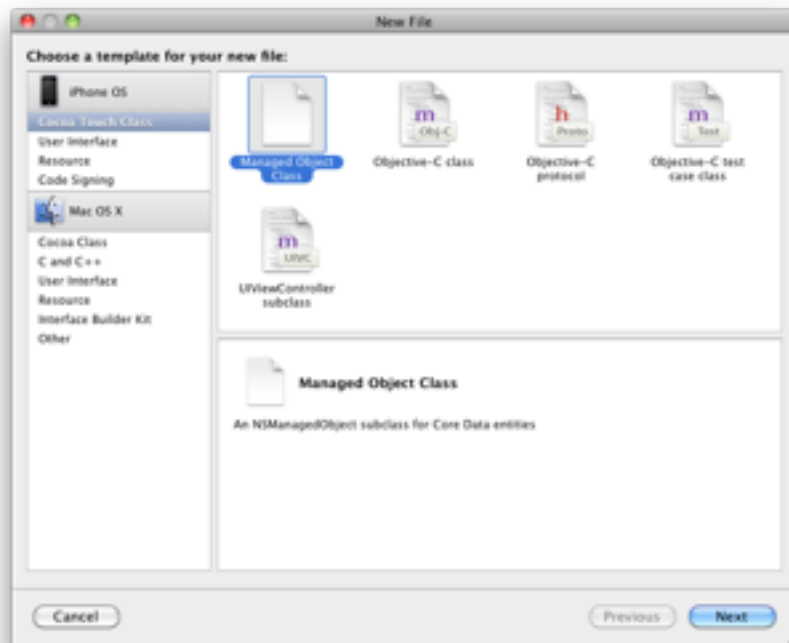
接著在 Property 的 + 號中, 選 Add attribute, 分別命名為 price, vendor. 點選 price, 在右邊的 type 選單中, 將 price 的 type 選為 float, 而將 vendor 的 type 選為 String.



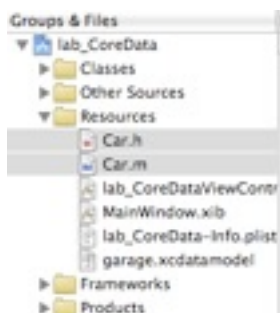
Step5. Create Managed Object Class

先選擇Entity, 接著File -> New File



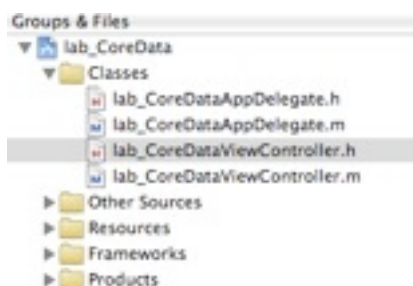


選 Max OS X > Cocoa > Managed Object Class, 接著 Next, Next, Finish,
在系統中便加入了Managed object class, Car.m 以及 Car.h



Step 6. Create UI

在 Classes > lab_CoreDataViewController.h



```

#import <UIKit/UIKit.h>
#import "Car.h" //This header must be imported

@interface lab_CoreDataViewController : UIViewController {

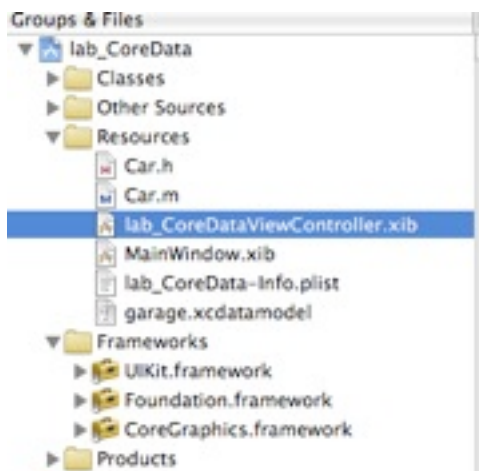
    IBOutlet UIButton *buttonAdd;
    IBOutlet UIButton *buttonList;
    IBOutlet UIButton *buttonDelete;
    IBOutlet UITextField *carName;
    IBOutlet UITextField *carPrice;
    NSManagedObjectContext *managedObjectContext;
}
-(IBAction) addCar;
-(IBAction) listCar;
-(IBAction) deleteAllCar;

@end

