

 무료 전자 책

배우기

Xamarin.iOS

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[#xamarin.io](https://xamarin.io)

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1: Xamarin.iOS

Xamarin.iOS Objective-C Xcode UI iOS (C #) , BCL (.NET Base Class Library) , Xamarin Studio Visual Studio 2 IDE .

Mac Windows Xamarin.iOS Xamarin [Getting Started](#) .

1.0	2009-09-14
2.0	2010-04-05
3.0	2010-04-16
4.0	2011-04-06
5.0	2011-10-12
6.0	2012-09-19
7.0	2013-09-18
8.0	2014-09-10
9.0	2015-09-17
9.2	2015-11-17
9.4	2015-12-09
9.6	2016-03-22

<https://developer.xamarin.com/releases/ios/> .

Examples

Xamarin Studio

1. > > .
2. .
3. ID .

Configure your iOS app

App Name: HelloApp

Organization Identifier: com.xamarin

Bundle Identifier: com.xamarin.helloapp



Devices: iPad

iPhone

Select the minimum iOS version you support.

5. | iPhone 6s iOS 9.x .



6. iOS .

2. Visual C #> iOS> iPhone .

New Project

▷ Recent

.NET Framework 4.5.2

Sort

◀ Installed

◀ Templates

◀ Visual C#

▷ Windows

Web

Android

Cloud

Cross-Platform

Extensibility

◀ iOS

Apple Watch

Extensions

iPad

iPhone

Universal

LightSwitch

Office/SharePoint

Silverlight

Test



Blank App (iPhone)



Master-Detail App (iPhone)



Metal Game (iPhone)



OpenGL Game (iPhone)



Page Based App (iPhone)



SceneKit Game (iPhone)



Single View App (iPhone)



SpriteKit Game (iPhone)



Tabbed App (iPhone)



WebView App (iPhone)

▷ Online

[Click here](#)

Name:

HelloApp

Location:

C:\Users\Amy\Documents\

Solution name:

HelloApp



3. **OK** .

4. Mac Agent :



5. Mac (Mac). .

Select a Mac to use it as a Xamarin Mac Agent:

-  amyb.local
10.211.55.2
-  10.1.8.95
10.1.8.95

Add Mac...

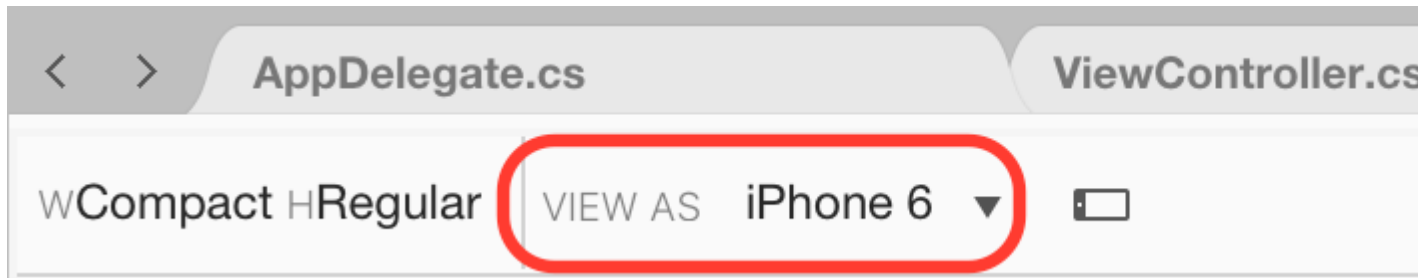
[Where's my Mac?](#)

6. | iPhone Simulator .

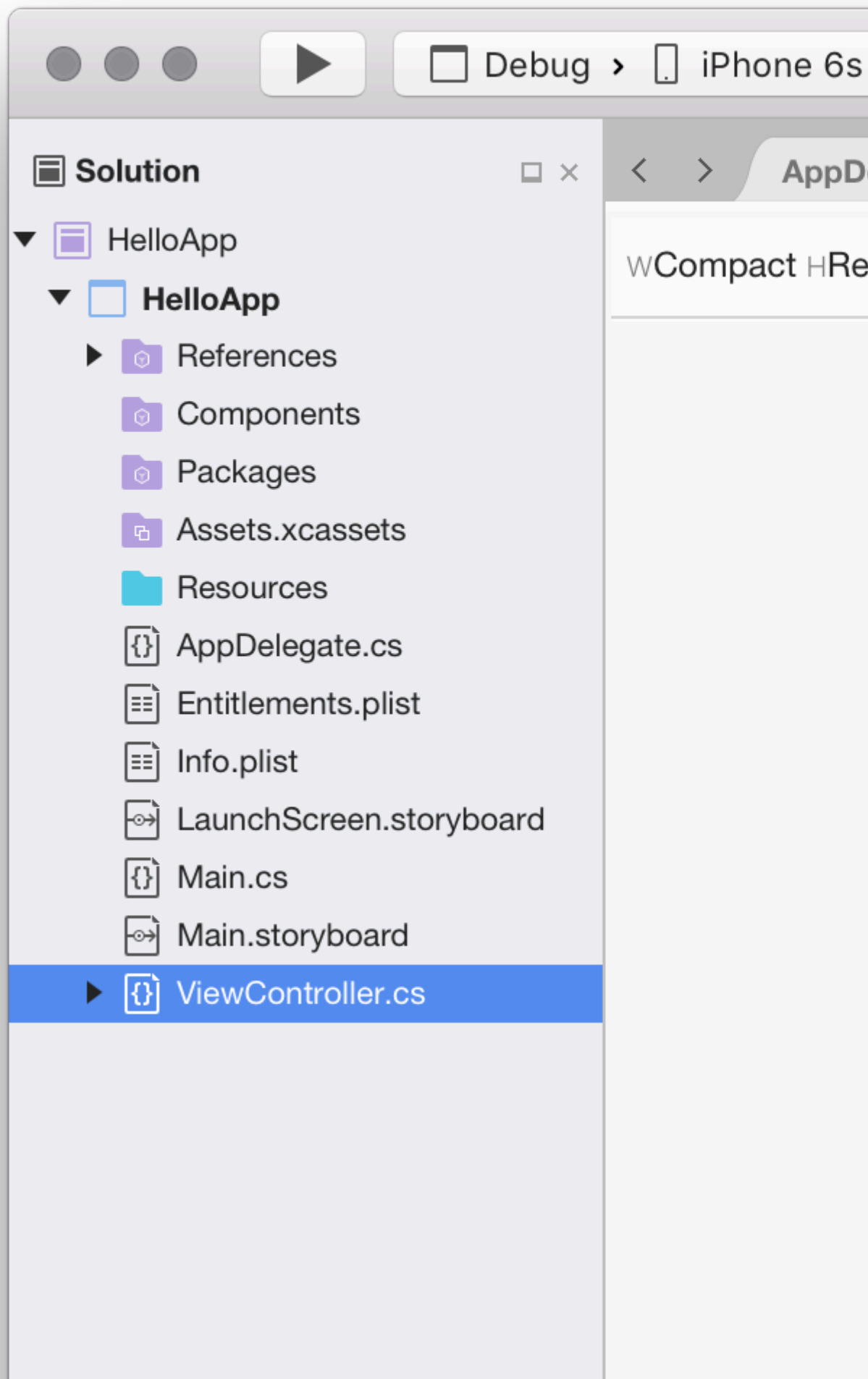


7. Mac iOS .

2. iPhone 6 :



3. .



4. .

lbl		[]
		!

5. ViewController ViewDidLoad .

```
clickMe.TouchUpInside += (sender, e) =>
{
    totalClicks++;
    if (totalClicks == 1)
    {
        lblClicks.Text = totalClicks + " Click";
    }

    else {
        lblClicks.Text = totalClicks + " Clicks";
    }
};
```

6.

Xamarin.iOS : <https://riptutorial.com/ko/xamarin-ios/topic/402/xamarin-ios->

2: GetHeightForRow

. UITableViewSource.EstimatedHeight (UITableView, NSIndexPath) (:).

```
public override nfloat EstimatedHeight (UITableView tableView, NSIndexPath indexPath)
{
    return 44.0f;
}
```

Examples

GetHeightForRow

UITableViewSource.GetHeightForRow (UITableView, NSIndexPath) .

```
public class ColorTableDataSource : UITableViewSource
{
    List<DomainClass> Model { get; set; }

    public override nfloat GetHeightForRow (UITableView tableView, NSIndexPath indexPath)
    {
        var height = Model[indexPath.Row % Model.Count].Height;
        return height;
    }

    //...etc ...
}
```

(3 3 1):

```
public class DomainClass
{
    static Random rand = new Random(0);
    public UIColor Color { get; protected set; }
    public float Height { get; protected set; }

    static UIColor[] Colors = new UIColor[]
    {
        UIColor.Red,
        UIColor.Green,
        UIColor.Blue,
        UIColor.Yellow
    };

    public DomainClass()
    {
        Color = Colors[rand.Next (Colors.Length)];
        switch (rand.Next (3))
        {
            case 0:
                Height = 24.0f;
                break;
            case 1:

```

```
        Height = 44.0f;
        break;
    case 2:
        Height = 64.0f;
        break;
    default:
        throw new ArgumentOutOfRangeException();
    }
}

public override string ToString()
{
    return string.Format("[DomainClass: Color={0}, Height={1}]", Color, Height);
}
}
```

?

3: iOS

iOS :

.
.

StackOverflow [iOS7](#) [Obj-c](#)

Examples

```
public override voidDidEnterBackground(UIApplication application)
{
    //to add the background image in place of 'active' image
    var backgroundImage = new UIImageView();
    backgroundImage.Tag = 1234;
    backgroundImage.Image = UIImage.FromBundle("Background");
    backgroundImage.Frame = this.window.Frame;
    this.window.AddSubview(backgroundImage);
    this.window.BringSubviewToFront(backgroundImage);
}

public override void WillEnterForeground(UIApplication application)
{
    //remove 'background' image
    var backgroundView = this.window.ViewWithTag(1234);
    if (null != backgroundView)
        backgroundView.RemoveFromSuperview();
}
```

iOS : <https://riptutorial.com/ko/xamarin-ios/topic/8681/ios----->

4: iOS

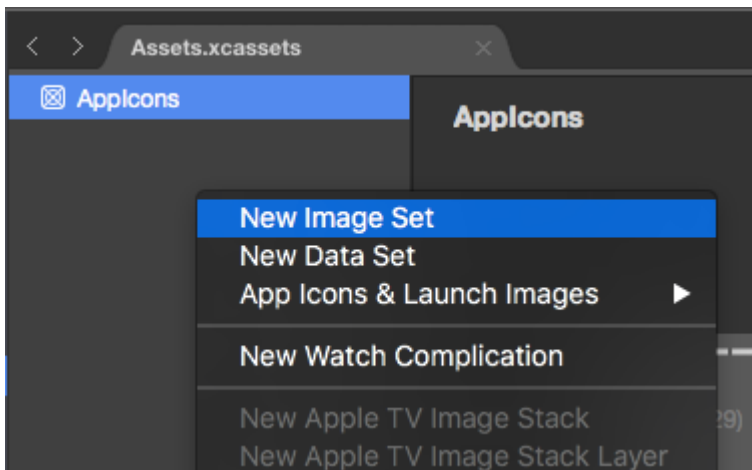
iOS . iOS 1x, 2x 3x . 1x iOS 9 .
(thinning) (slicing) App Store .

Examples

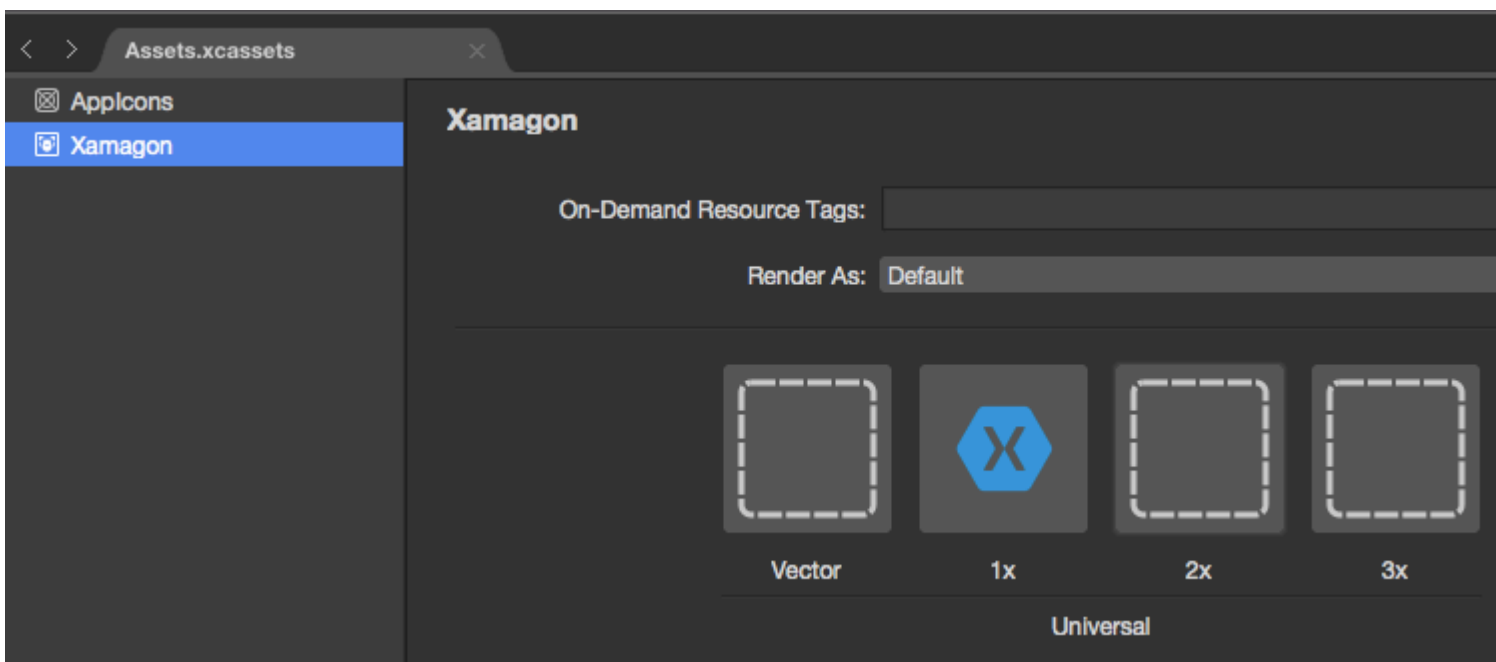
`UIImage.FromBundle(string imageName)`

```
UIImage image = UIImage.FromBundle("ImageName");  
// use the name of the image set from the asset catalog
```

`UIImageView` .



, . . . (: PDF) 1x, 2x 3x iOS .



. UIImageView .

iOS : <https://riptutorial.com/ko/xamarin-ios/topic/6241/ios----->

5: Microsoft

Microsoft.ProjectOxford.Vision NuGet .
<https://www.nuget.org/packages/Microsoft.ProjectOxford.Vision/>

Microsoft (<https://www.microsoft.com/cognitive-services/en-us/computer-vision-api>) .

GitHub : https://github.com/Daniel-Krzyczkowski/XamarinIOS/tree/master/XamarinIOS_CognitiveServices

Xamarin Forms . <http://mobileprogrammer.pl>

Examples

Microsoft

Microsoft Xamarin iOS . API .

Xamarin.iOS NuGet .

