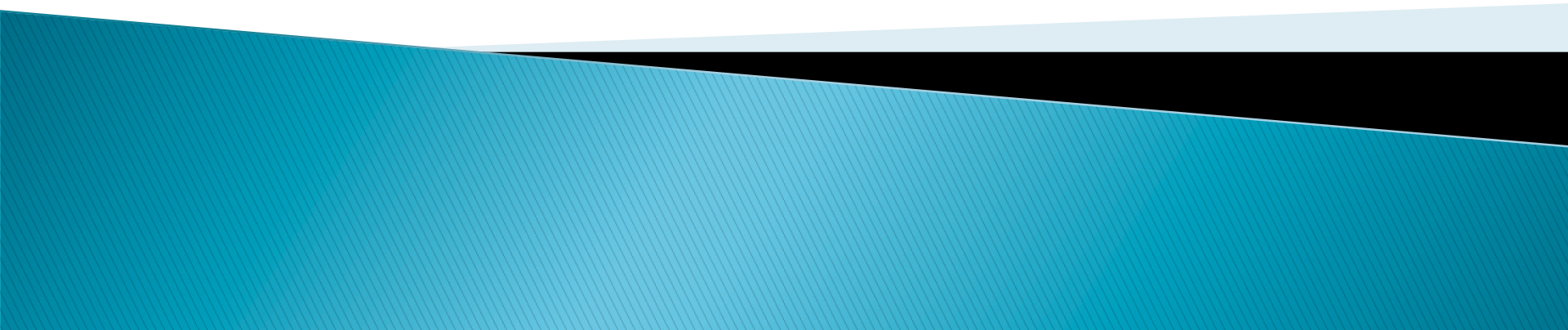


iOS_初階

Communicating with Web



Outline

- ▶ 網路連線API介紹
- ▶ ASIHTTP操作練習
- ▶ XML解析練習
- ▶ SQLite操作練習
- ▶ UserDefaults操作練習
- ▶ PLIST操作練習

網路連線API介紹

▶ NSURLConnection

- 取消: cancel
- 取得回應: – (void)connection:(NSURLConnection *)theConnection didReceiveResponse:(NSURLResponse *)response;
- 取得資料: – (void)connection:(NSURLConnection *)theConnection didReceiveData:(NSData *)data;
- 錯誤回報: – (void)connection:(NSURLConnection *)theConnection didFailWithError:(NSError *)error;
- 結束連線: – (void)connectionDidFinishLoading:(NSURLConnection *)theConnection;

網路連線API介紹

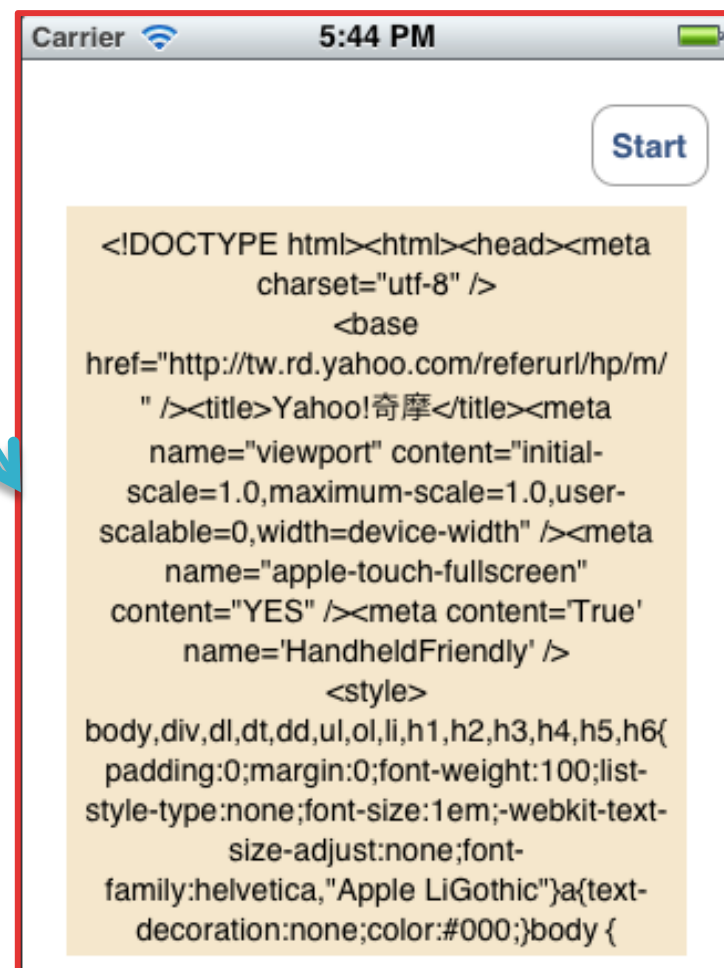
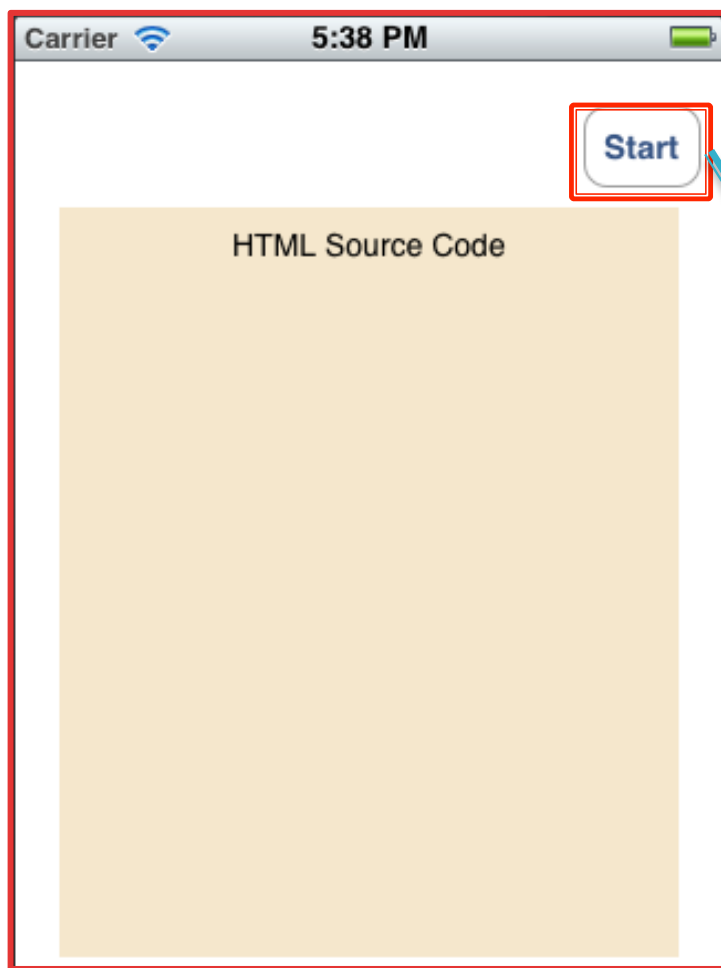
▶ ASIHTTP SDK

- <http://allseeing-i.com/ASIHTTPRequest/>
- 初始化網址
 - – (id)initWithURL:(NSURL *)newURL;
- 開啓讀取
 - – (void)startSynchronous;
- 取得回傳字串
 - – (NSString *)responseString;
- 取得回傳資料
 - – (NSData *)responseData;
- 設定POST
 - – (void)setPostValue:(id <NSObject>)value forKey:(NSString *)key;