```

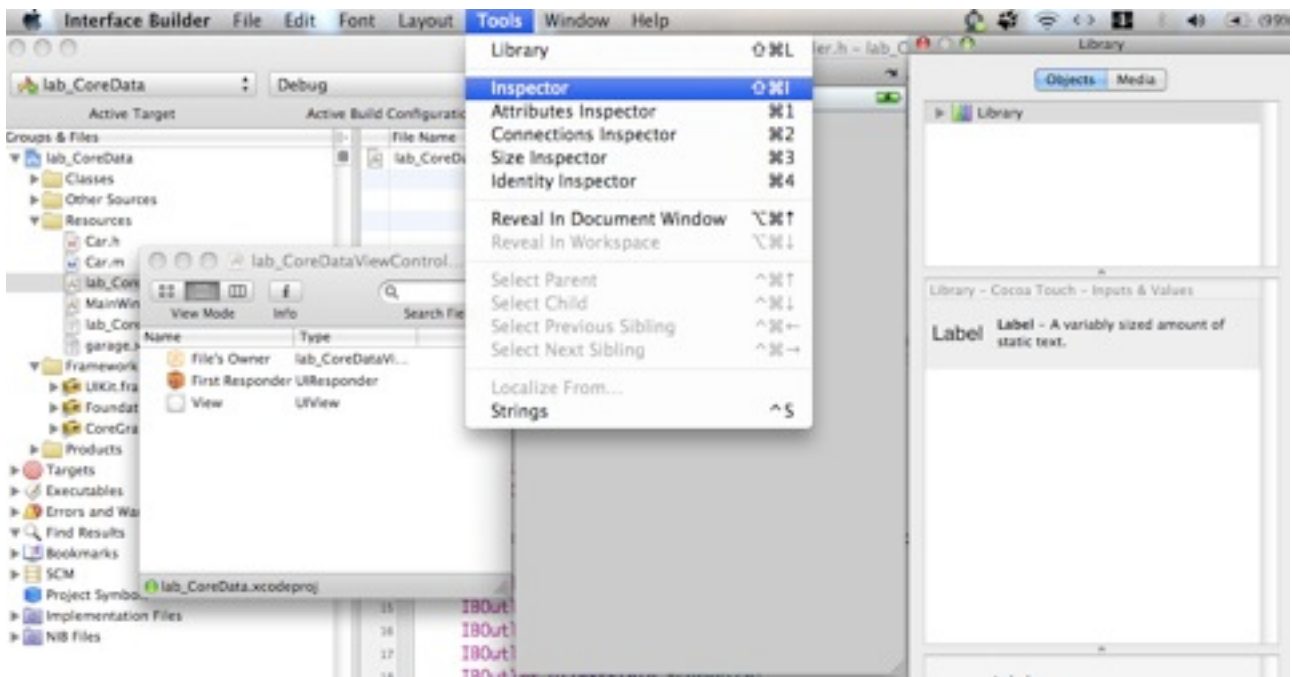
我們必須要 import “Car.h”, 接著加入三個 button, Textfield, NSManagedObjectContext 物件, 然後定義三個按鈕的 action.