<https://www.nuget.org/packages/Microsoft.ProjectOxford.Vision/>

iOS . Microsoft Computer Vision API :

Computer Vision - 5,000 transactions per month, 20 per minute.
Preview

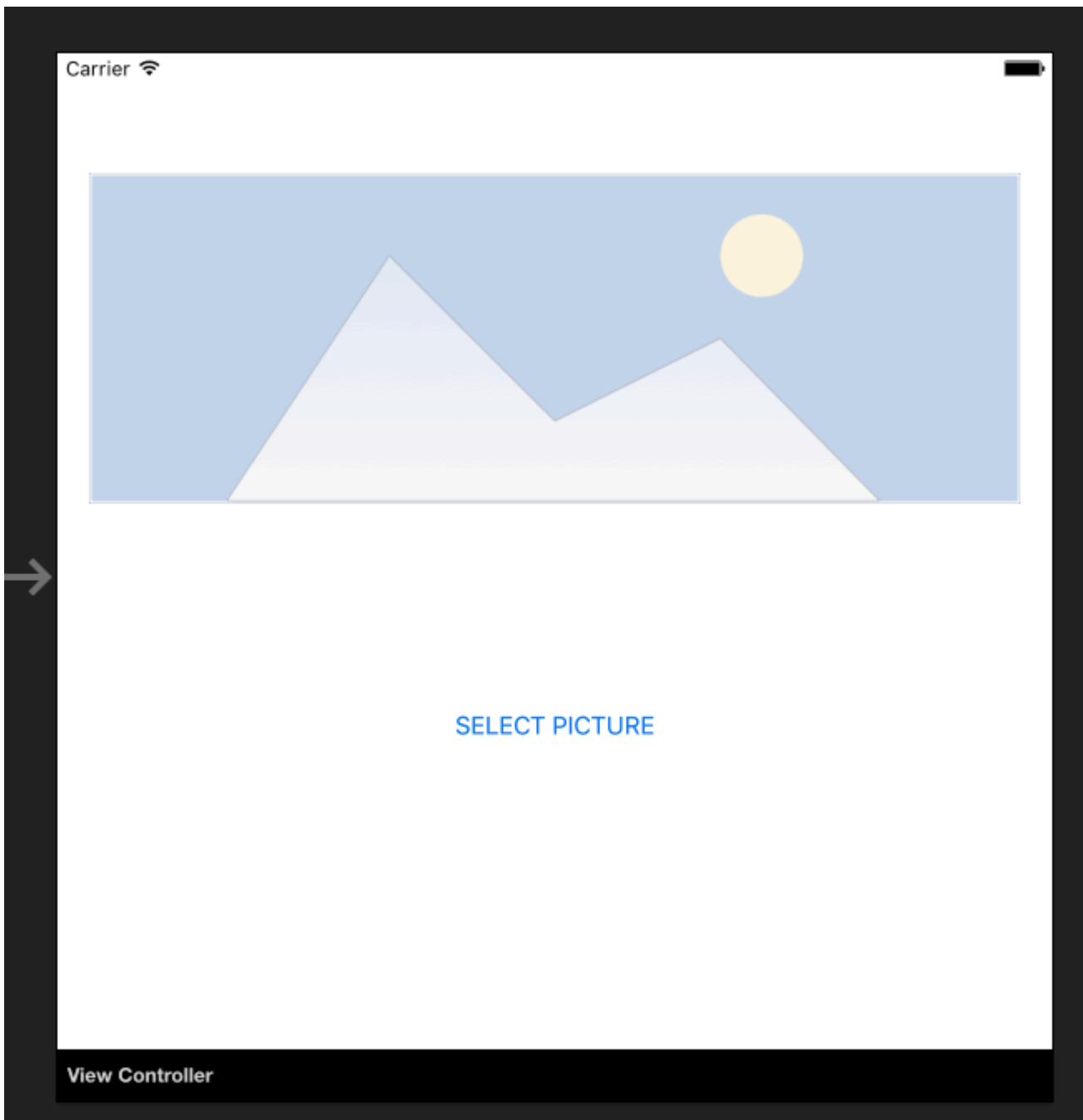
"Subscribe" Api Key :

Computer Vision - Preview	5,000 transactions per month, 20 per minute.	Key 1: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX Regenerate Show Copy
		Key 2: XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX Regenerate Show Copy

iOS . . Xamarin Media Component . <https://components.xamarin.com/view/mediaplugin>

UI . .

Main.storyboard UIImageView UIButton ViewController. : "SelectedPictureImageView"
"SelectButton":



"Touch Up Inside" .

```
partial void SelectButtonClick(UIButton sender)
{
    selectImage();
}

async void selectImage()
{
    var selectedImage = await CrossMedia.Current.PickPhotoAsync();
    SelectedPictureImageView.Image = new
    UIImage(NSData.FromStream(selectedImage.GetStream()));
}
```

Cognitive Services . "AnalysisLabel" .



SELECT PICTURE

Analysis result....

API !

.API !

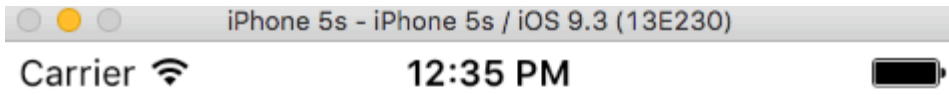
```
async Task analyseImage(Stream imageStream)
{
    try
    {
        VisionServiceClient visionClient = new VisionServiceClient("<<YOUR API KEY HERE>>");
        VisualFeature[] features = { VisualFeature.Tags, VisualFeature.Categories,
        VisualFeature.Description };
        var analysisResult = await visionClient.AnalyzeImageAsync(imageStream,
        features.ToList(), null);
        AnalysisLabel.Text = string.Empty;
        analysisResult.Description.Tags.ToList().ForEach(tag => AnalysisLabel.Text =
        AnalysisLabel.Text + tag + "\n");
    }
    catch (Microsoft.ProjectOxford.Vision.ClientException ex)
    {
        AnalysisLabel.Text = ex.Error.Message;
    }
}
```

"selectImage" .

```
async void selectImage()
```

```
{
    var selectedImage = await CrossMedia.Current.PickPhotoAsync();
    SelectedPictureImageView.Image = new
    UIImage(NSData.FromStream(selectedImage.GetStream()));
    await analyseImage(selectedImage.GetStream());
}
```

Microsoft .



SELECT PICTURE

car



SELECT PICTURE

Input image is too large.

. ().

Microsoft : <https://riptutorial.com/ko/xamarin-ios/topic/6122/microsoft-->

6: UIImageView UIScrollView / .

UIImageView .

DoubleTap minScale doubleTapScale .

Examples

```
private float minScale = 1f;
private float doubleTapScale = 2f;
private float maxScale = 4f;

private void SetUpDoubleTapZoom()
{
    imageViewToZoom.ContentMode = UIViewContentMode.ScaleAspectFit;
    scrollView.MaximumZoomScale = maxScale;
    scrollView.MinimumZoomScale = minScale;

    var doubleTap = new UITapGestureRecognizer(OnDoubleTap)
    {
        NumberOfTapsRequired = 2
    };

    scrollView.AddGestureRecognizer(doubleTap);
}

private void OnDoubleTap(UIGestureRecognizer gesture)
{
    scrollView.ZoomScale = (scrollView.ZoomScale.Equals(minScale)) ? doubleTapScale :
minScale;
}
```

/

```
private float minScale = 1f;
private float maxScale = 4f;

private void SetUpPinchGestureZoom()
{
    imageViewToZoom.ContentMode = UIViewContentMode.ScaleAspectFit;

    scrollView.MaximumZoomScale = maxScale;
    scrollView.MinimumZoomScale = minScale;

    scrollView.ViewForZoomingInScrollView += (UIScrollView sv) => { return imageViewToZoom; };
}
```

UIImageView UIScrollView / . : <https://riptutorial.com/ko/xamarin-ios/topic/6346/uiimageview-uiscrollview----->

7: UIImage

Examples

```
// resize the image to be contained within a maximum width and height, keeping aspect ratio
public static UIImage MaxResizeImage(this UIImage sourceImage, float maxWidth, float
maxHeight)
{
    var sourceSize = sourceImage.Size;
    var maxResizeFactor = Math.Min(maxWidth / sourceSize.Width, maxHeight /
sourceSize.Height);
    if (maxResizeFactor > 1) return sourceImage;
    var width = maxResizeFactor * sourceSize.Width;
    var height = maxResizeFactor * sourceSize.Height;
    UIGraphics.BeginImageContext(new CGSize(width, height));
    sourceImage.Draw(new CGRect(0, 0, width, height));
    var resultImage = UIGraphics.GetImageFromCurrentImageContext();
    UIGraphics.EndImageContext();
    return resultImage;
}
```

```
// resize the image (without trying to maintain aspect ratio)
public static UIImage ResizeImage(this UIImage sourceImage, float width, float height)
{
    UIGraphics.BeginImageContext(new.SizeF(width, height));
    sourceImage.Draw(new.RectangleF(0, 0, width, height));
    var resultImage = UIGraphics.GetImageFromCurrentImageContext();
    UIGraphics.EndImageContext();
    return resultImage;
}
```

```
// crop the image, without resizing
public static UIImage CropImage(this UIImage sourceImage, int crop_x, int crop_y, int width,
int height)
{
    var imgSize = sourceImage.Size;
    UIGraphics.BeginImageContext(new.SizeF(width, height));
    var context = UIGraphics.GetCurrentContext();
    var clippedRect = new.RectangleF(0, 0, width, height);
    context.ClipToRect(clippedRect);
    var drawRect = new.CGRect(-crop_x, -crop_y, imgSize.Width, imgSize.Height);
    sourceImage.Draw(drawRect);
    var modifiedImage = UIGraphics.GetImageFromCurrentImageContext();
    UIGraphics.EndImageContext();
    return modifiedImage;
}
```

UIImage : <https://riptutorial.com/ko/xamarin-ios/topic/6542/uiimage--->

8: UILocalNotification User Notifications

Examples

1. UserNotifications .

```
@import UserNotifications;
```

2. localNotification

```
let center = UNUserNotificationCenter.current()
center.requestAuthorization([.alert, .sound]) { (granted, error) in
    // Enable or disable features based on authorization.
}
```

3. .

```
@IBAction func triggerNotification(){
    let content = UNMutableNotificationContent()
    content.title = NSLocalizedString(forKey: "Tom said:", arguments:
nil)
    content.body = NSLocalizedString(forKey: "Hello Mike Let's go.",
arguments: nil)
    content.sound = UNNotificationSound.default()
    content.badge = UIApplication.shared().applicationIconBadgeNumber + 1;
    content.categoryIdentifier = "com.mike.localNotification"
    //Deliver the notification in two seconds.
    let trigger = UNTimeIntervalNotificationTrigger.init(timeInterval: 1.0, repeats: true)
    let request = UNNotificationRequest.init(identifier: "TwoSecond", content: content,
trigger: trigger)

    //Schedule the notification.
    let center = UNUserNotificationCenter.current()
    center.add(request)
}

@IBAction func stopNotification(_ sender: AnyObject) {
    let center = UNUserNotificationCenter.current()
    center.removeAllPendingNotificationRequests()
}
```

UILocalNotification User Notifications : <https://riptutorial.com/ko/xamarin-ios/topic/6382/uilocalnotification-user-notifications---->

9: UITableView PullToRefresh

:

```
UITableView ;
TableSource tableSource;
bool useRefreshControl = false;
UIRefreshControl RefreshControl;
tableItems;
```

```
TableSource TableItem .
```

: <https://github.com/adiaditya/Xamarin.iOS-Samples/tree/master/PullToRefresh>

Examples

UITableView UIRefreshControl

```
public override async void ViewDidLoad(){
    base.ViewDidLoad();
    // Perform any additional setup after loading the view, typically from a nib.

    Title = "Pull to Refresh Sample";
    table = new UITableView(new CGRect(0, 20, View.Bounds.Width, View.Bounds.Height - 20));
    //table.AutoresizingMask = UIViewAutoresizing.All;
    tableItems = new List<TableItem>();
    tableItems.Add(new TableItem("Vegetables") { ImageName = "Vegetables.jpg" });
    tableItems.Add(new TableItem("Fruits") { ImageName = "Fruits.jpg" });
    tableItems.Add(new TableItem("Flower Buds") { ImageName = "Flower Buds.jpg" });
    tableItems.Add(new TableItem("Legumes") { ImageName = "Legumes.jpg" });
    tableItems.Add(new TableItem("Tubers") { ImageName = "Tubers.jpg" });
    tableSource = new TableSource(tableItems);
    table.Source = tableSource;

    await RefreshAsync();

    AddRefreshControl();

    Add(table);
    table.Add(RefreshControl);
}

async Task RefreshAsync()
{
    // only activate the refresh control if the feature is available
    if (useRefreshControl)
        RefreshControl.BeginRefreshing();

    if (useRefreshControl)
        RefreshControl.EndRefreshing();

    table.ReloadData();
}
```

```
#region * iOS Specific Code
// This method will add the UIRefreshControl to the table view if
// it is available, ie, we are running on iOS 6+
void AddRefreshControl()
{
if (UIDevice.CurrentDevice.CheckSystemVersion(6, 0))
{
    // the refresh control is available, let's add it
    RefreshControl = new UIRefreshControl();
    RefreshControl.ValueChanged += async (sender, e) =>
    {
        tableItems.Add(new TableItem("Bulbs") { ImageName = "Bulbs.jpg" });
        await RefreshAsync();
    };
    useRefreshControl = true;
}
}
#endregion
```

UITableView PullToRefresh : <https://riptutorial.com/ko/xamarin-ios/topic/6565/uitableview-pulltorefresh->

10: UITableView

:

```
UITableView ;
TableSource tableSource;
tableItems;
UISearchBar searchBar;
```

. <https://github.com/adiaditya/Xamarin.iOS-Samples/tree/master/SearchBarWithTableView>

Examples

UITearchView UISearchBar

```
public override void ViewDidLoad()
{
    base.ViewDidLoad();
    // Perform any additional setup after loading the view, typically from a nib.

    //Declare the search bar and add it to the header of the table
    searchBar = new UISearchBar();
    searchBar.SizeToFit();
    searchBar.AutocorrectionType = UITextAutocorrectionType.No;
    searchBar.AutocapitalizationType = UITextAutocapitalizationType.None;
    searchBar.TextChanged += (sender, e) =>
    {
        //this is the method that is called when the user searches
        searchTable();
    };

    Title = "SearchBarWithTableView Sample";
    table = new UITableView(new CGRect(0, 20, View.Bounds.Width, View.Bounds.Height - 20));
    //table.AutoresizingMask = UIViewAutoresizing.All;
    tableItems = new List<TableItem>();

    tableItems.Add(new TableItem("Vegetables") { ImageName = "Vegetables.jpg" });
    tableItems.Add(new TableItem("Fruits") { ImageName = "Fruits.jpg" });
    tableItems.Add(new TableItem("Flower Buds") { ImageName = "Flower Buds.jpg" });
    tableItems.Add(new TableItem("Legumes") { ImageName = "Legumes.jpg" });
    tableItems.Add(new TableItem("Tubers") { ImageName = "Tubers.jpg" });
    tableSource = new TableSource(tableItems);
    table.Source = tableSource;
    table.TableHeaderView = searchBar;
    Add(table);
}

private void searchTable()
{
    //perform the search, and refresh the table with the results
    tableSource.PerformSearch(searchBar.Text);
    table.ReloadData();
}
```

TableSource .

```
public class TableSource : UITableViewSource
{
    private List<TableItem> tableItems = new List<TableItem>();
    private List<TableItem> searchItems = new List<TableItem>();
    protected string cellIdentifier = "TableCell";

    public TableSource(List<TableItem> items)
    {
        this.tableItems = items;
        this.searchItems = items;
    }

    public override nint RowsInSection(UITableView tableview, nint section)
    {
        return searchItems.Count;
    }

    public override UITableViewCell GetCell(UITableView tableView, NSIndexPath indexPath)
    {
        // request a recycled cell to save memory
        UITableViewCell cell = tableView.DequeueReusableCell(cellIdentifier);

        var cellStyle = UITableViewCellStyle.Default;

        // if there are no cells to reuse, create a new one
        if (cell == null)
        {
            cell = new UITableViewCell(cellStyle, cellIdentifier);
        }

        cell.TextLabel.Text = searchItems[indexPath.Row].Title;
        cell.ImageView.Image = UIImage.FromFile("Images/" +
searchItems[indexPath.Row].ImageName);

        return cell;
    }

    public override nint NumberOfSections(UITableView tableView)
    {
        return 1;
    }

    public void PerformSearch(string searchText)
    {
        searchText = searchText.ToLower();
        this.searchItems = tableItems.Where(x =>
x.Title.ToLower().Contains(searchText)).ToList();
    }
}
```