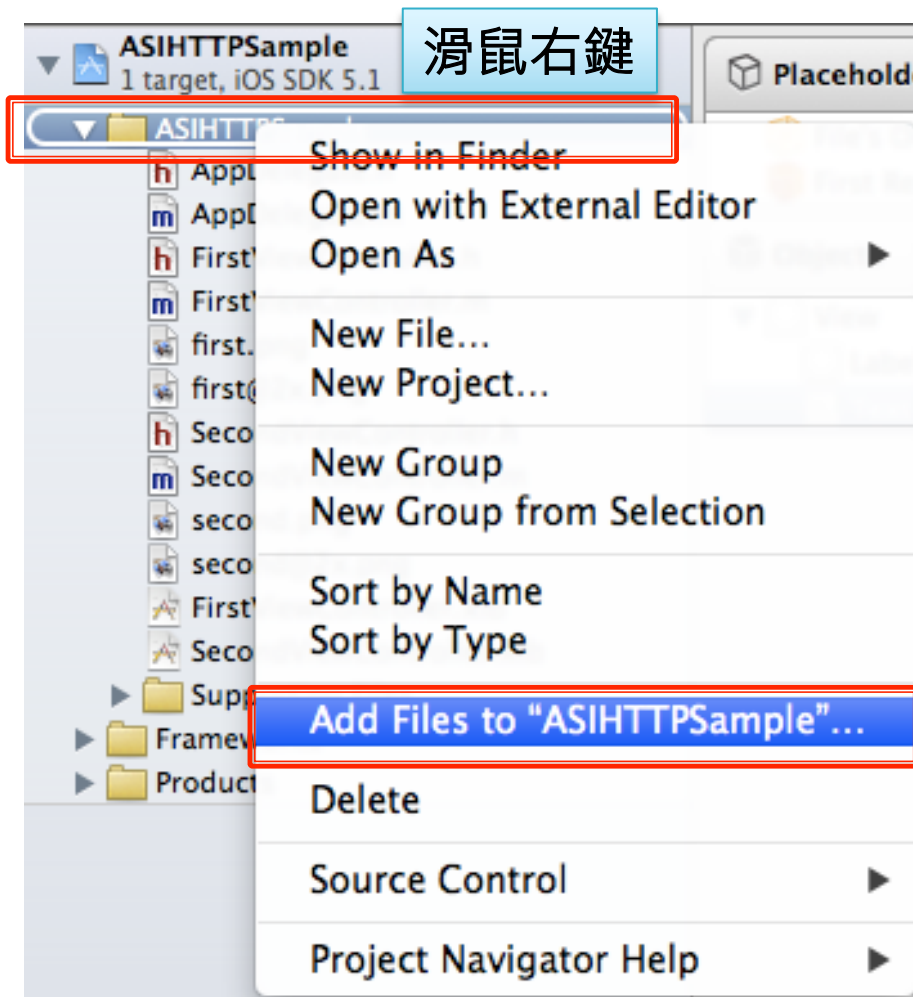
ASIHTTP操作練習

- ▶ 學習目的
 - 導入ASIHTTP資料庫
 - 使用ASIHTTP SDK
 - 傳送POST

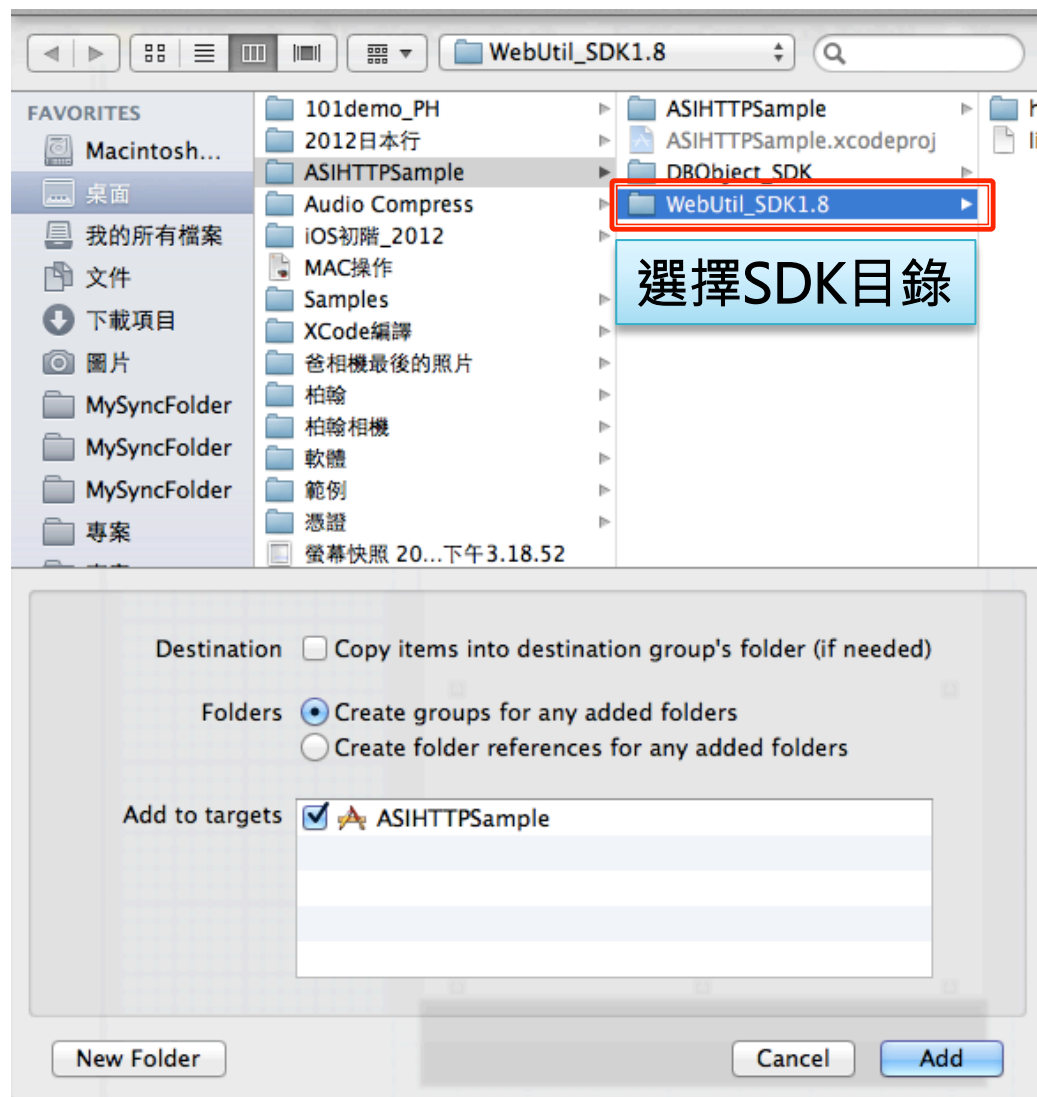
執行結果



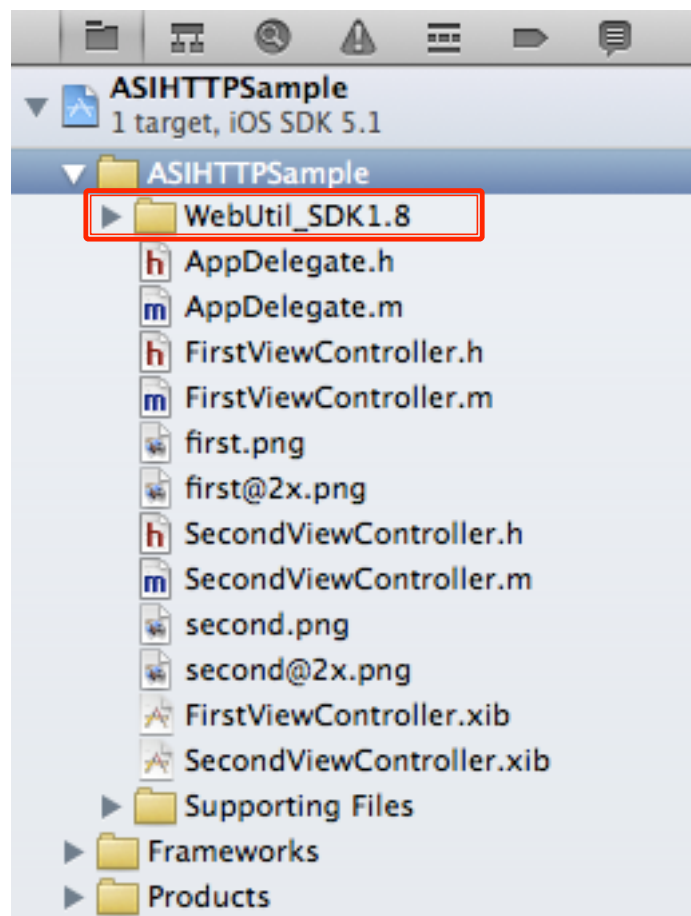
導入ASIHTTP



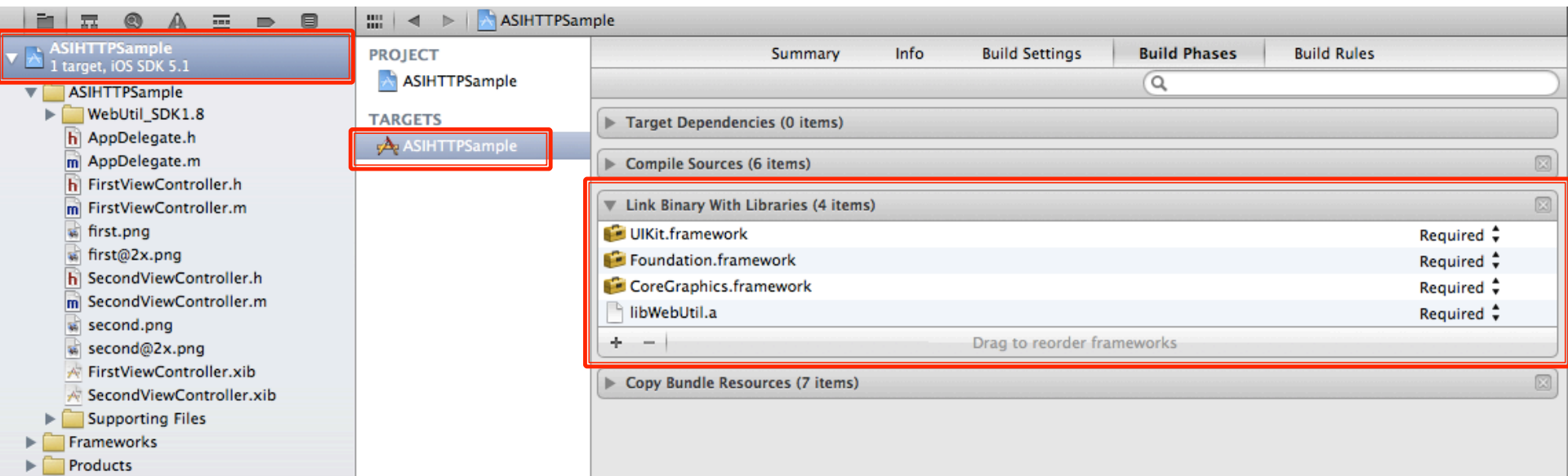
導入ASIHTTP



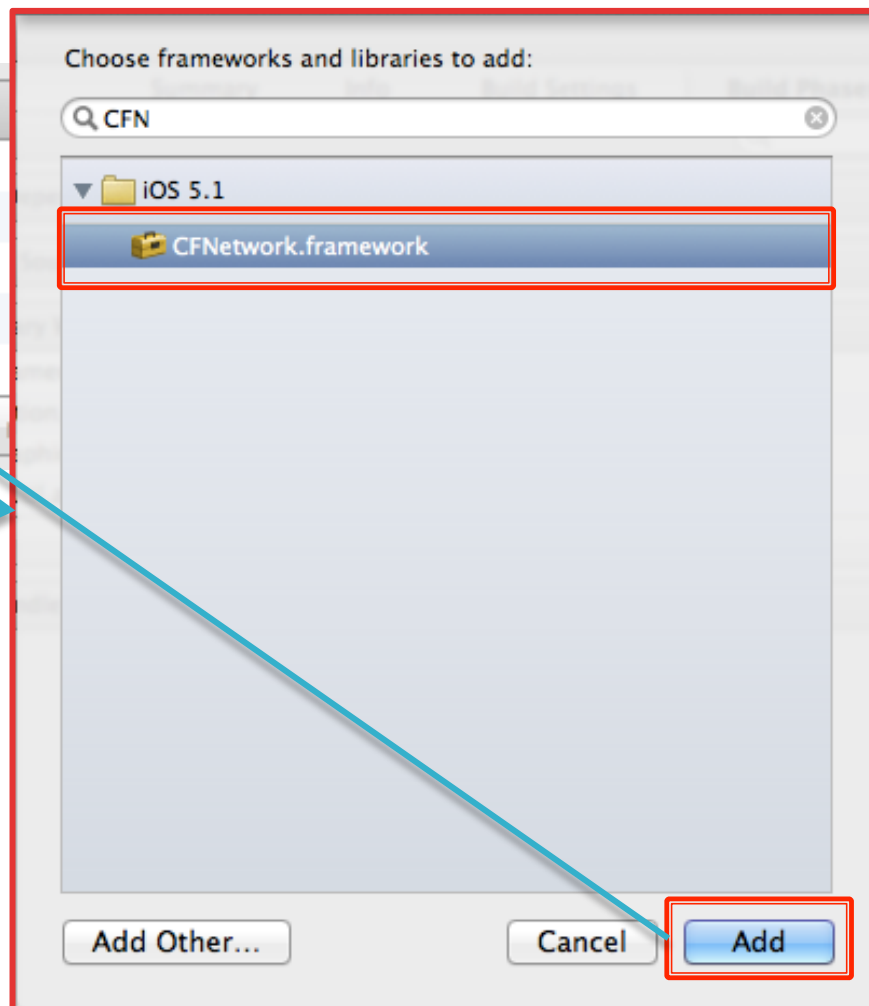
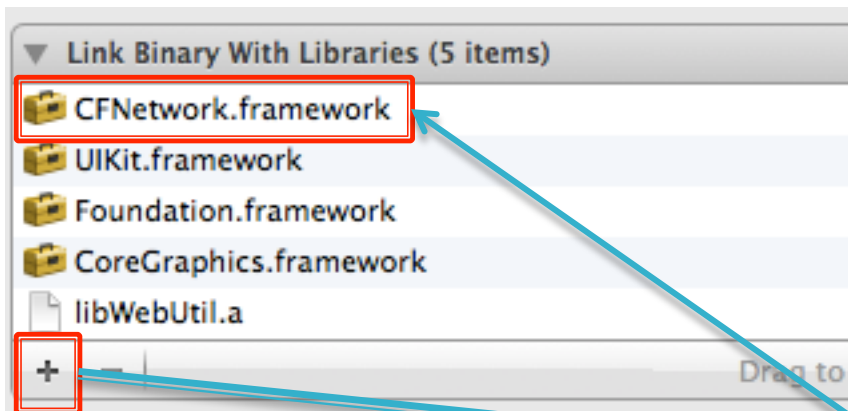
導入ASIHTTP



導入ASIHTTP



導入ASIHTTP



導入ASIHTTP

- ▶ 加入剩餘函式庫
 - MobileCoreServices.framework
 - SystemConfiguration.framework
 - libz.1.1.3.dylib

定義介面參數(.h)

▶ 說明

- #import "ASIHTTPRequest.h"
- 定義UITextView類別的變數textView_Context

```
#import <UIKit/UIKit.h>
#import "ASIHTTPRequest.h"

@interface FirstViewController : UIViewController
{