Step 7. Design View

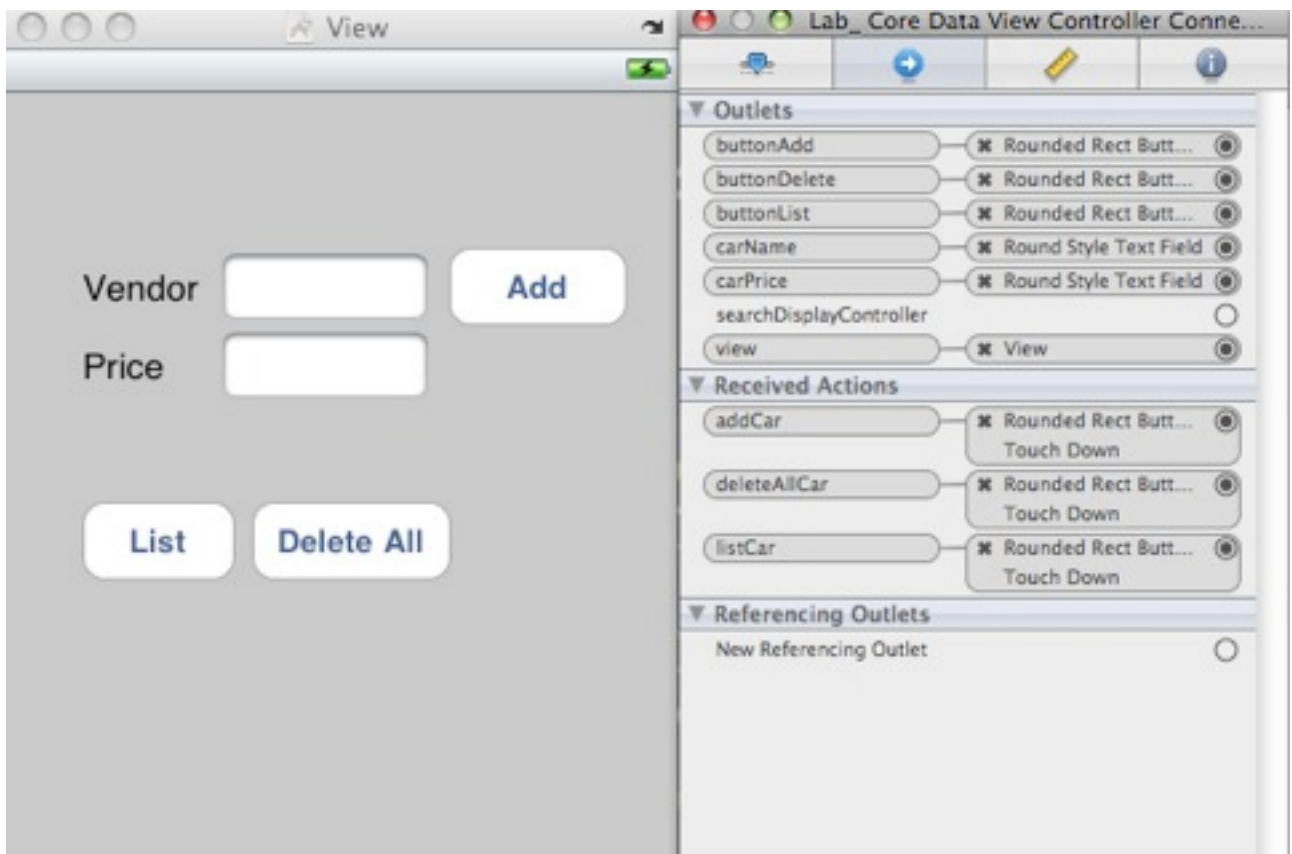


在 Resources > lab_CoreDataViewController.xib 上, 兩次點擊, 啟動 Interface Builder

在 Interface builder 中, 選擇 Tools 中的 Library 以及 Inspector, 將這兩個輔助視窗叫喚出來.



接著我們使用 Library, 在View擺上 Label, Button 和 TextField,



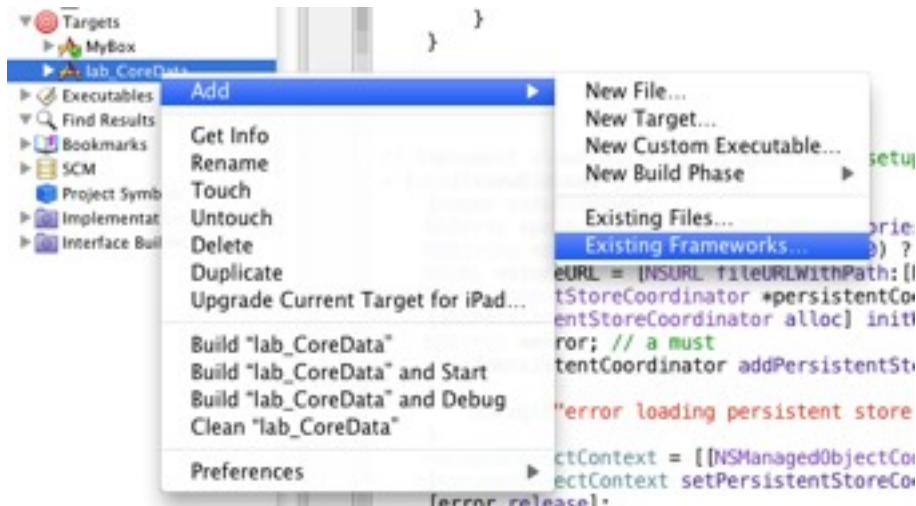
然後, 使用 inspector, 將我們剛才在 Classes > lab_CoreDataViewController.h 中定義的 button, textfield 以及 button的 action和 view上面的UI作連結.

buttonAdd 連到 Add, buttonList 連到 List, buttonDelete 連到 Delet All, carName 連到 Vendor 旁的 textfield, carPrice 連到price旁的 textfield. addCar 連到 Add的touch down, deleteAllCar連到 Delete All的touch down, listCar連到 List的touch down.