UITableView : <https://riptutorial.com/ko/xamarin-ios/topic/6540/uitableview--->

11: Xamarin iOS Google

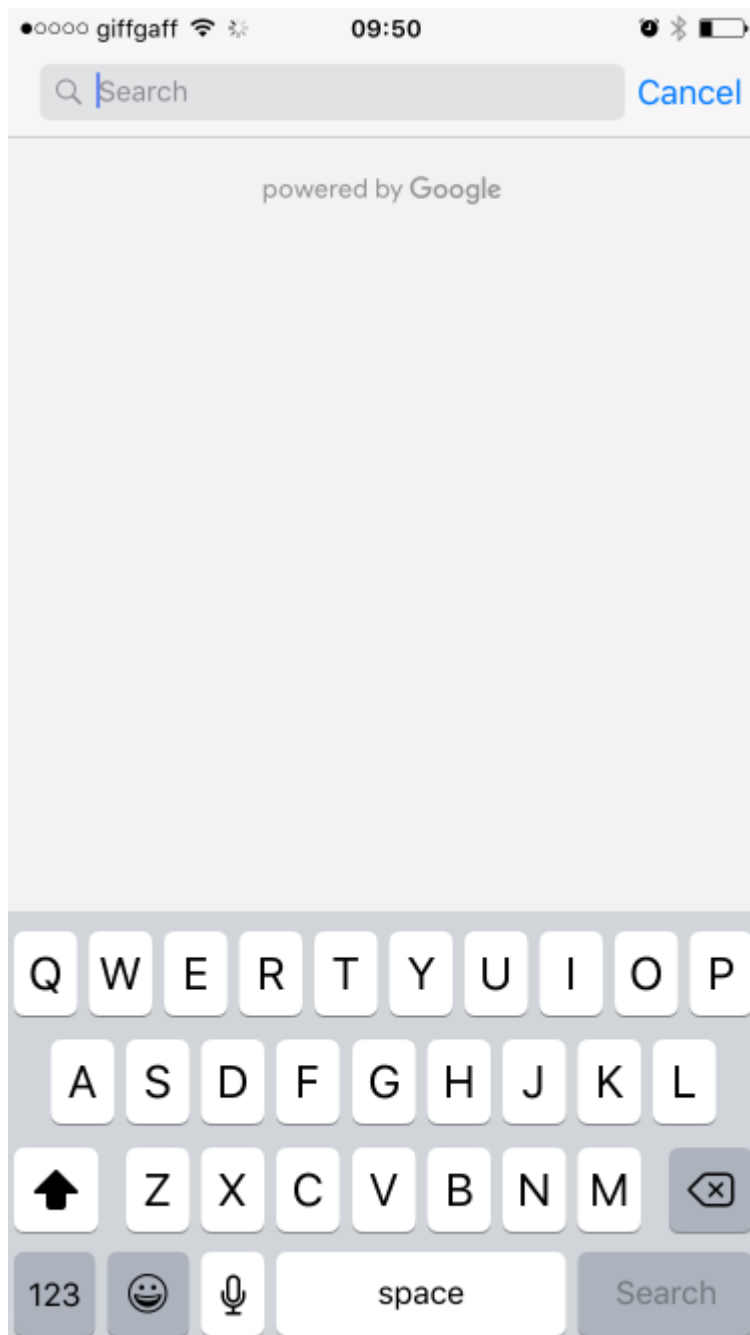
Xamarin . Google UI . Swog C # Google . .

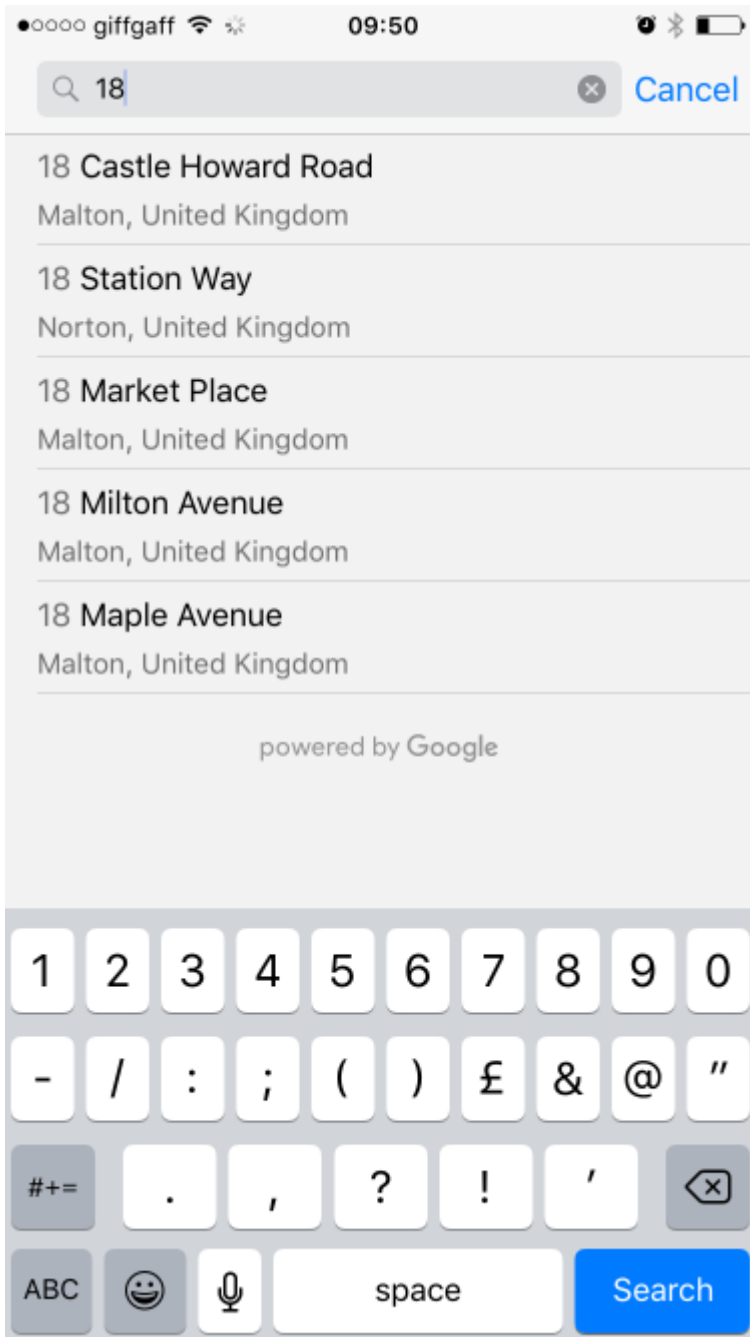
Examples

UI .

UI . . GMSPlace (Xamarin) .

UI . UI .





1. [Google Maps API Visual Studio . Nuget](#) [Xamarin.Google.iOS.Maps iOS](#) [Xamarin](#) [Xamarin Google Maps iOS SDK](#) .
2. [Google](#) . [GoogleButton](#) . .
3. [View Controller ViewDidLoad](#) :

// google place auto complete view .

```

GoogleButton.TouchUpInside += (sender, ea) =>
{

```

```

var FakeCoordinates = new CLLocationCoordinate2D()
{
    Latitude = 54.135364,
    Longitude = -0.797888
};

var north = LocationWithBearing(45, 3000, FakeCoordinates);
var east = LocationWithBearing(225, 3000, FakeCoordinates);

var autoCompleteController = new AutocompleteViewController();
autoCompleteController.Delegate = new AutoCompleteDelegate();
autoCompleteController.AutoCompleteBounds = new CoordinateBounds(north, east);
PresentViewController(autoCompleteController, true, null);
};

```

4. . 3000 Google . . Swift C # .

```

public CLLocationCoordinate2D LocationWithBearing(Double bearing, Double distanceMeters,
CLLocationCoordinate2D origin)
{
    var distRadians = distanceMeters/(6372797.6);

    var rbearing = bearing*Math.PI/180.0;

    var lat1 = origin.Latitude*Math.PI/180;
    var lon1 = origin.Longitude*Math.PI/180;

    var lat2 = Math.Asin(Math.Sin(lat1)*Math.Cos(distRadians) +
Math.Cos(lat1)*Math.Sin(distRadians)*Math.Cos(rbearing));
    var lon2 = lon1 + Math.Atan2(Math.Sin(rbearing)*Math.Sin(distRadians)*Math.Cos(lat1),
Math.Cos(distRadians) - Math.Sin(lat1)*Math.Sin(lat2));

    return new CLLocationCoordinate2D(latitude: lat2*180/ Math.PI, longitude:
lon2*180/Math.PI);
}

```

5. google .

```

public class AutoCompleteDelegate : AutocompleteViewControllerDelegate
{
    public override void DidFailAutocomplete(AutocompleteViewController viewController,
NSError error)
    {
        // TODO: handle the error.
        Debug.Print("Error: " + error.Description);
    }

    public override void DidAutocomplete(AutocompleteViewController viewController, Place
place)
    {
        Debug.Print(place.Name);
        Debug.Print(place.FormattedAddress);

        viewController.DismissViewController(true, null);
    }
}

```



```
public override void DidRequestAutocompletePredictions (AutocompleteViewController
viewController)
{
    UIApplication.SharedApplication.NetworkActivityIndicatorVisible = true;
}

public override void DidUpdateAutocompletePredictions (AutocompleteViewController
viewController)
{
    UIApplication.SharedApplication.NetworkActivityIndicatorVisible = true;
}

public override void WasCancelled (AutocompleteViewController viewController)
{
    viewController.DismissViewController (true, null);
}
}
```

. Google UI .!

Xamarin iOS Google : <https://riptutorial.com/ko/xamarin-ios/topic/9041/xamarin-ios-google---->

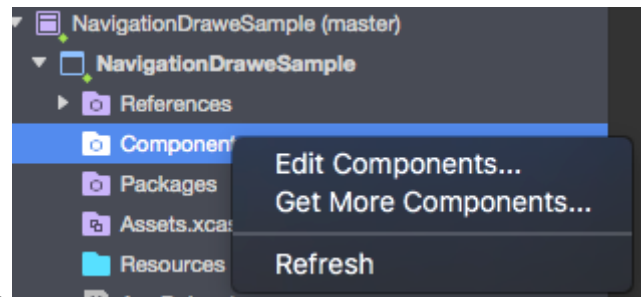
12: Xamarin.iOS

1. Flayout : <https://components.xamarin.com/view/flyoutnavigation>

Examples

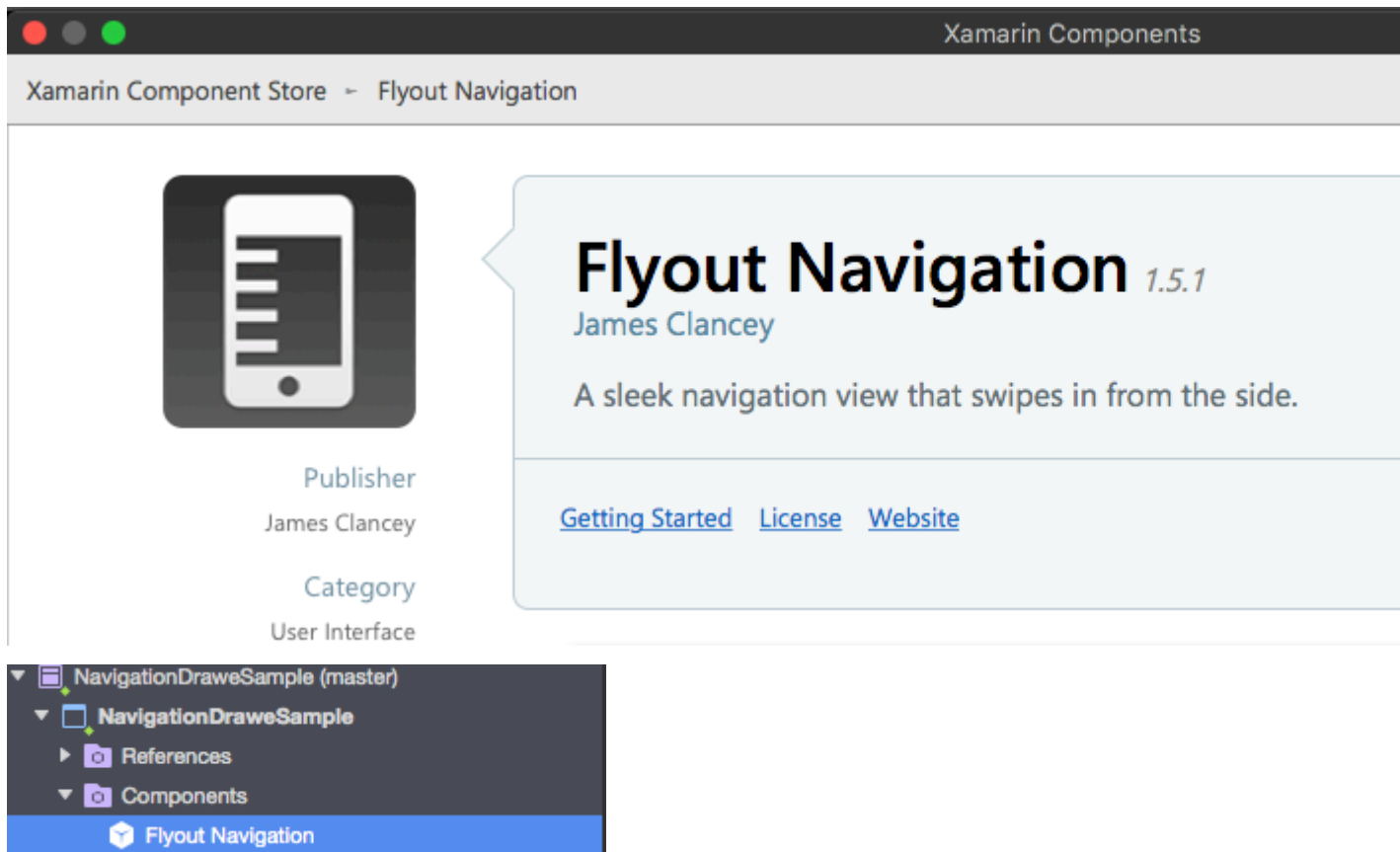
Xamarin.iOS

1. Xamarin.iOS ().

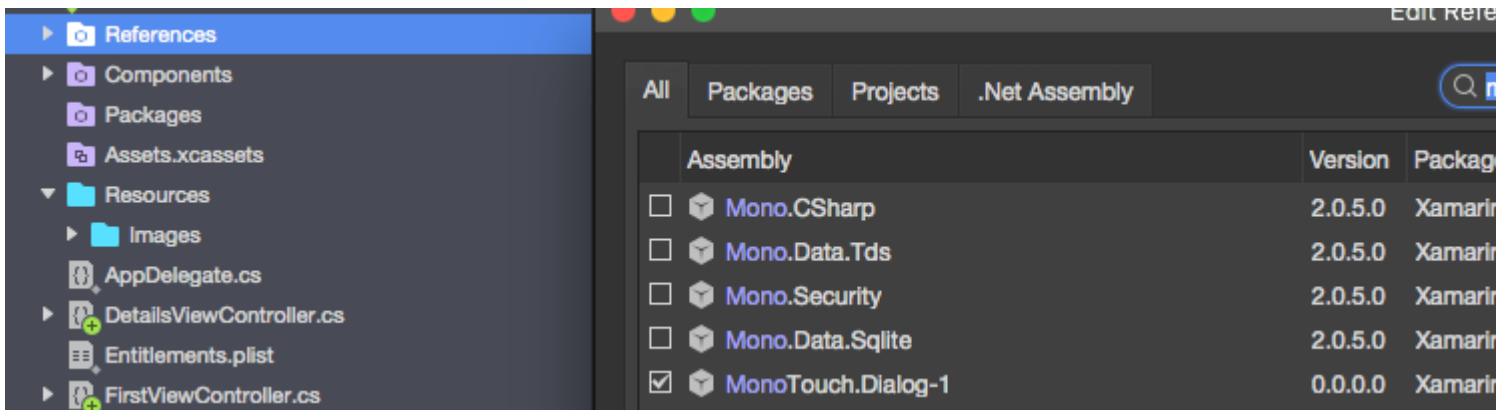


2. "Components" "Get More Components" .