    IBOutlet UITextView *textView_Context;
}
@end
```

實作(.m)

▶ 實作btnStartAction函式

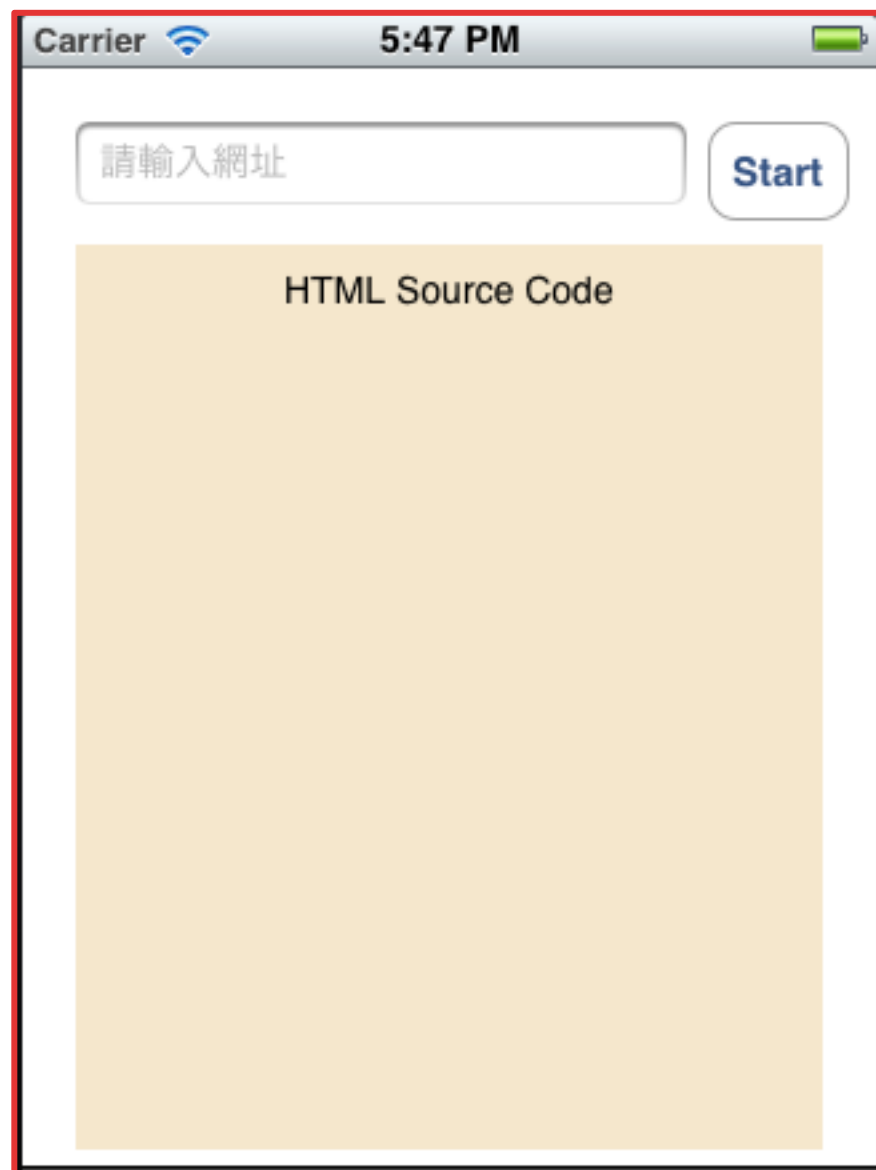
```
- (IBAction)btnStartAction:(id)sender {
    NSURL *url = [NSURL URLWithString: @"http://www.yahoo.com.tw"];

    ASIHTTPRequest *request = [ASIHTTPRequest requestWithURL:url];
    [request startSynchronous];

    NSError *error = [request error];
    //int statusCode = [request responseStatusCode];
    if (!error) {
        //NSLog(@"Response: %@", [request responseString]);
        textView_Context.text = [request responseString];
    } else {
        //NSLog(@"Error: %@", error);
        textView_Context.text = [NSString stringWithFormat:@"%@", error];
    }
}
```