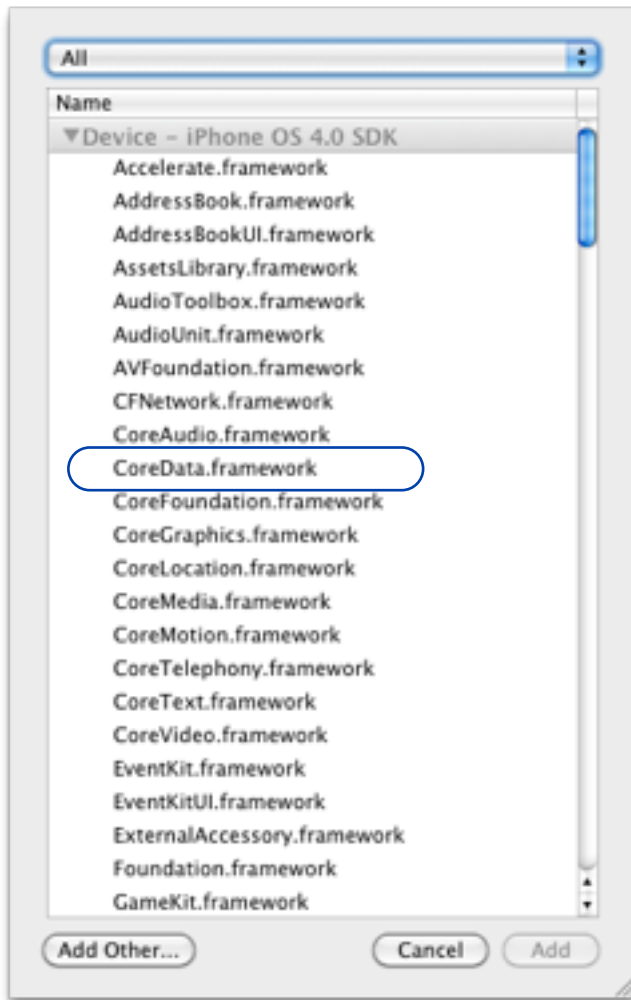
如果沒有辦法在inspector看到連結的選項, 可以試著先存檔.

Step 8. Add framework

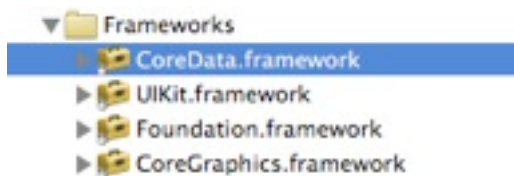
我們先加入compile時會需要的 framework, Targets> lab_CoreData > Add > Existing Frameworks



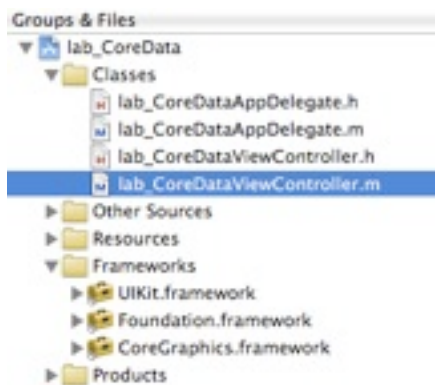
Device > CoreData.framework, Add, Add



檢查CoreData.framework加入了



Step 9. Implement actions



Classes > lab_CoreDataViewController.m

找到 -(void) ViewDidLoad

```
- (void)viewDidLoad {
    [super viewDidLoad];
    NSArray *paths = NSSearchPathForDirectoriesInDomains(NSDocumentDirectory, NSUserDomainMask, YES);
    NSString *basePath = ([paths count] > 0) ? [paths objectAtIndex:0]: nil;
    NSURL *storeURL = [NSURL fileURLWithPath:[basePath stringByAppendingPathComponent:@"Car.sqlite"]];
    NSPersistentStoreCoordinator *persistentCoordinator = [[NSPersistentStoreCoordinator alloc]
                                                            initWithManagedObjectModel:[NSManagedObjectModel mergedModelFromBundles:nil]];

    NSError *error; // a must
    if(![persistentCoordinator addPersistentStoreWithType:NSSQLiteStoreType configuration:nil URL:storeURL options:nil error:&error])
    {
        NSLog(@"error loading persistent store....");
    }
    managedObjectContext = [[NSManagedObjectContext alloc] init];
    [managedObjectContext setPersistentStoreCoordinator:persistentCoordinator];
    [error release];
}
```