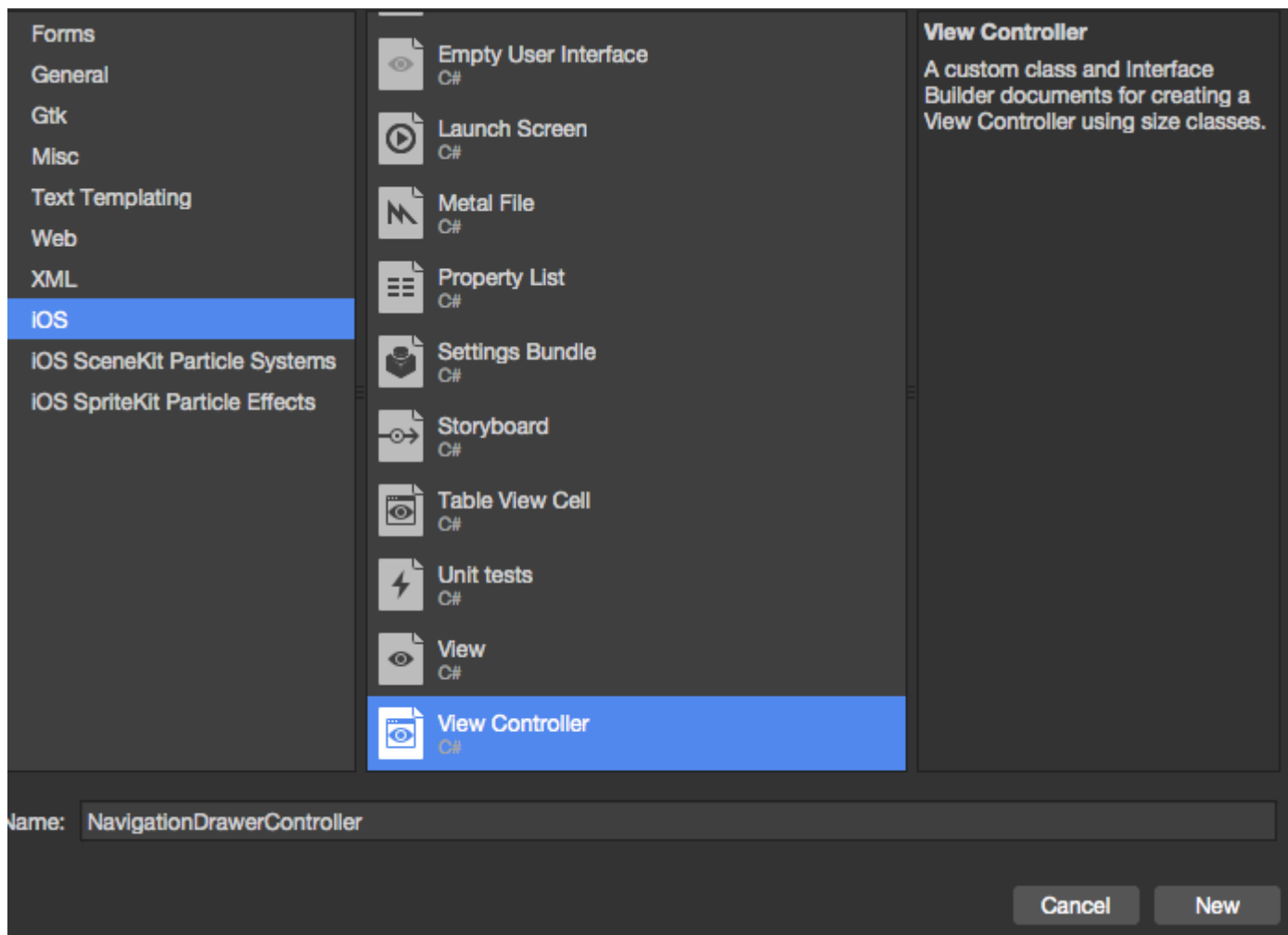
3. "Flout Navigation" .



- "Mono.Touch.Dialog-1" :



4. "NavigationDrawerController" UINavigationController .



5. "NavigationDrawerController" .

```
public partial class NavigationDrawerController : UINavigationController
{
    public NavigationDrawerController(IntPtr handle) : base(handle)
    {
    }

    public override void ViewDidLoad()
    {
        base.ViewDidLoad();

        NavigationItem.LeftBarButtonItem = getMenuItem();
    }
}
```

```

        NavigationItem.RightBarButtonItem = new UIBarButtonItem { Width = 40 };
    }

    UIBarButtonItem getMenuitem()
    {
        var item = new UIBarButtonItem();
        item.Width = 40;
        //Please provide your own icon or take mine from the GitHub sample:
        item.Image = UIImage.FromFile("Images/menu_button@2x.png");
        item.Clicked += (sender, e) =>
        {
            if (ParentViewController is MainNavigationController)
                (ParentViewController as MainNavigationController).ToggleMenu();
        };

        return item;
    }
}

```

"MainNavigationController" . . .

6. "Main.storyboard" .

a) UIViewController :

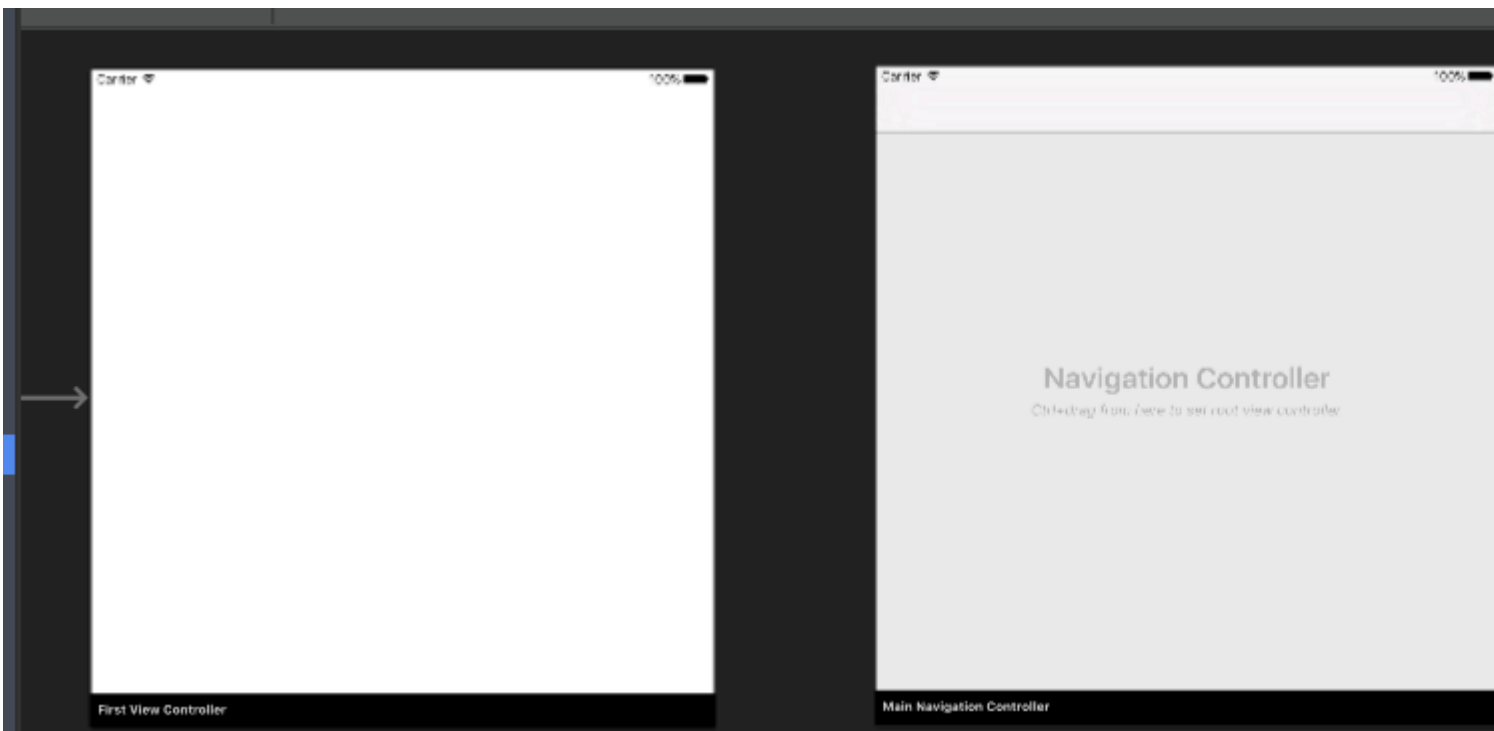
"Class" "StoryboardID" : "FirstViewController"

b) UIViewController .

"Class" "StoryboardID" . "MainNavigationController"

"Class" "StoryboardID" . "DetailsViewController"

Xamarin (Visual) Studio .



7. "FirstViewController" .

```
public partial class FirstViewController : UIViewController
{
    public FirstViewController (IntPtr handle) : base (handle)
    {
    }

    public override void ViewDidLoad()
    {
        base.ViewDidLoad();
        createNavigationFlyout();
    }

    void createNavigationFlyout()
    {
        var navigation = new FlyoutNavigationController
        {
            //Here are sections defined for the drawer:
            NavigationRoot = new RootElement("Navigation")
            {
                new Section ("Pages")
                {
                    new StringElement ("MainPage")
                }
            },

            //Here are controllers defined for the drawer (in this case navigation controller
with one root):
            ViewControllers = new[]
            {
                (MainNavigationController)Storyboard.InstantiateViewController("MainNavigationController")
            }
        };

        View.AddSubview(navigation.View);
    }
}
```

8. "MainNavigationController" .

```
public partial class MainNavigationController : UINavigationController
{
    public MainNavigationController (IntPtr handle) : base (handle)
    {
    }
    //Responsible for opening/closing drawer:
    public void ToggleMenu()
    {
        if (ParentViewController is FlyoutNavigationController)
            (ParentViewController as FlyoutNavigationController).ToggleMenu();
    }
}
```

9. "DetailsViewController" .

```
public partial class DetailsViewController : NavigationDrawerController
```

```
{  
    public DetailsViewController (IntPtr handle) : base(handle)  
    {  
    }  
}
```

"DetailsViewController" "NavigationDrawerController" .

. . GitHub :

<https://github.com/Daniel-Krzyczkowski/XamarinIOS/tree/master/Xamarin.iOS.NavigationDrawer>

Xamarin.iOS : <https://riptutorial.com/ko/xamarin-ios/topic/6574/xamarin-ios-->

13: Xamarin.iOS Xib

Examples

Xcode Interface Builder Xib / Storyboard

Xamarin studio Xamarin Designer Xib . Open With -> Xcode Interface Builder '

Xamarin.iOS Xib : <https://riptutorial.com/ko/xamarin-ios/topic/6182/xamarin-ios-xib---->

14: Xamarin.iOS

Examples

UI

UI . UIKit .

NSObject (UIViewController UIView) :

```
InvokeOnMainThread(() =>
{
    // Call UI methods here
});
```

C# :

```
UIApplication.SharedApplication.InvokeOnMainThread(() =>
{
    // Call UI methods here
});
```

InvokeOnMainThread . BeginInvokeOnMainThread .

async . POST GET . .

```
Task<List> GetDataFromServer(int type);
```

.

```
var result = await GetDataFromServer(1);
```

. UI .

```
//Calling from viewDidLoad
void async ViewDidLoad()
{
    await GetDataListFromServer(1);
    //Do Something else
}

//New method call to handle the async task
private async Task GetArchivedListFromServer(int type)
{
    var result = await GetDataFromServer(type);
    dataList.AddRange(result.toList());
    tableView.ReloadData();
}
```

GetDataListFromServer . UI .await GetDataListFromServer(1) . private async Task


```
GetArchivedListFromServer(int type) var result = await GetDataFromServer(type); var result  
= await GetDataFromServer(type); .
```

Xamarin.iOS : <https://riptutorial.com/ko/xamarin-ios/topic/1364/xamarin-ios-->

15: Xamarin.iOS

Examples

iOS 9

9.0

```
// Since the anchor system simply returns constraints, you still need to add them somewhere.
View.AddConstraints(
    new[] {
        someLabel.TopAnchor.ConstraintEqualTo(TopLayoutGuide.GetBottomAnchor()),
        anotherLabel.TopAnchor.ConstraintEqualTo(someLabel.BottomAnchor, 6),
        oneMoreLabel.TopAnchor.ConstraintEqualTo(anotherLabel.BottomAnchor, 6),

        oneMoreLabel.BottomAnchor.ConstraintGreaterThanOrEqual(BottomLayoutGuide.GetTopAnchor(), -
10),
    }
);
```

VFL (Visual Format Language)

```
// Using Visual Format Language requires a special look-up dictionary of names<->views.
var views = new NSDictionary(
    nameof(someLabel), someLabel,
    nameof(anotherLabel), anotherLabel,
    nameof(oneMoreLabel), oneMoreLabel
);
// It can also take a look-up dictionary for metrics (such as size values).
// Since we are hard-coding those values in this example, we can give it a `null` or empty
dictionary.
var metrics = (NSDictionary)null;

// Add the vertical constraints to stack everything together.
// `V:` = vertical
// `|...|` = constrain to super view (`View` for this example)
// `-10-` = connection with a gap of 10 pixels (could also be a named parameter from the
metrics dictionary)
// `-[viewName]-` = connection with a control by name looked up in views dictionary (using C#
6 `nameof` for refactoring support)
var verticalConstraints = NSLayoutConstraint.FromVisualFormat(
    $"V:|-20-[{nameof(someLabel)}]-6-[{nameof(anotherLabel)}]-6-[{nameof(oneMoreLabel)}]->=10-
|",
    NSLayoutFormatOptions.AlignAllCenterX,
    metrics,
    views
);
View.AddConstraints(verticalConstraints);
```

VFL (Visual Format Language) .

Cirrious.FluentLayout

NuGet

```
Install-Package Cirrious.FluentLayout
```

GitHub

, , .

```
public override void ViewDidLoad()
{
    //create our labels and fields
    var firstNameLabel = new UILabel();
    var lastNameLabel = new UILabel();
    var firstNameField = new UITextField();
    var lastNameField = new UITextField();

    //add them to the View
    View.AddSubviews(firstNameLabel, lastNameLabel, firstNameField, lastNameField);

    //create constants that we can tweak if we do not like the final layout
    const int vSmallMargin = 5;
    const int vMargin = 20;
    const int hMargin = 10;

    //add our constraints
    View.SubviewsDoNotTranslateAutoresizingMaskIntoConstraints();
    View.AddConstraints(
        firstNameLabel.WithSameTop(View).Plus(vMargin),
        firstNameLabel.AtLeftOf(View).Plus(hMargin),
        firstNameLabel.WithSameWidthOf(View),

        firstNameField.WithSameWidth(firstNameLabel),
        firstNameField.WithSameLeft(firstNameLabel),
        firstNameField.Below(firstNameLabel).Plus(vSmallMargin),

        lastNameLabel.Below(firstNameField).Plus(vMargin),
        lastNameLabel.WithSameLeft(firstNameField),
        lastNameLabel.WithSameWidth(firstNameField),

        lastNameField.Below(lastNameLabel).Plus(vSmallMargin),
        lastNameField.WithSameWidth(lastNameLabel),
        lastNameField.WithSameLeft(lastNameLabel));
}
```

Masonry

Masonry objective-c xamarin nuget <https://www.nuget.org/packages/Masonry/> .

Nuget

```
Install-Package Masonry
```

100 200 400 .

```
this.loginBtn.MakeConstraints(make =>
{
    make.Width.GreaterThanOrEqualTo(new NSNumber(200));
```

```
make.Width.LessThanOrEqualTo(new NSNumber(400));
make.Center.EqualTo(this.View).CenterOffset(new CGPoint(0, 100));
});
```

100 50 % 0.5 multiplier .

```
this.logo.MakeConstraints(make =>
{
    make.Center.EqualTo(this.View).CenterOffset(new CGPoint(0, -100));
    make.Width.EqualTo(this.View).MultipliedBy(0.5f);
    make.Height.EqualTo(this.logo.Width()).MultipliedBy(0.71f);
});
```

Xamarin.iOS : <https://riptutorial.com/ko/xamarin-ios/topic/1317/xamarin-ios-->

16:

Xamarin .framework .

1. Xcode . ! NAME.app/Frameworks/LIBRARY.framework/Frameworks/libswift*.dylib
NAME.app/Frameworks/libswift*.dylib .
2. . . Xamarin iOS Bitcode Apple .