實作練習

- ▶ 使用者輸入網址後
- ▶ 取得該網址的HTML原始碼



XML解析練習

- ▶ 學習目的
 - 操作NSXMLParser解析XML資料
 - 透過XMLEngine取的解析過的XML資料

NSXMLParser說明

▶ NSXMLParser

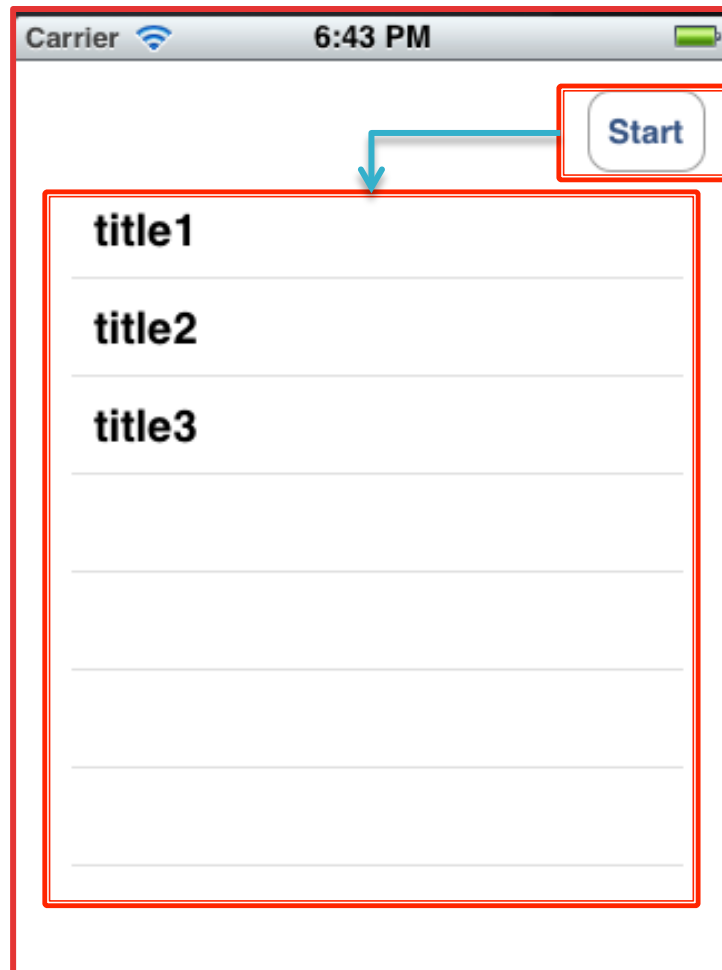
- 初始化解析網址: – (id)initWithContentsOfURL:(NSURL *)url;設定呼叫類別: – (void)setDelegate:(id <NSXMLParserDelegate>)delegate;
- 初始化解析資料: – (id)initWithData:(NSData *)data;

▶ NSXMLParserDelegate

- – (void)parser:(NSXMLParser *)parser parseErrorOccurred:(NSError *)parseError;
- – (void)parserDidEndDocument:(NSXMLParser *)parser;
- – (void)parser:(NSXMLParser *)parser foundCharacters:(NSString *)string;
- – (void)parser:(NSXMLParser *)parser didStartElement:(NSString *)elementName namespaceURI:(NSString *)namespaceURI qualifiedName:(NSString *)qName attributes:(NSDictionary *)attributeDict;
- – (void)parser:(NSXMLParser *)parser didEndElement:(NSString *)elementName namespaceURI:(NSString *)namespaceURI qualifiedName:(NSString *)qName;

NSXMLParser操作練習

▶ 執行結果



定義介面參數(.h)

```
#import <UIKit/UIKit.h>

@interface SecondViewController : UIViewController
    <NSXMLParserDelegate, UITableViewDelegate, UITableViewDataSource>
{
    IBOutlet UITableView *m_table;

    NSMutableArray *arrData;
    // a temporary item; added to the "stories" array one at a time, and cleared for the next one
    NSMutableDictionary *xmlItem;
    // it parses through the document, from top to bottom...
    // we collect and cache each sub-element value, and then save each item to our array.
    // we use these to track each current item, until it's ready to be added to the "stories" array
    NSString * currentElement;
    NSMutableString *currentString;
}
@end
```

實作(.m)

▶ btnStartAction

```
- (IBAction)btnStartAction:(id)sender {
    if(arrData == nil) arrData = [[NSMutableArray alloc] initWithCapacity:0];
    else [arrData removeAllObjects];

    NSURL *url = [NSURL URLWithString: @"http://freeidea.mypricemap.com/test.xml"];
    NSXMLParser *xmlParser = [[NSXMLParser alloc] initWithContentsOfURL:url];
    // Set self as the delegate of the parser so that it will receive the parser delegate methods callbacks.
    [xmlParser setDelegate:self];
    [xmlParser parse];
    [xmlParser release];
}
```

實作(.m)

▶ NSXMLParserDelegate

```
#pragma mark - NSXMLParserDelegate
- (void)parser:(NSXMLParser *)parser parseErrorOccurred:(NSError *)parseError {
    NSString * errorString = [NSString stringWithFormat:@"Unable to download story feed from web site (Error code %i )"
        , [parseError code]];
    NSLog(@"error parsing XML: %@", errorString);

    UIAlertView * errorAlert = [[UIAlertView alloc] initWithTitle:@"Error loading content" message:errorString
        delegate:self cancelButtonTitle:@"OK" otherButtonTitles:nil];
    [errorAlert show];
    [errorAlert release];
}

- (void)parserDidEndDocument:(NSXMLParser *)parser {
    NSLog(@"all done!");
    NSLog(@"stories array has %d items", [arrData count]);
    NSLog(@"%@", arrData);

    if(currentElement) [currentElement release];
    if(currentString) [currentString release];
    if(xmlItem) [xmlItem release];

    [m_table reloadData];
}
```

實作(.m)

```
- (void)parser:(NSXMLParser *)parser didStartElement:(NSString *)elementName namespaceURI:(NSString *)namespaceURI
qualifiedName:(NSString *)qName attributes:(NSDictionary *)attributeDict {
    NSLog(@"found this element: %@", elementName);
    if(currentElement) [currentElement release];
    currentElement = [elementName copy];
    if ([elementName isEqualToString:@"msg"]) {
        // clear out our story item caches...
        if(xmlItem) [xmlItem release];
        xmlItem = [[NSMutableDictionary alloc] initWithCapacity:0];
    }
    if(currentString) [currentString release];
    currentString = [[NSMutableString alloc] initWithCapacity:0];
}

- (void)parser:(NSXMLParser *)parser didEndElement:(NSString *)elementName namespaceURI:(NSString *)namespaceURI
qualifiedName:(NSString *)qName{
    NSLog(@"ended element: %@", elementName);
    if ([elementName isEqualToString:@"msg"]) {
        // save values to an item, then store that item into the array...
        [arrData addObject:xmlItem];
        [xmlItem release];
        xmlItem = nil;
    }
    else if(xmlItem != nil){
        [xmlItem setObject:currentString forKey:currentElement];
    }
}

- (void)parser:(NSXMLParser *)parser foundCharacters:(NSString *)string {
    NSLog(@"found characters: %@", string);
    // save the characters for the current item...
    [currentString appendString:string];
}
```

實作(.m)