程式碼如下

```
- (void)viewDidLoad {
    [super viewDidLoad];
    NSArray *paths = NSSearchPathForDirectoriesInDomains(NSDocumentDirectory,
    NSUserDomainMask, YES);
    NSString *basePath = ([paths count] > 0) ? [paths objectAtIndex:0]: nil;
    NSURL *storeURL = [NSURL fileURLWithPath:[basePath
    stringByAppendingPathComponent:@"Car.sqlite"]];
    NSPersistentStoreCoordinator *persistentCoordinator =
    [[NSPersistentStoreCoordinator alloc] initWithManagedObjectModel:
    [NSManagedObjectModel mergedModelFromBundles:nil]];
    NSError *error; // a must
    if(![persistentCoordinator addPersistentStoreWithType:NSSQLiteStoreType
    configuration:nil URL:storeURL options:nil error:&error])
    {
        NSLog(@"error loading persistent store....");
    }
    managedObjectContext = [[NSManagedObjectContext alloc] init];
    [managedObjectContext
    setPersistentStoreCoordinator:persistentCoordinator];
    [error release];
}
```

接著實作 addCar,這個action,

```
-(IBAction) addCar
{
    Car *newOne = [NSEntityDescription insertNewObjectForEntityForName:@"Car"
                                                            inManagedObjectContext:managedObjectContext];
    newOne.vendor = carName.text;
    newOne.price = [NSNumber numberWithInt:[carPrice.text floatValue]];

    NSError *error;
    if(![managedObjectContext save:&error])
    {
        NSLog(@"Unresolved error %@, %@", error, [error userInfo]);
        [error release];
    }
}
```

程式碼如下

```
-(IBAction) addCar
{
    Car *newOne = [NSEntityDescription insertNewObjectForEntityForName:@"Car"
inManagedObjectContext:managedObjectContext];
    newOne.vendor = carName.text;
    newOne.price = [NSNumber numberWithInt:[carPrice.text floatValue]];

    NSError *error;
    if (![managedObjectContext save:&error])
    {
        NSLog(@"Unresolved error %@, %@", error, [error userInfo]);
        [error release];
    }
}
```

接著實作 listCar

```
-(IBAction) listCar
{
    NSFetchRequest *request = [[NSFetchRequest alloc] init];
    NSEntityDescription *entity = [NSEntityDescription entityForName:@"Car"
inManagedObjectContext:managedObjectContext];
    [request setEntity:entity];
    NSPredicate *predicate = [NSPredicate predicateWithFormat:@"price > %@", [NSNumber numberWithInt:(float)500]];
    [request setPredicate:predicate];
    NSError *error;
    NSArray *fetchResults = [managedObjectContext executeFetchRequest:request error:&error];
    if (fetchResults == nil)
    {
        NSLog(@"an error occurred");
    }
    else
    {
        NSLog(@"List Car");
        for (Car *car in fetchResults)
        {
            NSLog(@"got car with name %@ and price %@", car.vendor, car.price);
        }
    }
}
```

程式碼如下

```
-(IBAction) listCar
{
    NSFetchRequest *request = [[NSFetchRequest alloc] init];
    NSEntityDescription *entity = [NSEntityDescription entityForName:@"Car"
inManagedObjectContext:managedObjectContext];
    [request setEntity:entity];
    NSPredicate *predicate = [NSPredicate predicateWithFormat:@"price > %@",
[NSNumber numberWithInt:(float)500]];
    [request setPredicate:predicate];
    NSError *error;
    NSArray *fetchResults = [managedObjectContext executeFetchRequest:request
error:&error];
    if (fetchResults == nil)
```

```

    {
        NSLog(@"an error occured");
    }
    else
    {
        NSLog(@"List Car");
        for(Car *car in fetchResults)
        {
            NSLog(@"got car with name %@ and price
%@ ", car.vendor, car.price);
        }
    }
}