Examples

Xamarin.iOS

Xamarin.iOS Swift Library

https://developer.xamarin.com/guides/ios/advanced_topics/binding_objective-c/ Objective-C

1. NSObject .
2. Swift @objc (: @objc (MyClass)) .
3. APP Frameworks .
4. AppStore Payload SwiftSupport . IPA .

: <https://github.com/Flash3001/Xamarin.BindingSwiftLibrarySample>

: <https://github.com/Flash3001/iOSCharts.Xamarin>

1.1 Swift

Swift NSObject objc Objective-C . Swift . Swift . NSObject .

```
//Add this to specify explicit objective c name
@objc(MyClass)
open class MyClass: NSObject {
    open func getValue() -> String
    {
        return "Value came from MyClass.swift!";
    }
}
```

1.2

. *

▼ Build Options

Setting

SwiftSample

▶ Enable Bitcode

No ⌵

*

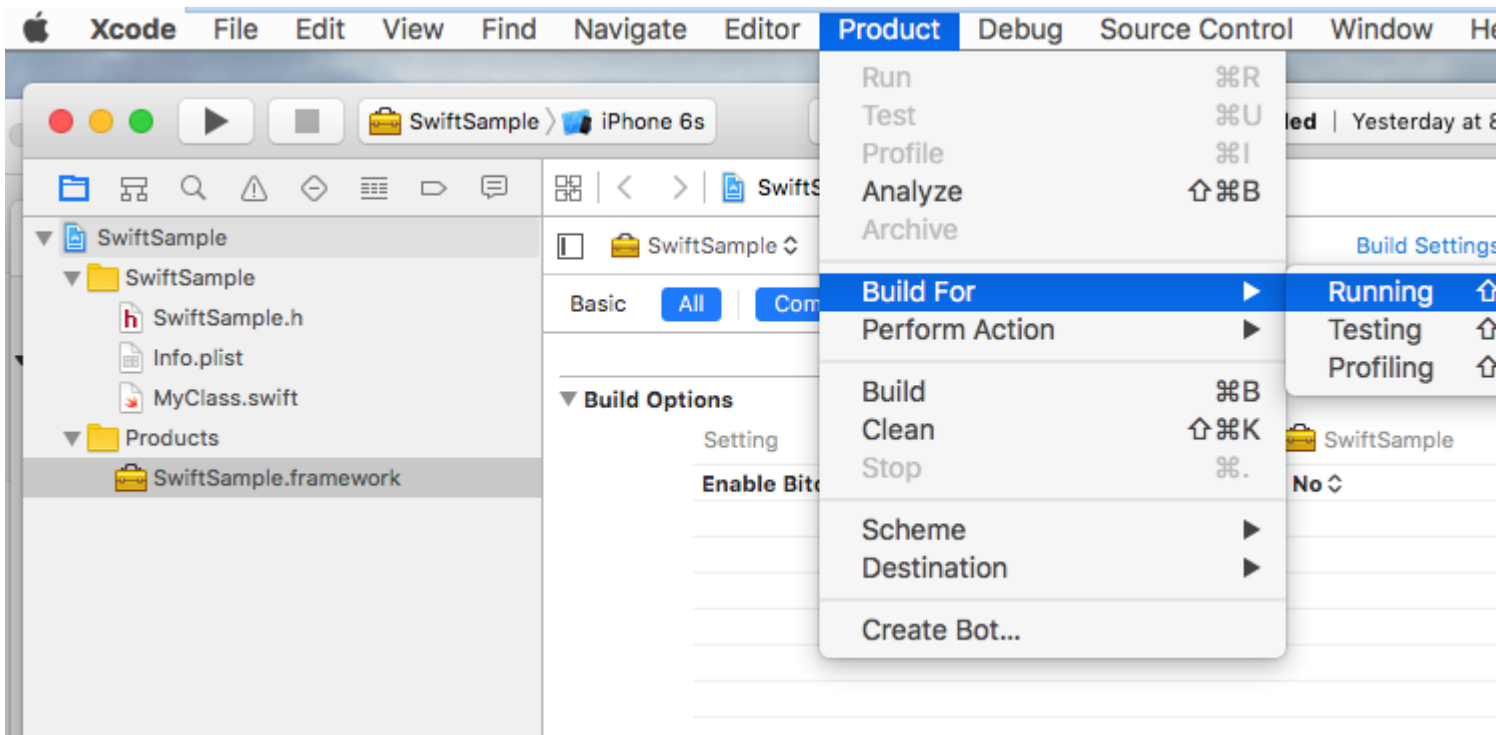
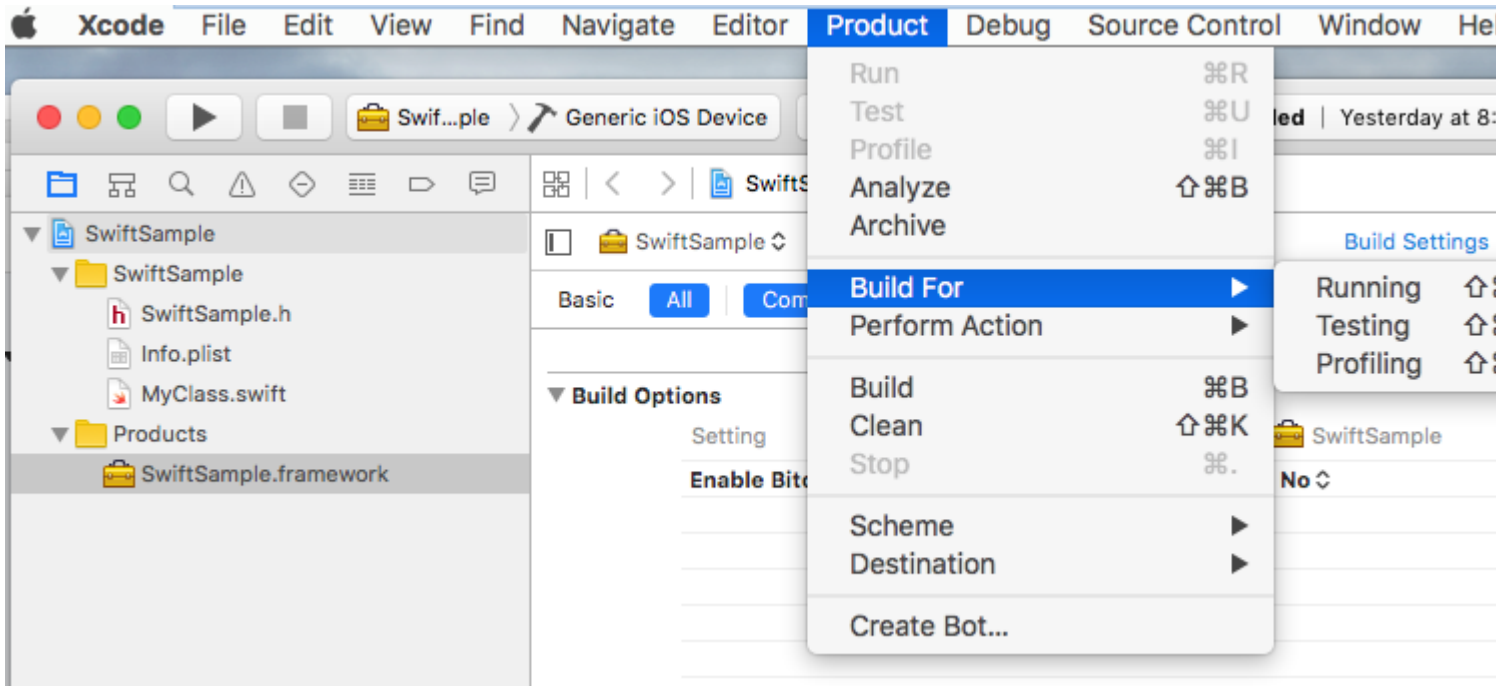
SwiftSample > Generic iOS Device

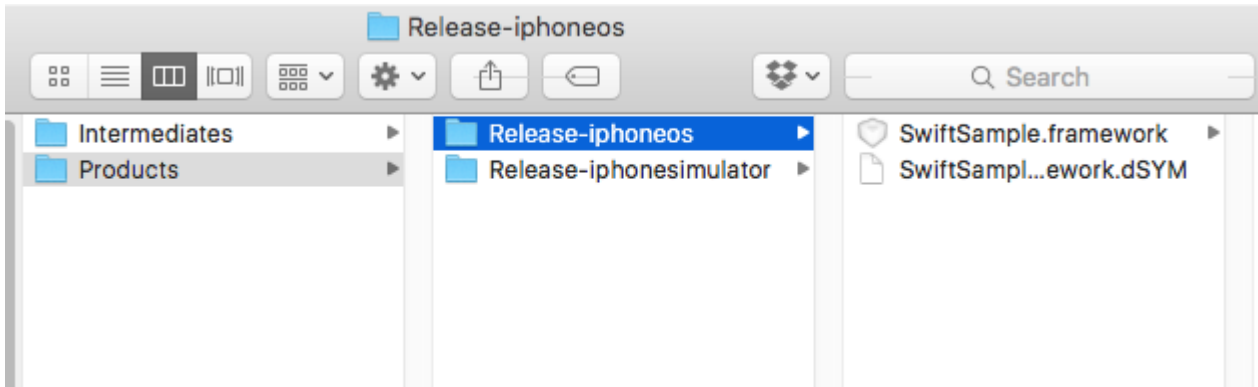
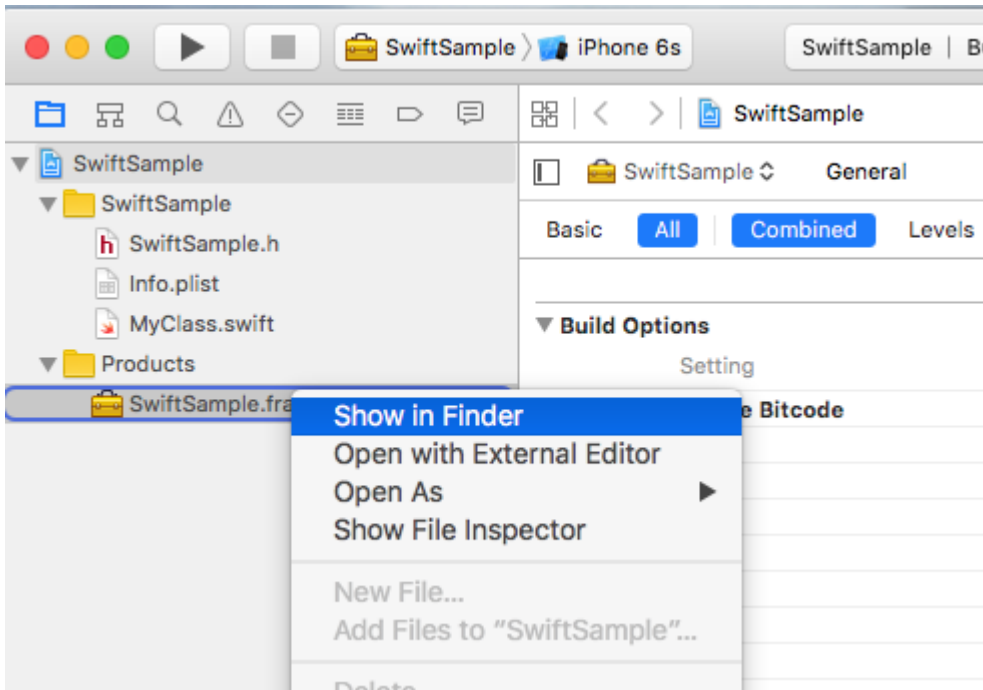
	Info	Arguments	Options	Diagnostics
▶ Build 1 target				
▶ ▶ Run Release	Build Configuration	Release		
▶ 🔧 Test Debug	Executable	None	<input checked="" type="checkbox"/> Debug executable	
▶ 📏 Profile Release	Debug Process As	<input checked="" type="radio"/> Me (flash) <input type="radio"/> root		
▶ 📊 Analyze Debug	Launch	<input checked="" type="radio"/> Automatically <input type="radio"/> Wait for executable to be launched		
▶ 📦 Archive Release				

Duplicate Scheme

Manage Schemes...

Shared

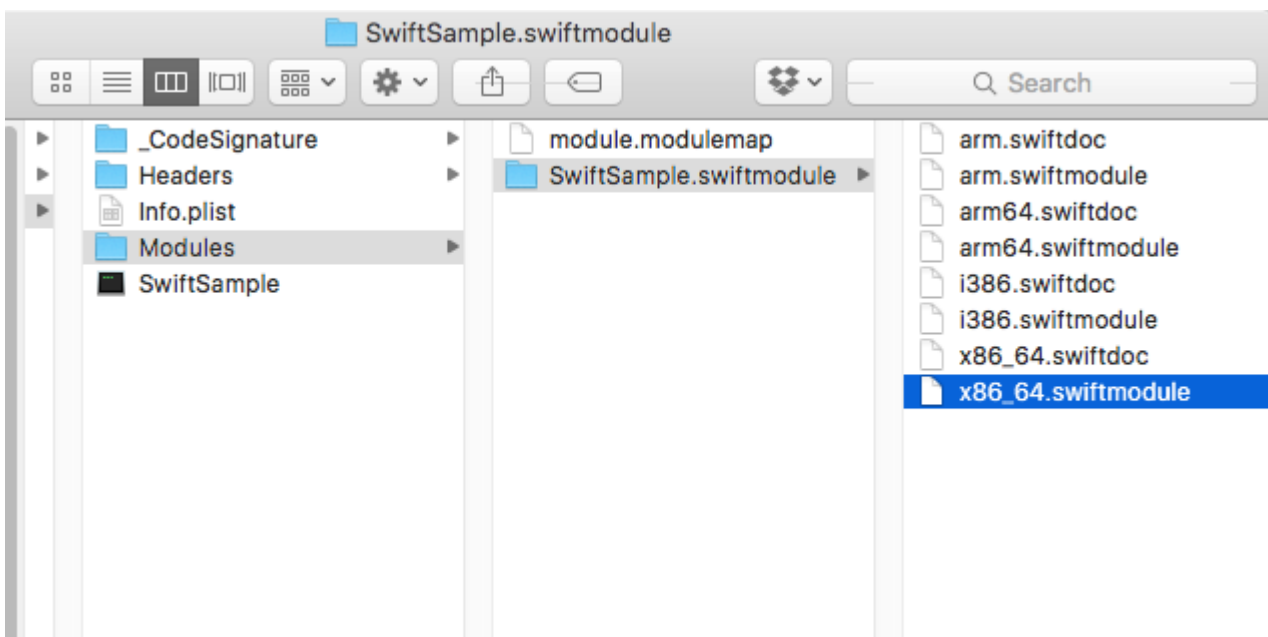
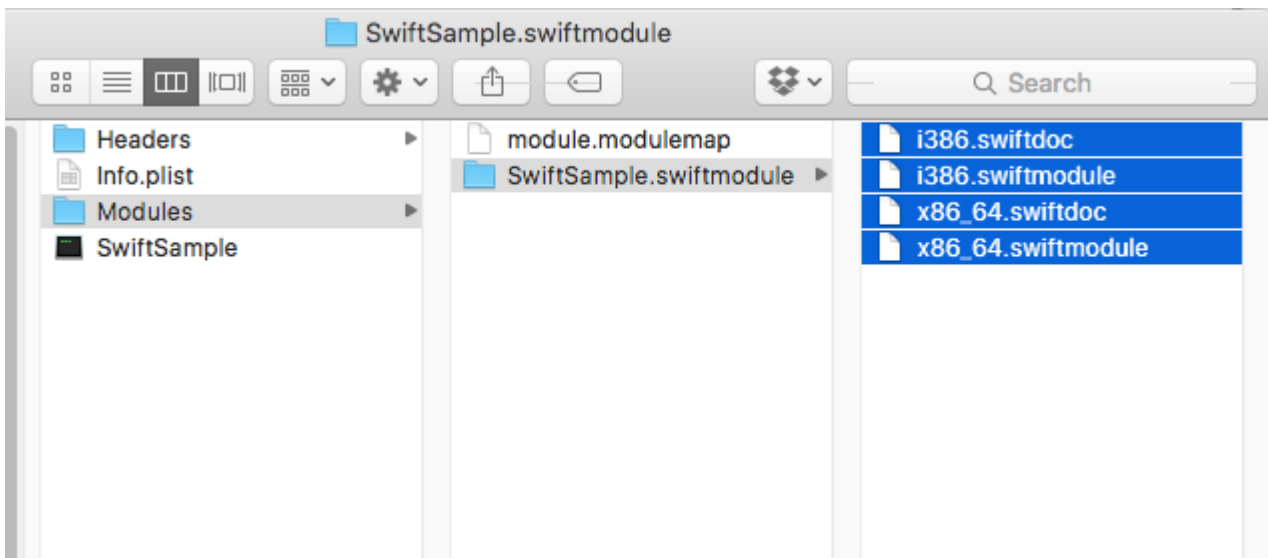
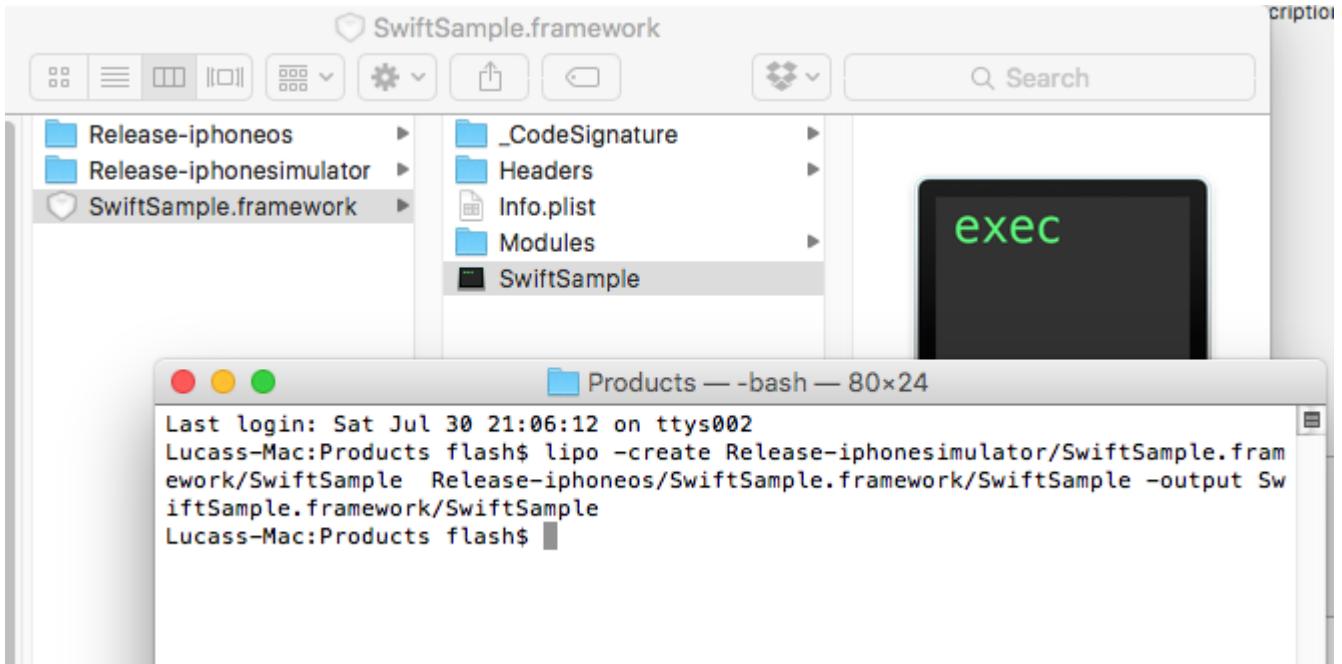