▶ UITableViewDataSource & tableViewDelegate

```
#pragma mark - UITableViewDataSource Methods
- (NSInteger)tableView:(UITableView *)tableView numberOfRowsInSection:(NSInteger)section {
    return arrData.count;
}

- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)indexPath {

    NSString *CellIdentifier = @"UITableViewCell";
    UITableViewCell *cell =[tableView dequeueReusableCellWithIdentifier:CellIdentifier];
    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault reuseIdentifier:CellIdentifier];
    }

    NSMutableDictionary *dict = [arrData objectAtIndex:indexPath.row];
    cell.textLabel.text = [NSString stringWithFormat:@"%@", [dict objectForKey:@"title"]];
    return cell;
}

#pragma mark - tableViewDelegate Methods

- (void)tableView:(UITableView *)tableView didSelectRowAtIndexPath:(NSIndexPath *)indexPath {
    [tableView deselectRowAtIndexPath:indexPath animated:YES];
}
}
```

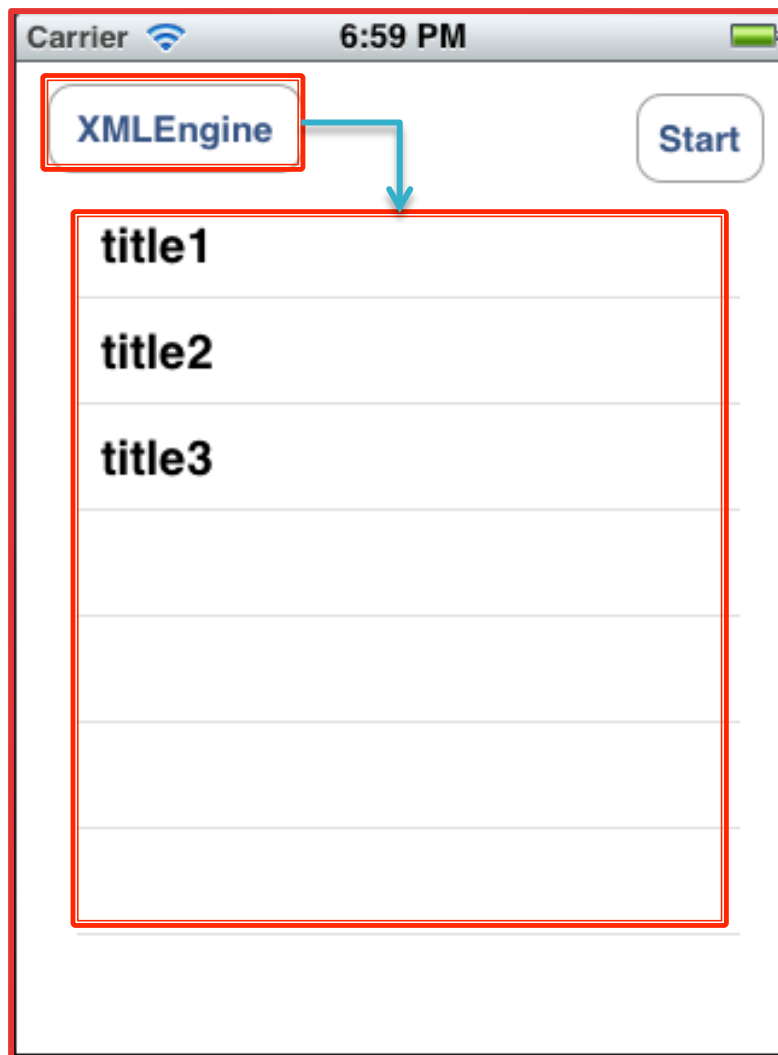
XMLEngine說明

▶ XMLEngine

- 加入函式庫: libxml2.2.7.3.dylib
- 建立XML資料
 - – (NSString*) Create1LXML : (NSString*) root : (NSArray *)arrKey: (NSArray *)arrValue;
- 解析資料
 - – (NSMutableArray*) Parse3LResponse: (NSData*) document;

XMLEngine操作練習

▶ 執行結果



定義介面參數(.h)

```
#import <UIKit/UIKit.h>
#import "ASIHTTPRequest.h"
#import "XMLEngine.h"

@interface SecondViewController : UIViewController
    <NSXMLParserDelegate, UITableViewDelegate, UITableViewDataSource>
{
    IBOutlet UITableView *m_table;

    NSMutableArray *arrData;
    // a temporary item; added to the "stories" array one at a time, and cleared for the next one
    NSMutableDictionary *xmlItem;
    // it parses through the document, from top to bottom...
    // we collect and cache each sub-element value, and then save each item to our array.
    // we use these to track each current item, until it's ready to be added to the "stories" array
    NSString * currentElement;
    NSMutableString *currentString;
}
@end
```

實作(.m)

▶ btnXMLEngineAction

```
- (IBAction)btnXMLEngineAction:(id)sender {
    if(arrData == nil) arrData = [[NSMutableArray alloc] initWithCapacity:0];
    else [arrData removeAllObjects];

    NSURL *url = [NSURL URLWithString: @"http://freeidea.mypricemap.com/test.xml"];
    ASIHTTPRequest *request = [ASIHTTPRequest requestWithURL:url];
    [request startSynchronous];

    NSError *error = [request error];
    if (!error) {
        NSLog(@"Response: %@", [request responseString]);
        XMLEngine *xmlobj = [[XMLEngine alloc] init];
        NSMutableArray *root = [xmlobj Parse3LResponse:[request responseData]];
        if(root == nil) return;
        NSLog(@"XML: %@", root);

        for(int i = 1; i < root.count; i++) {
            [arrData addObject:[root objectAtIndex:i]];
        }
        [m_table reloadData];
    } else {
        NSLog(@"Error: %@", error);
    }
}
```

實作(.m)

▶ btnStartAction

```
- (IBAction)btnStartAction:(id)sender {
    if(arrData == nil) arrData = [[NSMutableArray alloc] initWithCapacity:0];
    else [arrData removeAllObjects];

    NSURL *url = [NSURL URLWithString: @"http://freeidea.mypricemap.com/test.xml"];
    NSXMLParser *xmlParser = [[NSXMLParser alloc] initWithContentsOfURL:url];
    // Set self as the delegate of the parser so that it will receive the parser delegate methods callbacks.
    [xmlParser setDelegate:self];
    [xmlParser parse];
    [xmlParser release];
}
```

SQLite操作練習

- ▶ 學習目的
 - 導入DBObject SDK
 - 操做DBObject類別
 - 透過DBObject類別操作SQLite
 - 儲存解析的資料

DBObject

▶ DBObject

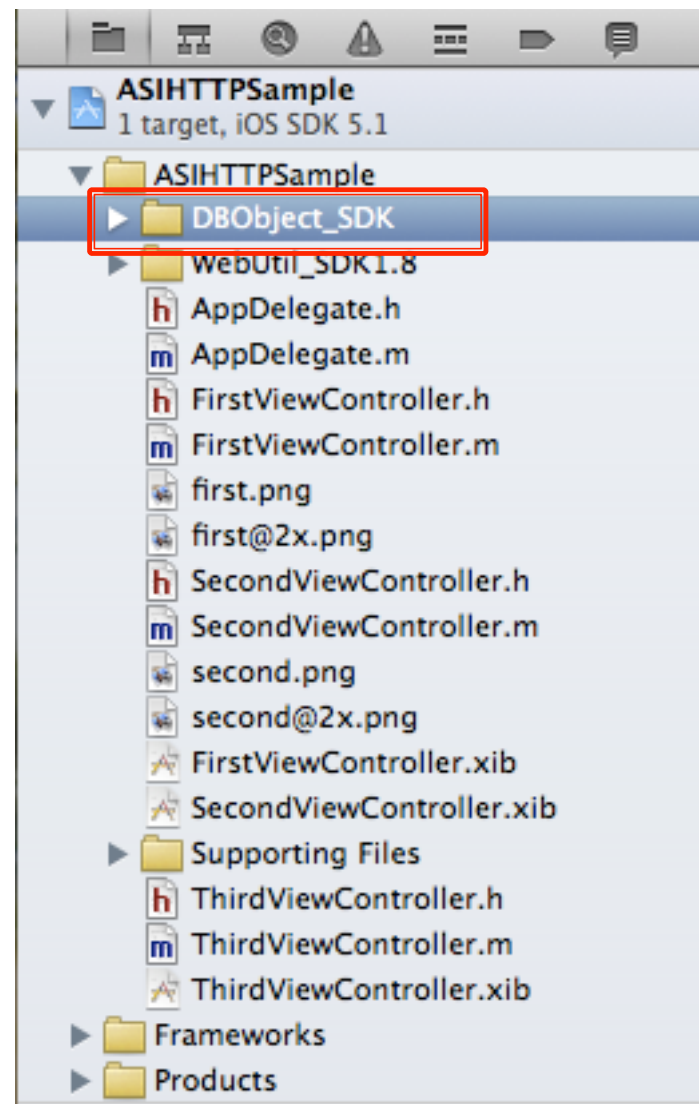
- 初始化資料庫
 - – (id) initWithTables: (NSString *)outtables andFields:(NSString *)outfields isNewDB:(BOOL)isNew;
- 資料表操作
 - – (bool) insertDBWithDictionary:(NSString *)table: (NSMutableDictionary *)values;
 - – (void) deleteDB: (NSString *)table: (NSString *)condition;
 - – (NSMutableArray *) selectDB: (NSString *)table: (NSString *)fields : (NSString *)constrain;
 - – (void) modifyDB: (NSString *)table: (NSMutableDictionary *)setData: (NSString *)condition;