```

最後實作 deleteAllCar

```

-(IBAction) deleteAllCar
{
    NSFetchRequest *request = [[NSFetchRequest alloc] init];
    NSEntityDescription *entity = [NSEntityDescription entityForName:@"Car"
                                                                    inManagedObjectContext:managedObjectContext];

    [request setEntity:entity];
    NSError *error;
    NSArray *fetchResults = [managedObjectContext executeFetchRequest:request error:&error];
    if(fetchResults == nil)
    {
        NSLog(@"an error occured");
    }
    else
    {
        for(NSManagedObject *object in fetchResults)
        {
            [managedObjectContext deleteObject:object];
        }
        if(![managedObjectContext save:&error])
        {
            NSLog(@"Unresolved error %@, %@", error, [error userInfo]);
            [error release];
        }
    }
}
}

```

程式碼如下

```

-(IBAction) deleteAllCar
{
    NSFetchRequest *request = [[NSFetchRequest alloc] init];
    NSEntityDescription *entity = [NSEntityDescription entityForName:@"Car"
                                                                    inManagedObjectContext:managedObjectContext];
    [request setEntity:entity];
    NSError *error;
    NSArray *fetchResults = [managedObjectContext executeFetchRequest:request
error:&error];
    if(fetchResults == nil)
    {
        NSLog(@"an error occured");
    }
}

```

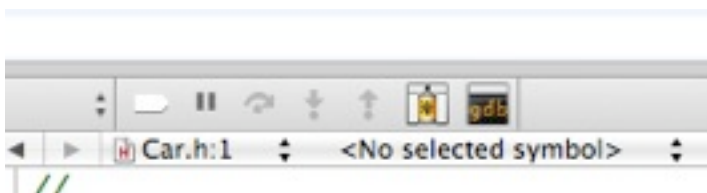
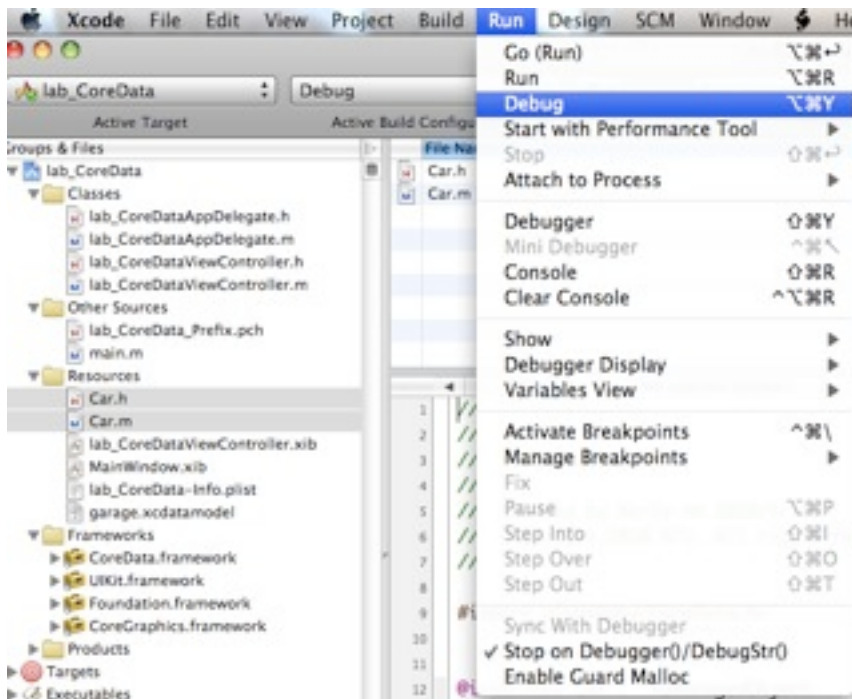
```

    }
    else
    {
        for(NSManagedObject *object in fetchResults)
        {
            [managedObjectContext deleteObject:object];
        }
        if(![managedObjectContext save:&error])
        {
            NSLog(@"Unresolved error %@, %@", error, [error userInfo]);
            [error release];
        }
    }
}
}

```

Step 10. Build and GO

因為我們的資訊使用 NSLog顯示, 我們要在gdb中來看這些資訊, Run -> Debug



點開 gdb,

我們輸入兩組資訊, vendor (VW) price(1000) -> Add, vendor(Lexus) price (1200) -> Add

接著按 list, 把所有資訊傳出來看看