• .

2.

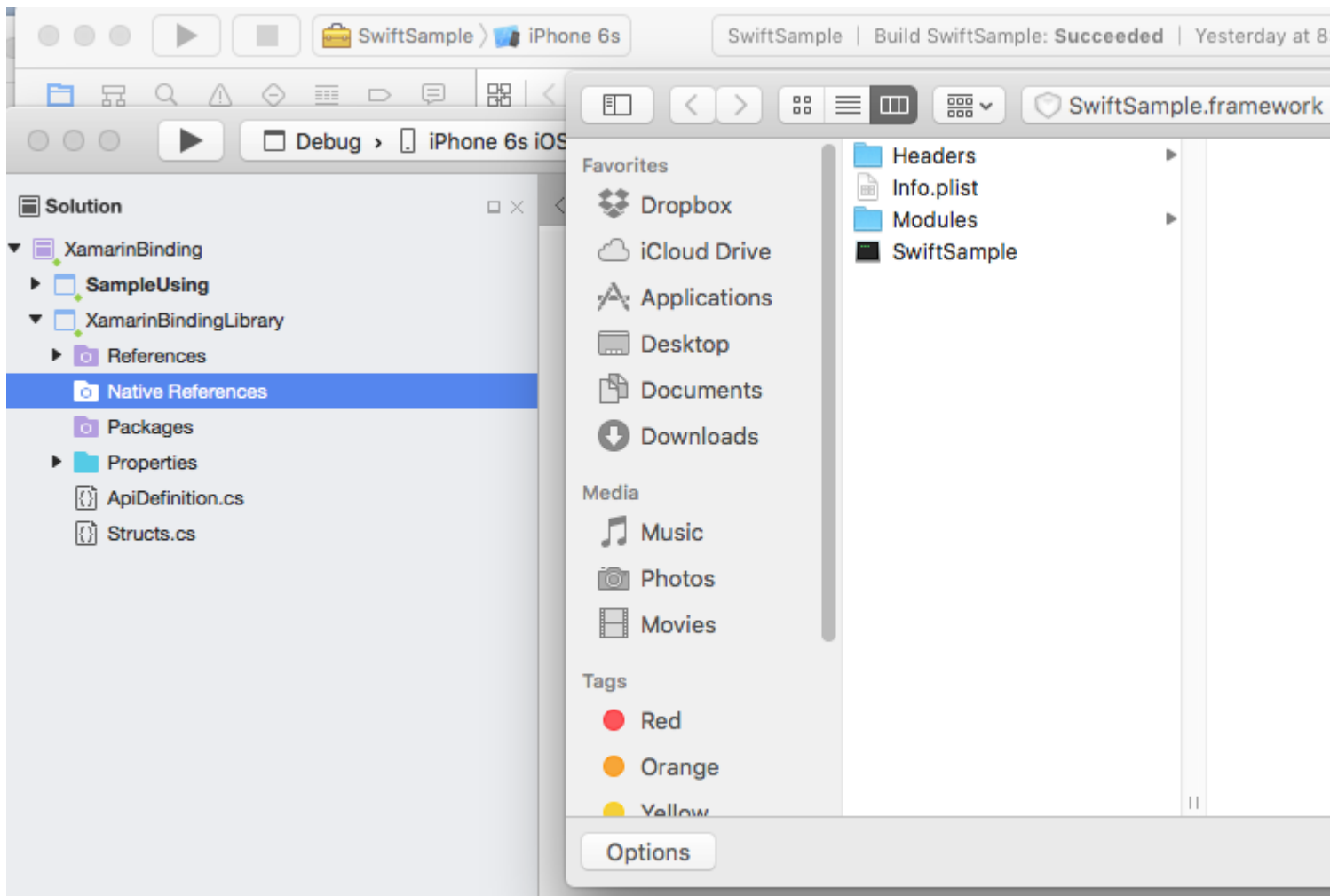
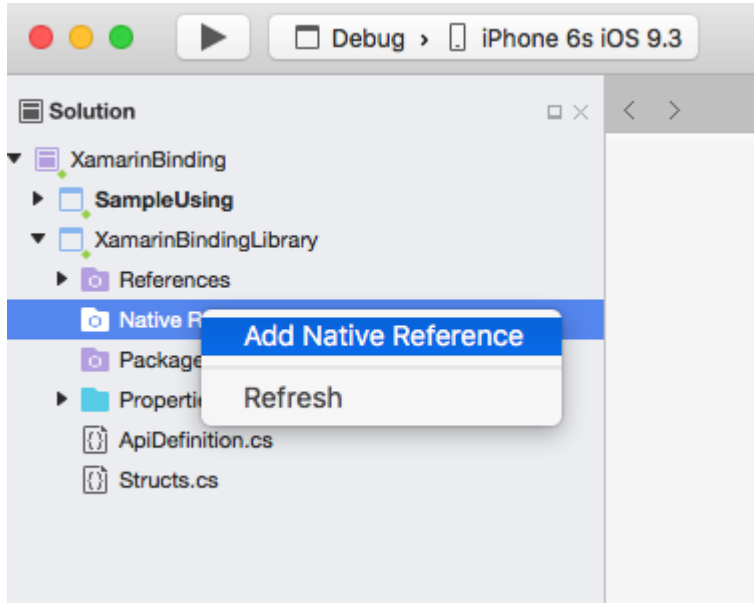
- NAME.framework / NAME ().
- iphoneos / NAME.framework NAME.framework .
- FAT .
 - **lipo-release - iphonesimulator / NAME.framework / NAME - iphoneos / NAME.framework / NAME - NAME.framework / NAME .**
- Release-iphonesimulator / NAME.framework / Modules / NAME.swiftmodule
NAME.framework / Modules / NAME.swiftmodule (iphoneos)

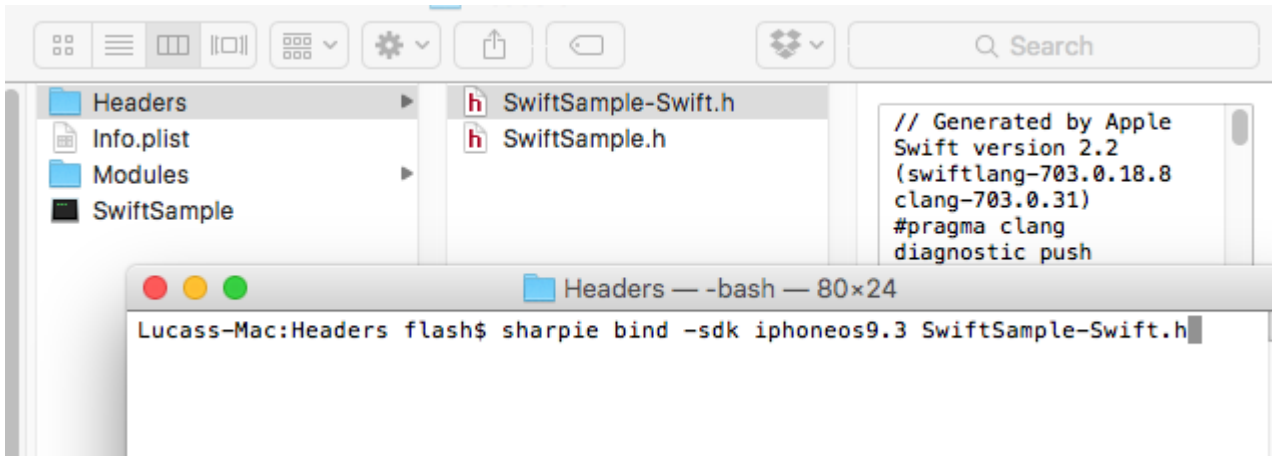


3.

-> -> iOS -> .

.frameworks Xamarin .'' '' . .





4. LIBRARY-Swift.h ApiDefinition .

. Objective Sharpie . Xamarin .

<https://developer.xamarin.com/guides/cross-platform/macios/binding/objective-sharpie/>

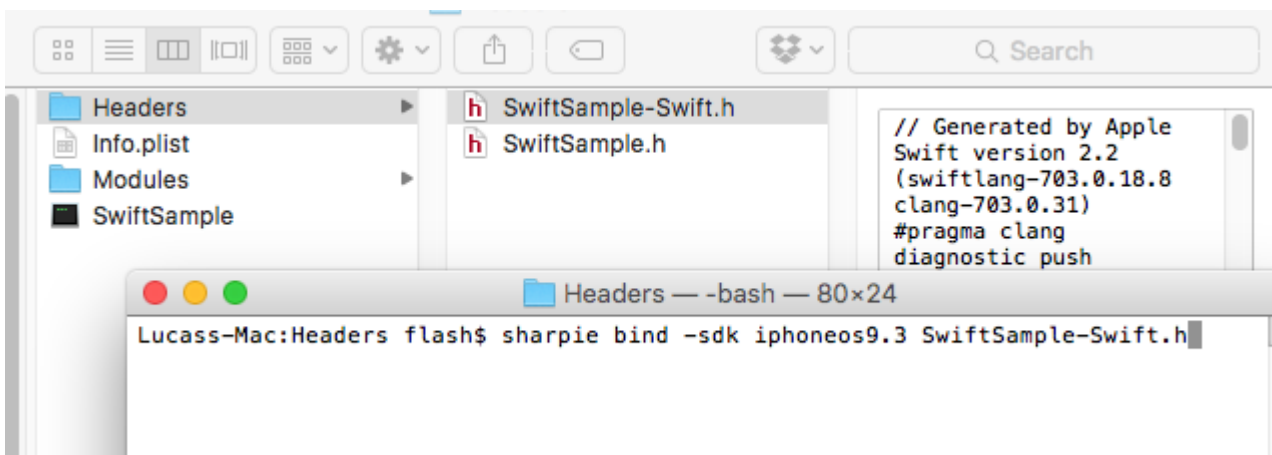
. **sharpie bind -sdk iphoneos9.3 NAME-Swift.h**

System.Reflection.TargetInvocationException SDK . iPhone OS SDK .

```
sharpie xcode -sdks
```

NAME-Swift.h NAME.framework / Headers / NAME-Swift.h .

: "NSObject" . **NAME-Swift.h** Objective Sharpie .



ApiDefinition.cs ApiDefinition.cs .

```

< > ApiDefinition.cs
MyClass ▶ No selection
1 using Foundation;
2
3 namespace XamarinBindingLibrary
4 {
5     // @interface MyClass : NSObject
6     [BaseType(typeof(NSObject))]
7     interface MyClass
8     {
9         // -(NSString * _Nonnull)getValue;
10        [Export("getValue")]
11        string Value { get; }
12    }
13 }
14

```

5. [Protocol] [BaseType] Objective-C

Swift 1.1 @objc (MyClass) Objective-C

NAME-Swift.h

```

SWIFT_CLASS("_TtC11SwiftSample7MyClass")
@interface MyClass : NSObject

```

```

SWIFT_PROTOCOL("_TtP6Charts17ChartDataProvider_")
@protocol ChartDataProvider

```

BaseTypeAttribute.Name <https://developer.xamarin.com/guides/cross-platform/macios/binding/binding-types-reference/#BaseType.Name> ProtocolAttribute.Name <https://developer.xamarin.com/api/property/MonoTouch.Foundation.ProtocolAttribute.Name/>

```

[BaseType(typeof(NSObject), Name = "_TtC11SwiftSample7MyClass")]
interface MyClass

```

<https://github.com/Flash3001/SwiftClassify> . (.)