▶ 注意事項

- SQLite無法使用關聯性查詢
- DBObject SDK所有資料皆以字串儲存
- DBObject SDK的資料表已預設一鍵值(id)

導入DBObject

- ▶ 加入專案
- ▶ 加入函式庫
 - libsqlite3.0.dylib



設定TABLES及FIELDS

▶ DBObject.h

```
#define TABLE1 @"table1"  
#define FIELDS1 @"m_id,m_title,m_time"  
  
#define TABLE2 @"table2"  
#define FIELDS2 @"m_id,m_title,context,m_time"  
  
#define TABLES TABLE1"\n\n"TABLE2  
#define FIELDS FIELDS1"\n\n"FIELDS2
```


定義介面參數(.h)

```
#import <UIKit/UIKit.h>
#import "ASIHTTPRequest.h"
#import "XMLEngine.h"
#import "DBObject.h"

@interface ThirdViewController : UIViewController
{
    DBObject *dbObject;

    IBOutlet UITableView *m_table;

    NSMutableArray *arrData;
    // a temporary item; added to the "stories" array one at a time, and cleared for the next one
    NSMutableDictionary *xmlItem;
    // it parses through the document, from top to bottom...
    // we collect and cache each sub-element value, and then save each item to our array.
    // we use these to track each current item, until it's ready to be added to the "stories" array
    NSString * currentElement;
    NSMutableString *currentString;
}
@end
```

實作(.m)

```
- (IBAction)btnXMLEngineAction:(id)sender {
    [arrData removeAllObjects];

    NSURL *url = [NSURL URLWithString:@"http://freeidea.mypricemap.com/test.xml"];
    ASIHTTPRequest *request = [ASIHTTPRequest requestWithURL:url];
    [request startSynchronous];

    NSError *error = [request error];
    if (!error) {
        NSLog(@"Response: %@", [request responseString]);
        XMLEngine *xmlobj = [[XMLEngine alloc] init];
        NSMutableArray *root = [xmlobj Parse3LResponse:[request responseData]];
        if(root == nil) return;
        NSLog(@"XML: %@", root);

        for(int i = 1; i < root.count; i++) {
            //[arrData addObject:[root objectAtIndex:i]];
            NSMutableArray *arr2L = [root objectAtIndex:i];
            NSMutableDictionary *dict = [arr2L objectAtIndex:0];
            //轉換資料
            [dict setObject:[NSString stringWithFormat:@"%d", [dict objectForKey:@"title"]] forKey:@"m_title"];
            [dict setObject:[NSString stringWithFormat:@"%d", [dict objectForKey:@"context"]] forKey:@"m_context"];
            [dict setObject:[NSString stringWithFormat:@"%d", [dict objectForKey:@"date"]] forKey:@"m_time"];
            //刪除已存在資料
            NSArray *arrTmp = [dbObject selectDB:TABLE1 :SELECTALLFIELDS :[NSString stringWithFormat:@" where m_title=
                '%d'", [dict objectForKey:@"title"]]];
            for(int i = 0; i < arrTmp.count; i++) {
                NSMutableDictionary *deldict = [root objectAtIndex:i];
                [dbObject deleteDB:TABLE1 :[NSString stringWithFormat:@" id=%d", [deldict objectForKey:@"id"]]];
            }
            [arrTmp release];
            //插入新資料
            [dbObject insertDBWithDictionary:TABLE1 :dict];
        }

        NSArray *arrTmp = [dbObject selectDB:TABLE1 :SELECTALLFIELDS :nil];
        [arrData addObjectsFromArray:arrTmp];
        [arrTmp release];
        [m_table reloadData];
    } else {
        NSLog(@"Error: %@", error);
    }
}
```

實作(.m)

```
#pragma mark - UITableViewDataSource Methods
- (NSInteger)tableView:(UITableView *)tableView numberOfRowsInSection:(NSInteger)section {
    return arrData.count;
}

- (UITableViewCell *)tableView:(UITableView *)tableView cellForRowAtIndexPath:(NSIndexPath *)indexPath {

    NSString *CellIdentifier = @"UITableViewCell";
    UITableViewCell *cell =[tableView dequeueReusableCellWithIdentifier:CellIdentifier];
    if (cell == nil) {
        cell = [[UITableViewCell alloc] initWithStyle:UITableViewCellStyleDefault reuseIdentifier:CellIdentifier];
    }

    NSMutableDictionary *dict = [arrData objectAtIndex:indexPath.row];
    cell.textLabel.text = [NSString stringWithFormat:@"%@", [dict objectForKey:@"m_title"]];
    return cell;
}

#pragma mark - tableViewDelegate Methods

- (void)tableView:(UITableView *)tableView didSelectRowAtIndexPath:(NSIndexPath *)indexPath {
    [tableView deselectRowAtIndexPath:indexPath animated:YES];
}
}
```

實作(.m)

```
- (void)viewDidLoad
{
    [super viewDidLoad];
    // Do any additional setup after loading the view from its nib.
    dbObject = [[DBObject alloc] initWithTables:TABLES andFields:FIELDS isNewDB:PHNEWDNDATA];
    NSArray *arrTmp = [dbObject selectDB:TABLE1 :SELECTALLFIELDS :nil];

    arrData = [[NSMutableArray alloc] initWithCapacity:0];
    [arrData addObjectsFromArray:arrTmp];
    [arrTmp release];
    [m_table reloadData];
}

- (void)viewDidUnload
{
    [super viewDidUnload];
    // Release any retained subviews of the main view.
    // e.g. self.myOutlet = nil;
    [dbObject release];
    [arrData release];
}
```

NSUserDefaults操作練習

- ▶ 學習目的
 - 透過NSUserDefaults存入App專屬資料
 - 取得NSUserDefaults資料
- ▶ 重點整理
 - 可以儲存各種資料類型
 - 儲存
 - `[[NSUserDefaults standardUserDefaults] setXXX:資料 forKey:鍵值];`
 - 讀取
 - `[[NSUserDefaults standardUserDefaults] XXXForKey:鍵值];`

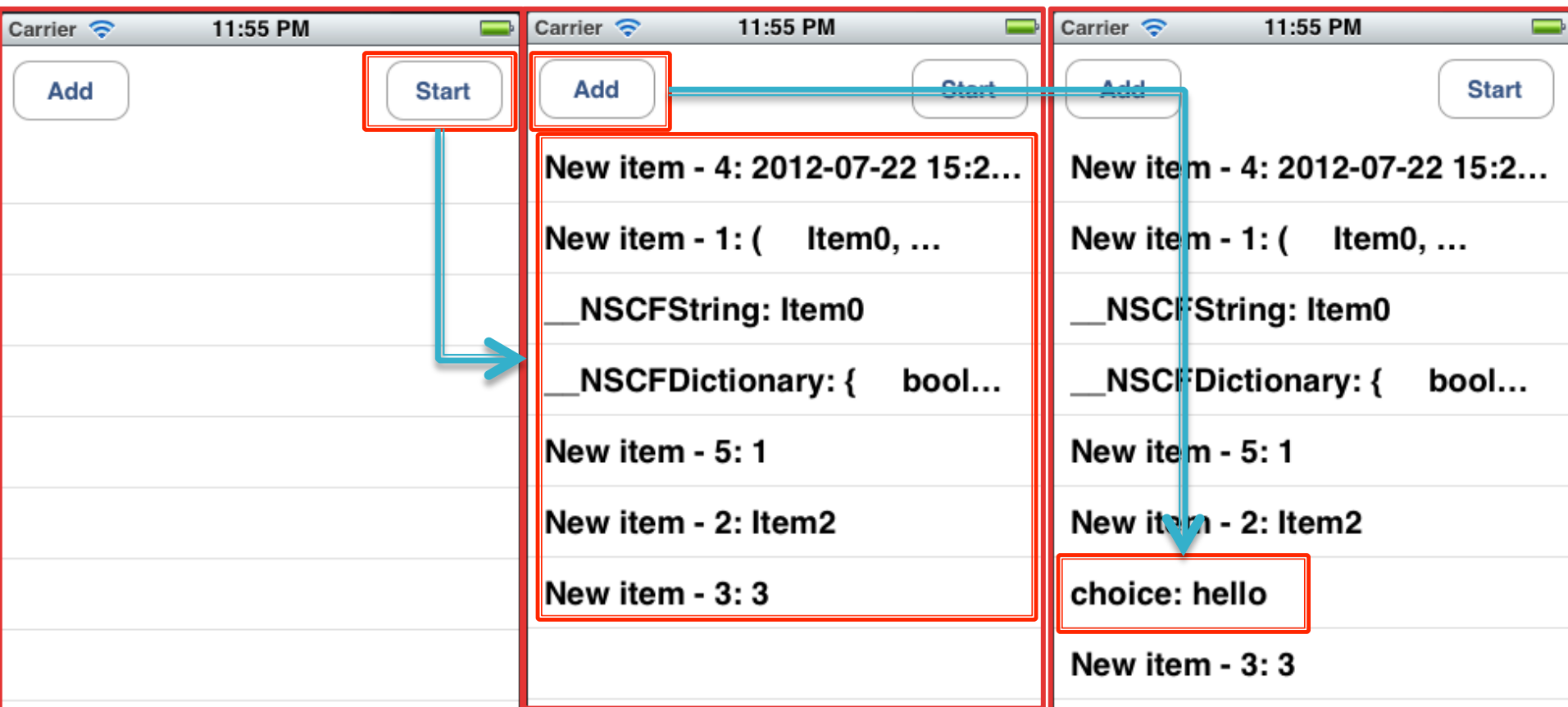
實作(.m)

```
[[NSUserDefaults standardUserDefaults] setObject:@"My NSUserDefaults data" forKey:@"TEST"];  
NSString *str = [[NSUserDefaults standardUserDefaults] objectForKey:@"TEST"];  
NSLog(@"GET: %@", str);
```

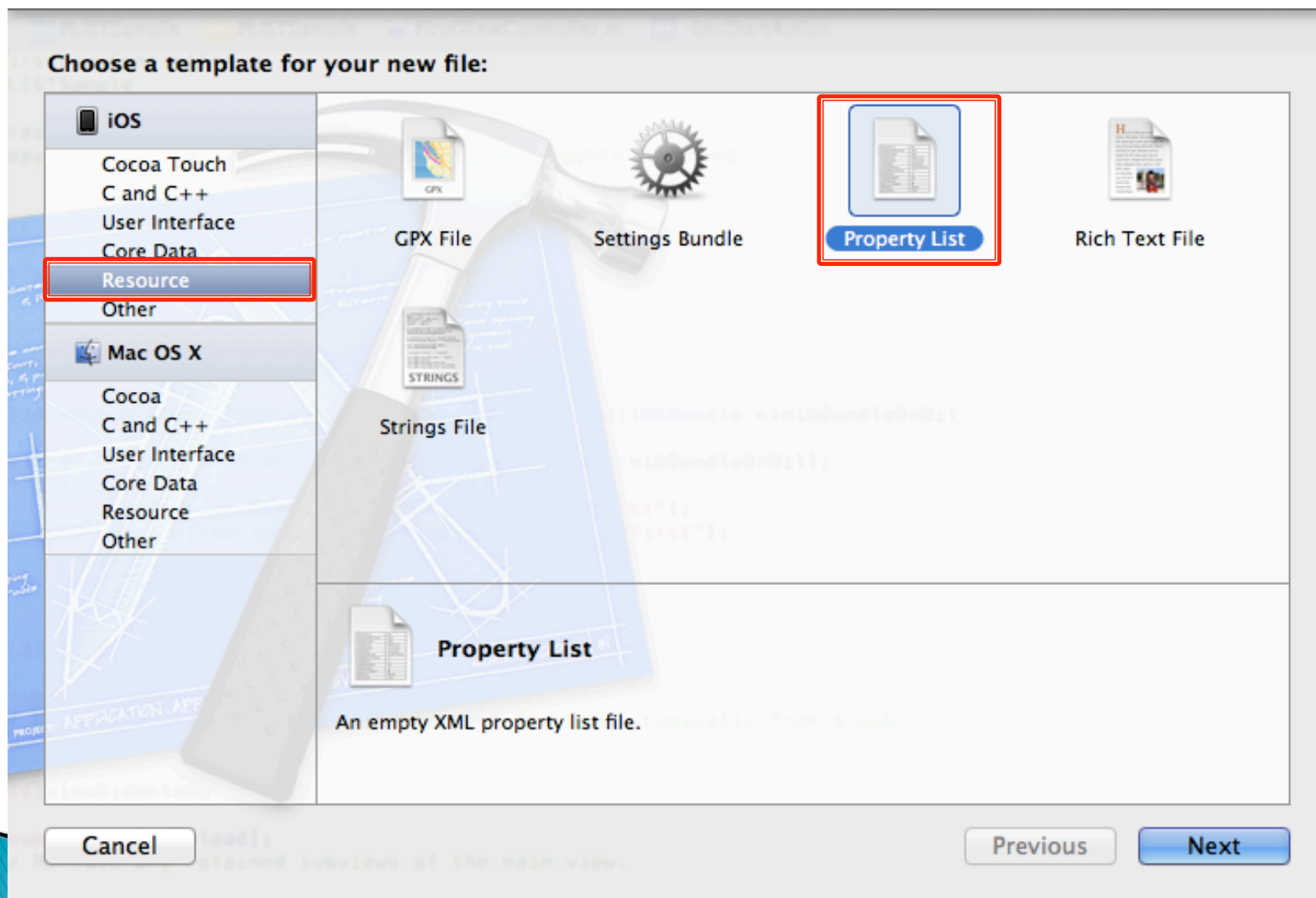
PLIST操作練習

- ▶ 學習目的
 - 讀取.plist資料
 - 儲存資料至.plist
- ▶ 重點整理
 - 儲存資料類型:
 - 讀取後資料由NSDictionary及NSArray組成
 - 重新安裝後，會覆寫修改後的PList檔案

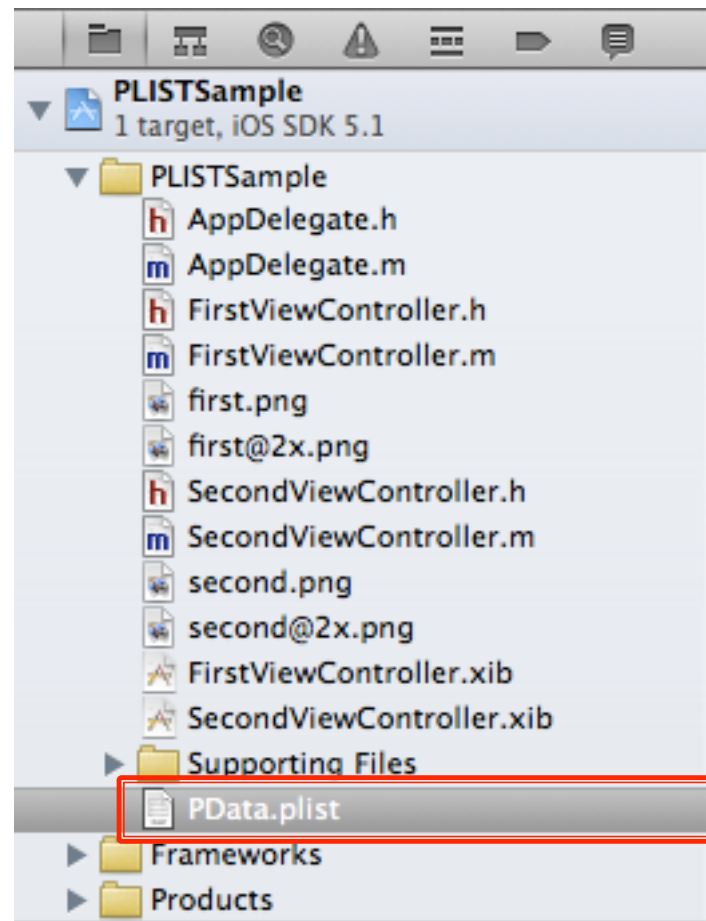
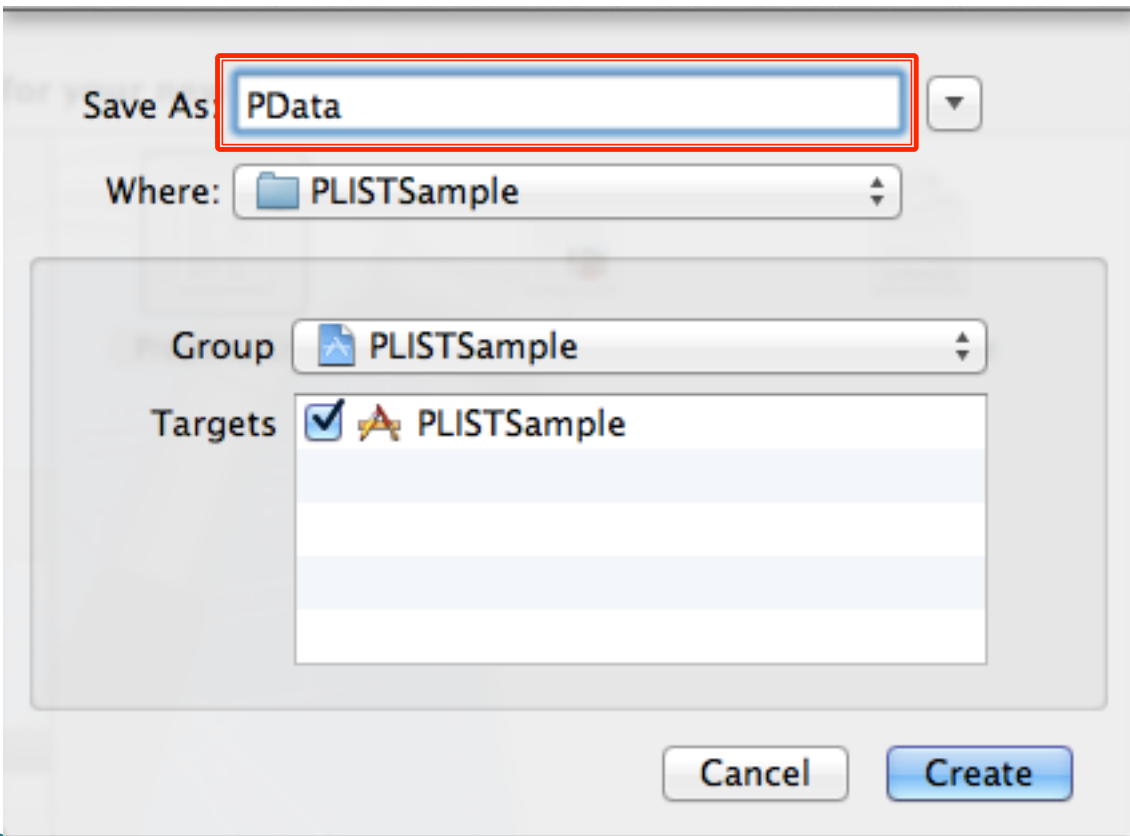
執行結果