6.1

. libswiftCore.dylib

:

```

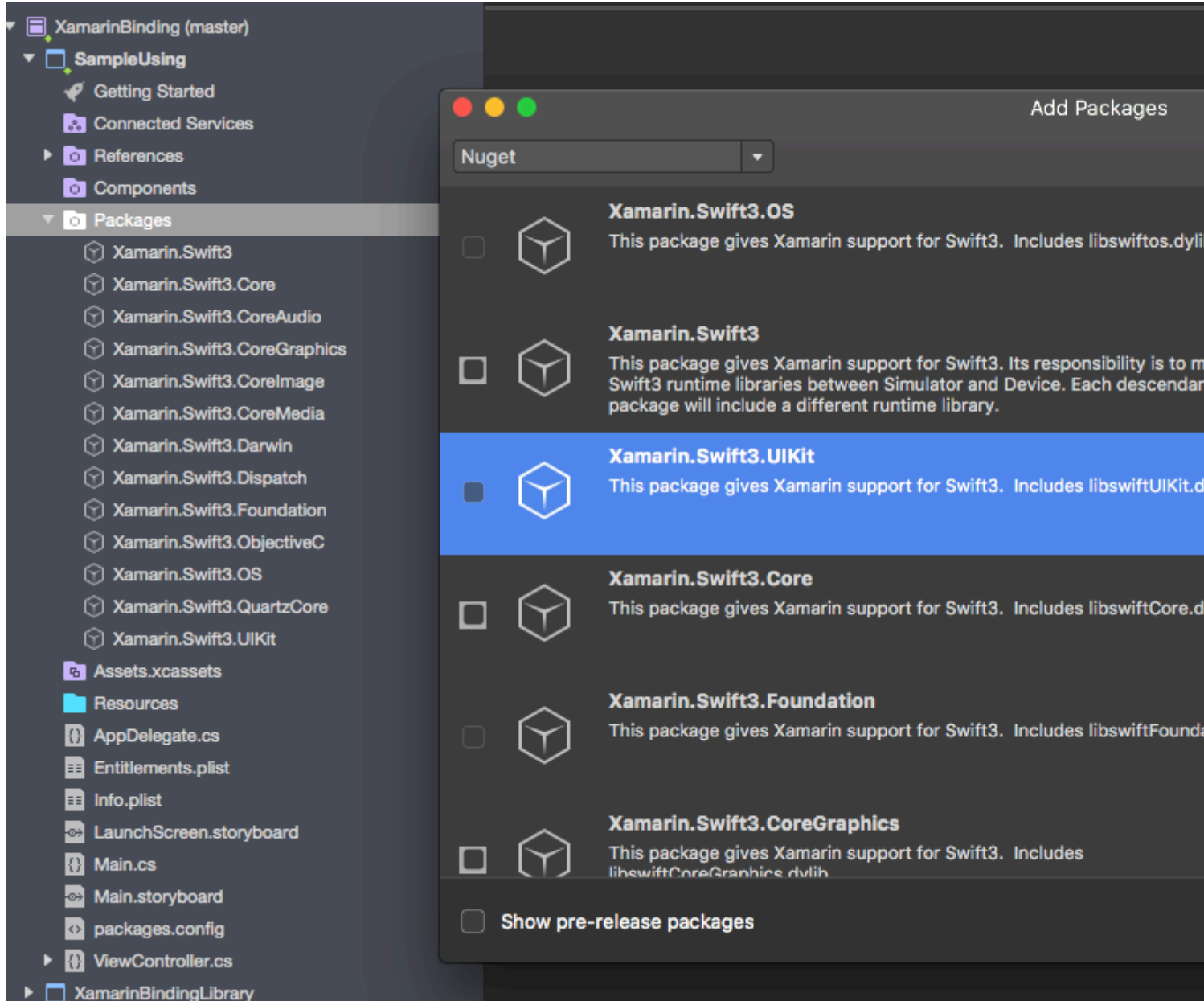
Dyld Error Message:
  Library not loaded: @rpath/libswiftCore.dylib
  Referenced from: /Users/USER/Library/Developer/CoreSimulator/Devices/AC440891-C819-4050-8CAB-CE15AB4B3830/data/Containers/Bundle/Application/27D2EC87-5042-4FA7-9B80-A24A8971FB48/SampleUsing.app/Frameworks/SwiftSample.framework/SwiftSample

```

Reason: image not found

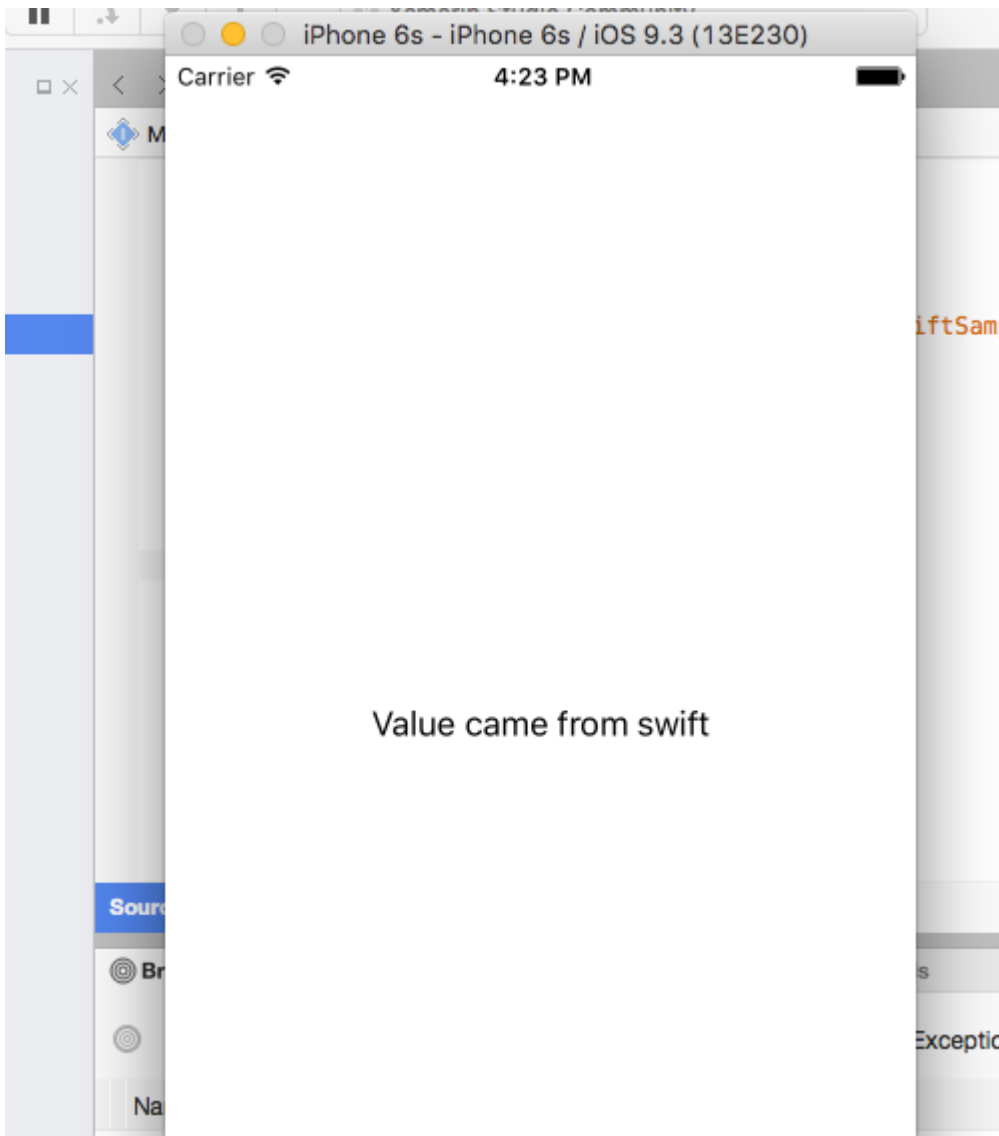
Xamarin.iOS Swift . Frameworks SwiftSupport . Frameworks .
/Applications/Xcode.app/Contents/Developer//XcodeDefault.xctoolchain/usr/lib/swift.Toolchains .

<https://github.com/Flash3001/Xamarin.Swift3.Support> . NuGet Swift 3.1 .



Nuget Package . .

Nuget Package Nuget .

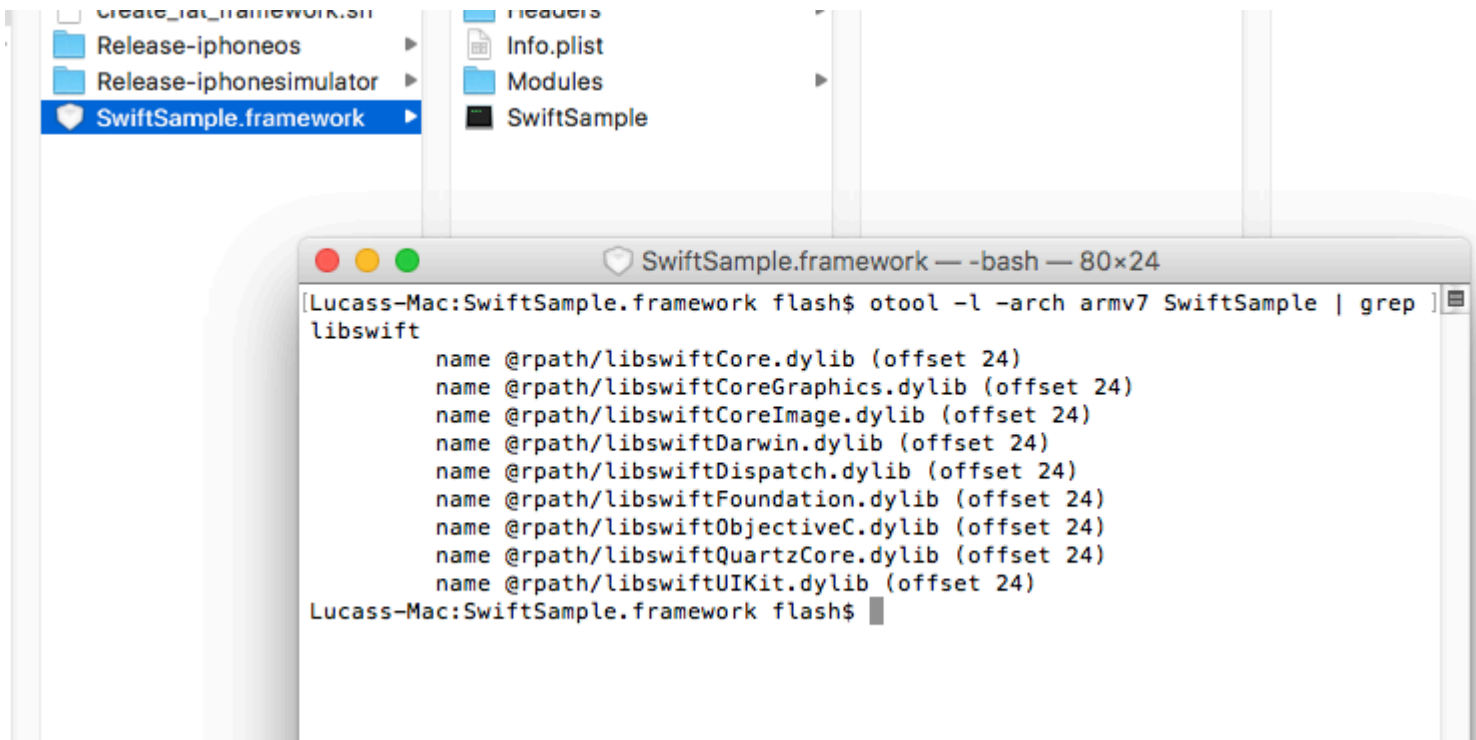


6.2. .

```
libswiftCore.dylib  
libswiftCoreGraphics.dylib  
libswiftCoreImage.dylib  
libswiftDarwin.dylib  
libswiftDispatch.dylib  
libswiftFoundation.dylib  
libswiftObjectiveC.dylib  
libswiftQuartzCore.dylib  
libswiftUIKit.dylib
```

LibraryName.framework .

```
otool -l -arch armv7 LibraryName | grep libswift
```



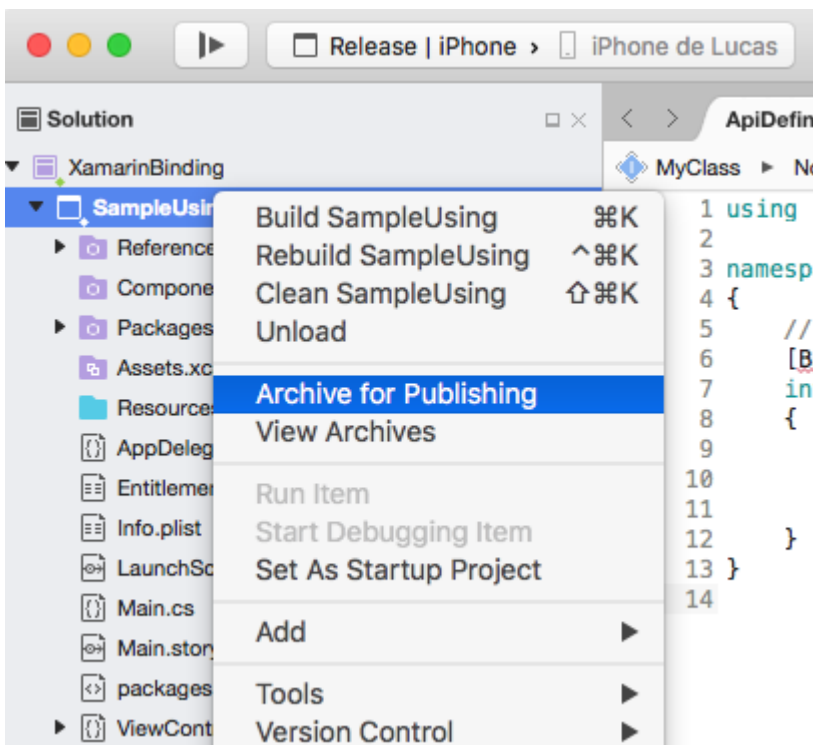
Swift3 NuGet . . .

7. SwiftSupport AppStore App .

Apple Payload SwiftSupport . IPA .

<https://github.com/bq/ipa-packager> .

. / AppStore .



Select iOS Distribution Channel

Choose a distribution channel.



Ad Hoc

Save to disk



App Store

Save to Disk and open Application Loader



Enterprise

Save to disk

Cancel

Back

Next

insights: **insights not enabled**

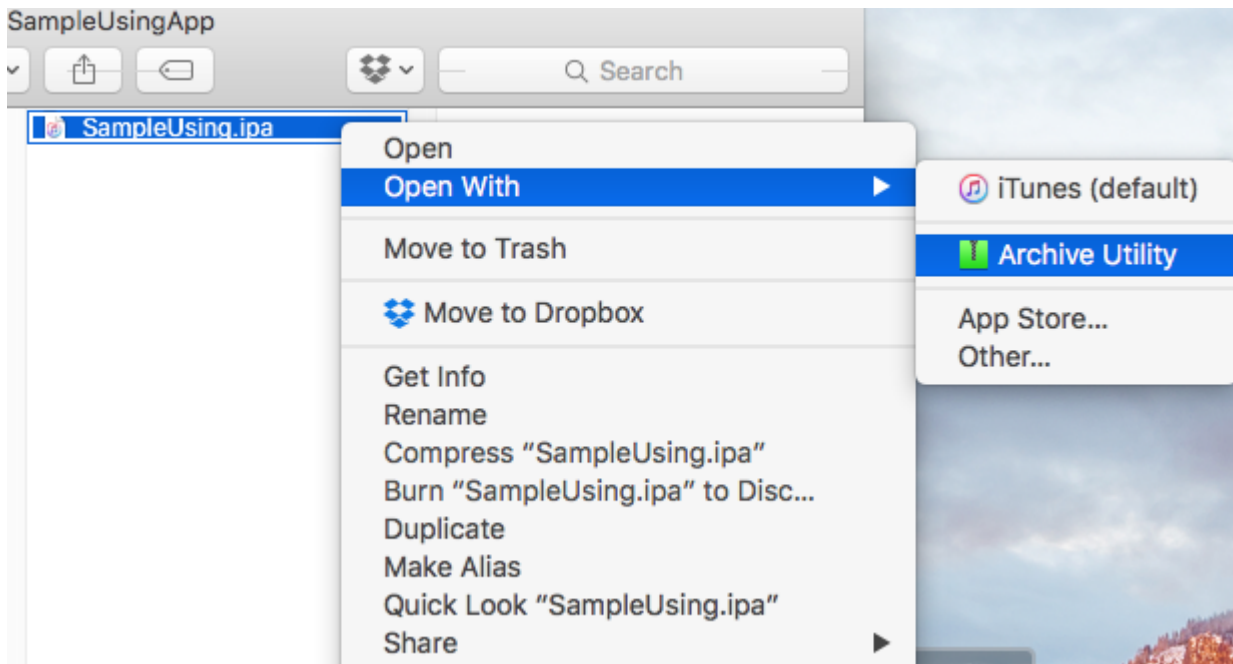
Show all archives



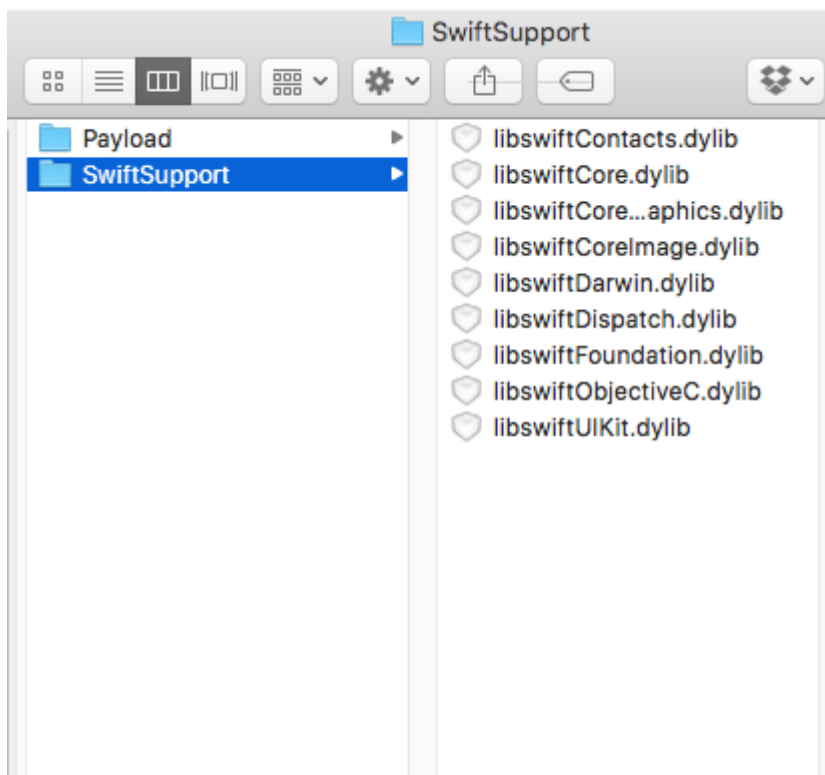
Validate...