加入.plist檔案



加入.plist檔案



加入資料

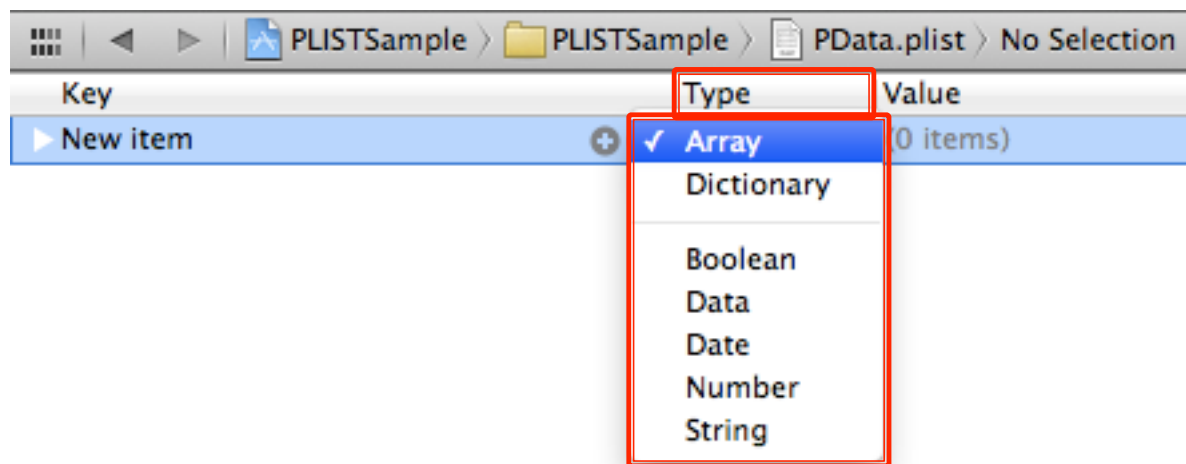
The screenshot shows the Xcode interface with a project named 'PLISTSAMPLE'. The left sidebar shows the project structure, with 'PData.plist' selected under 'Supporting Files'. The main editor area shows a table with columns 'Key', 'Type', and 'Value'. A new row is being added, with 'New item' in the 'Key' column and 'String' in the 'Type' column. A context menu is open over the 'New item' key, with 'Add Row' highlighted. A blue callout box on the right says '右鍵點擊空白處' (Right-click in the blank area).

Key	Type	Value
New item	String	

右鍵點擊空白處

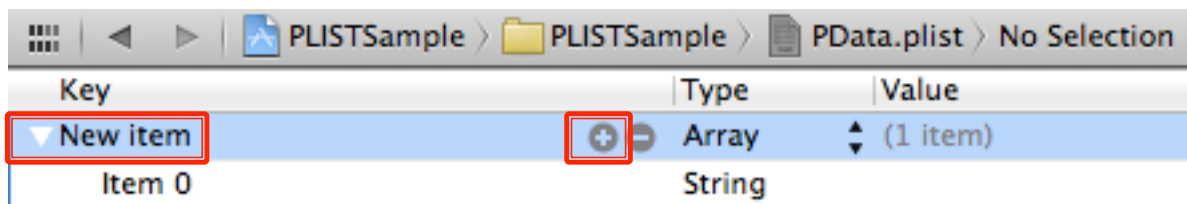
加入資料

▶ 設定資料類型



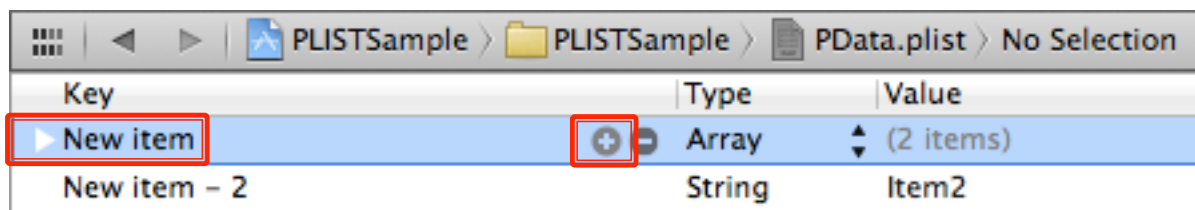
加入資料

- ▶ 新增子項
 - 點擊欲新增項目，箭頭變成向下
 - 點擊[+]



加入資料

- ▶ 新增項目
 - 點擊欲插入項目，縮回子項，箭頭變成向右
 - 點擊[+]



定義介面參數(.h)

```
#import <UIKit/UIKit.h>

@interface FirstViewController : UIViewController <UITableViewDelegate, UITableViewDataSource>
{
    IBOutlet UITableView *m_tableView;
    NSMutableDictionary *m_DictPList;
}

@end
```

實作(.m)

▶ btnStartAction

```
- (IBAction)btnStartAction:(id)sender {
    NSString *path = [[NSBundle mainBundle] bundlePath];
    //指定資料檔位置
    NSString *finalPath = [path stringByAppendingPathComponent:@"PData.plist"];
    NSLog(@"%@", finalPath);

    //將資料檔資料讀入Dictionary
    NSMutableDictionary *plistData = [[NSMutableDictionary dictionaryWithContentsOfFile:finalPath] mutableCopy];

    if(m_DictPList) [m_DictPList release];
    m_DictPList = [[NSMutableDictionary alloc] initWithDictionary:plistData];
    NSLog(@"%@", m_DictPList);

    [m_tableView reloadData];
}
```


實作(.m)

▶ btnAddAction

```
- (IBAction)btnAddAction:(id)sender {
    if(m_DictPList == nil) return;
    NSString *path = [[NSBundle mainBundle] bundlePath];
    //指定資料檔位置
    NSString *finalPath = [path stringByAppendingPathComponent:@"PData.plist"];

    //寫入一筆資料
    [m_DictPList setValue:@"hello" forKey:@"choice"];
    [m_DictPList writeToFile:finalPath atomically:YES];

    [m_tableView reloadData];
}
```

實作練習

- ▶ 讀取TKU Times的RSS
 - <http://tkutimes.tku.edu.tw/ashx/ChRss.ashx>
 - 點選其中一個欄位，顯示其文字內容

實作練習