Sign

.IPA .



IPA .



SwiftSupport .

Xcode . ! NAME.app/Frameworks/LIBRARY.framework/Frameworks/libswift*.dylib

NAME.app/Frameworks/libswift*.dylib .

. . Xamarin iOS Bitcode Apple .

[Lucas Teixeira](#) . . , .

: <https://riptutorial.com/ko/xamarin-ios/topic/6091/-->

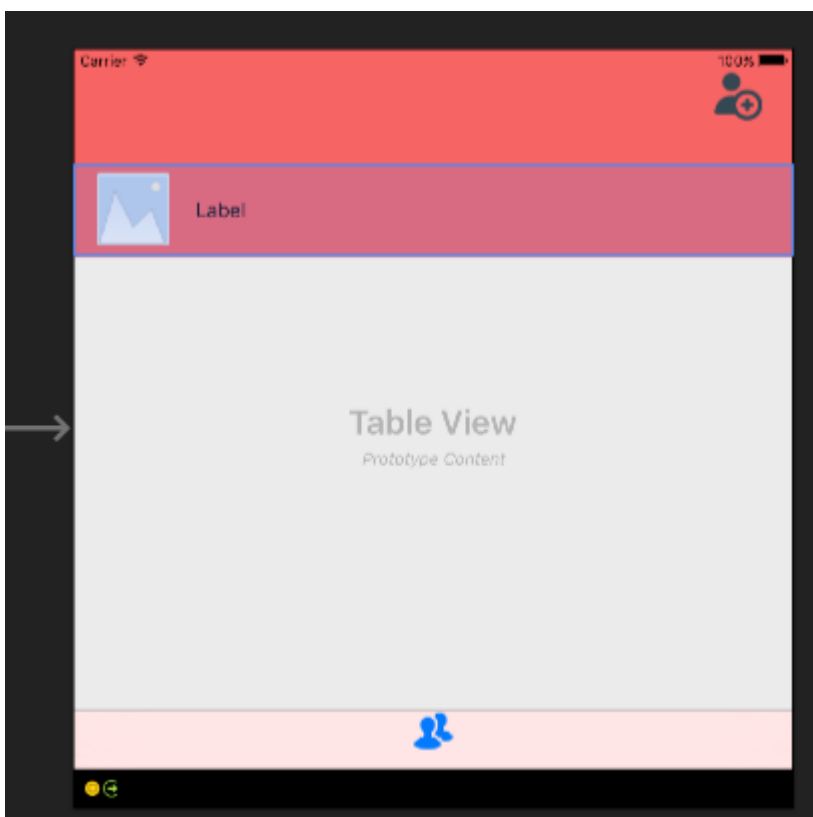
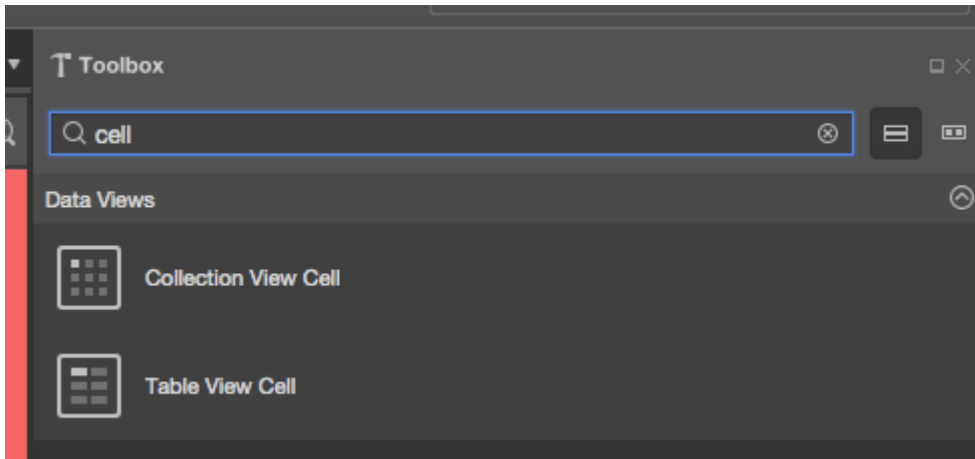
17: xamarin.iOS .

Examples

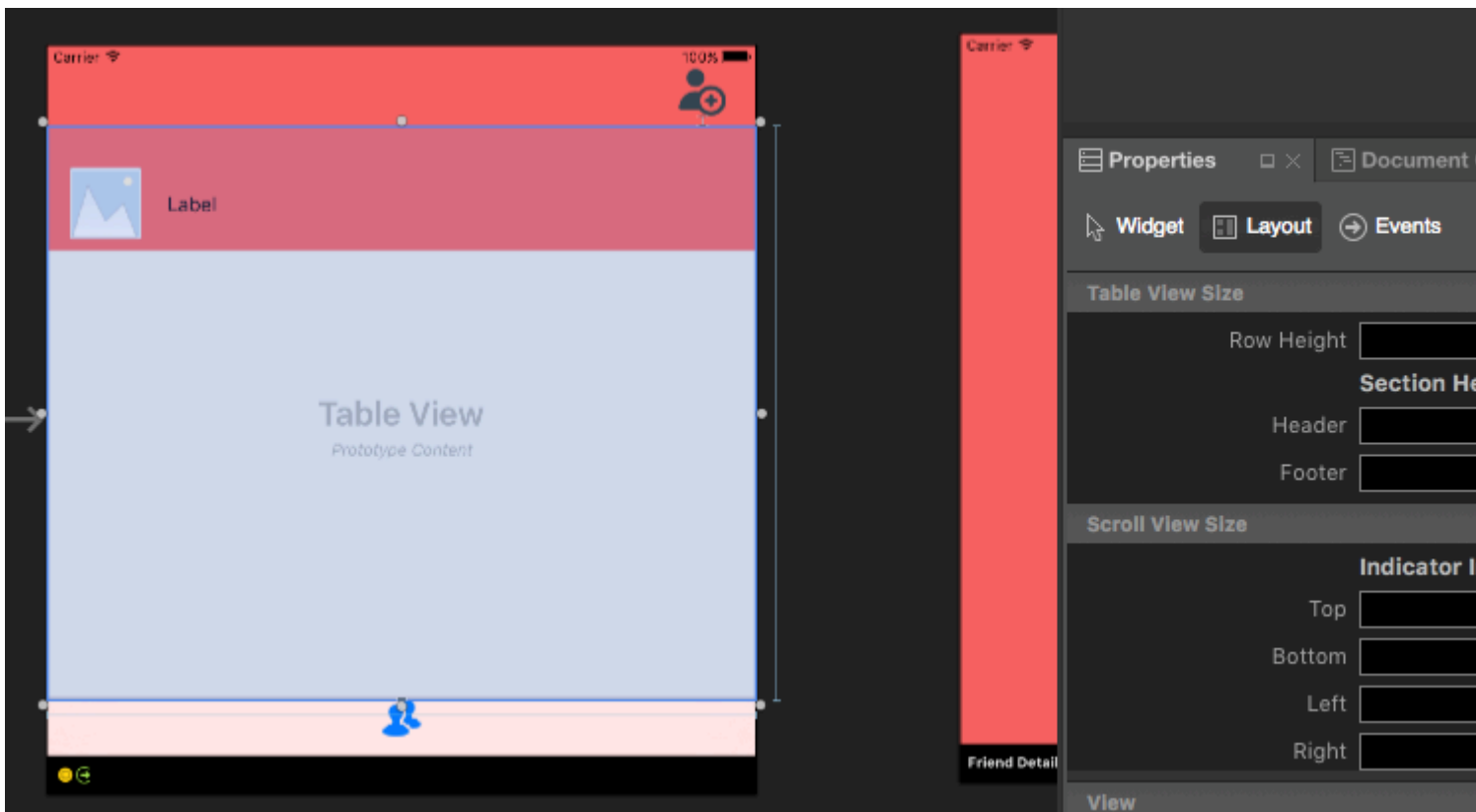
ViewController Storyboard .

():

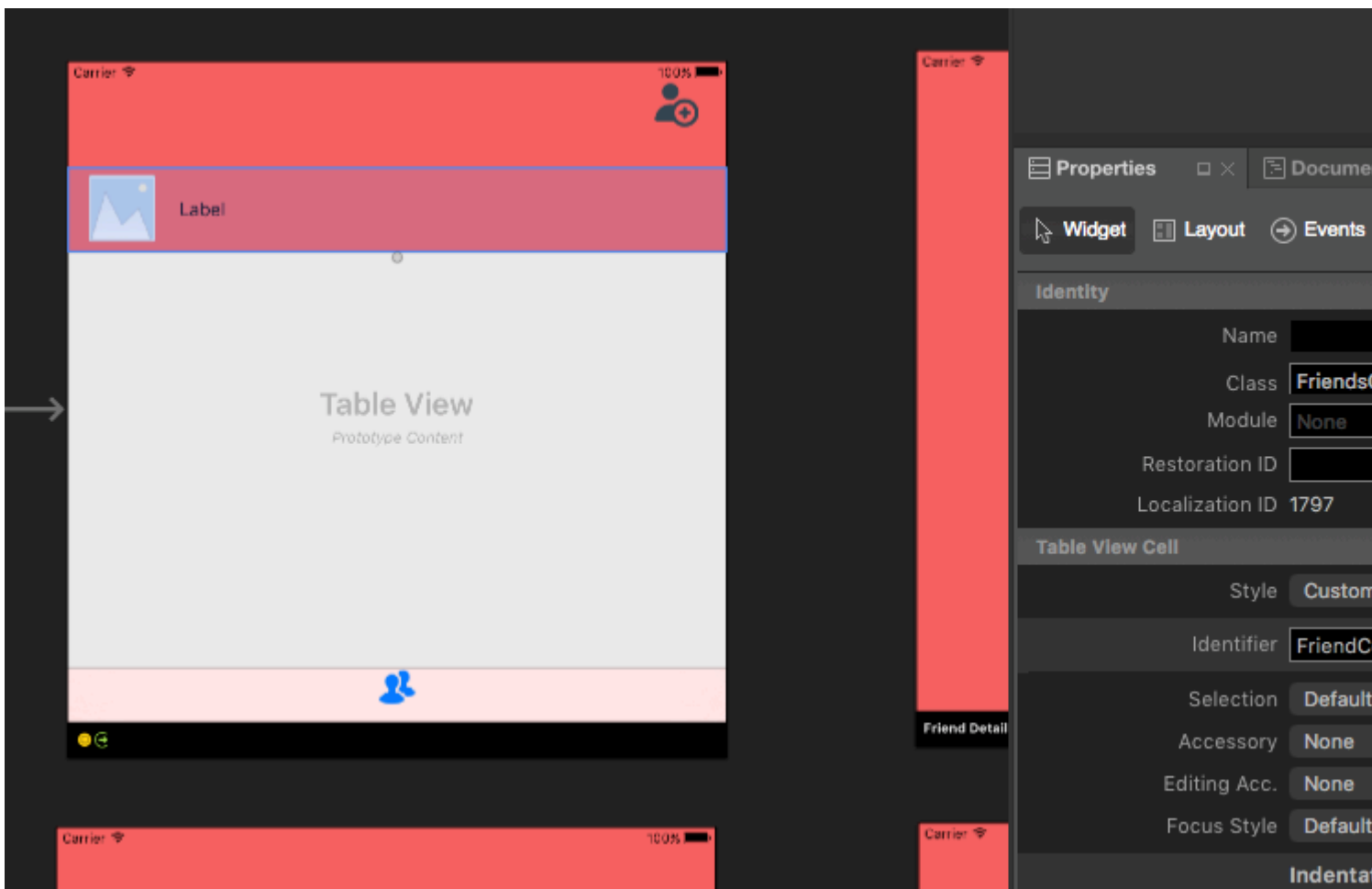
(UIImage Label).



. TableView "" . "" . .



... "FriendsCustomTableViewCell". "Identifier". "FriendCell". "" . " . "Class"
 "enter" .



```

public partial class FriendsCustomTableViewCell : UITableViewCell
{
    public FriendsCustomTableViewCell (IntPtr handle) : base (handle)
    {
    }

    public FriendsCustomTableViewCell(NSString cellId, string friendName, UIImage friendPhoto)
: base (UITableViewCellStyle.Default, cellId)
    {
        FriendNameLabel.Text = friendName;
        FriendPhotoImageView.Image = friendPhoto;
    }

    //This methods is to update cell data when reuse:
    public void UpdateCellData(string friendName, UIImage friendPhoto)
    {
        FriendNameLabel.Text = friendName;
        FriendPhotoImageView.Image = friendPhoto;
    }
}

```

UITableViewSource cellIdentifier ("FriendCell"). "GetCell" .

```

string cellIdentifier = "FriendCell";

public override UITableViewCell GetCell(UITableView tableView, NSIndexPath indexPath)
{
    FriendsCustomTableViewCell cell = (FriendsCustomTableViewCell)
tableView.DequeueReusableCell(cellIdentifier);
    Friend friend = _friends[indexPath.Row];

    //---- if there are no cells to reuse, create a new one
    if (cell == null)
    { cell = new FriendsCustomTableViewCell(new NSString(cellIdentifier), friend.FriendName,
new UIImage(NSData.FromArray(friend.FriendPhoto))); }

    cell.UpdateCellData(friend.UserName, new UIImage(NSData.FromArray(friend.FriendPhoto)));

    return cell;
}

```

xamarin.iOS . : <https://riptutorial.com/ko/xamarin-ios/topic/5907/---xamarin-ios----->

18:

Examples

iOS 8 UIAlertController UIAlertView .UIAlertView .

8.0

```
var alert = UIAlertController.Create(title, message, UIAlertControllerStyle.Alert);
alert.AddAction(UIAlertAction.Create(otherTitle, UIAlertActionStyle.Destructive, (action) => {
    // otherTitle();
}));
alert.AddAction(UIAlertAction.Create(cancelTitle, UIAlertActionStyle.Cancel, null));
this.PresentViewController(alert, true, null);
```

8.0

```
var alert = new UIAlertView (title, message, null, cancelTitle, otherTitle);
alert.Clicked += (object sender, UIButtonEventArgs e) => {
    if(e.ButtonIndex == 1)
        // otherTitle();
};
alert.Show ();
```

iOS 8 .

```
// Create the UIAlertView
var loginAlertView = new UIAlertView(title, message, null, cancelTitle, okTitle);

// Setting the UIAlertViewStyle to UIAlertViewStyle.LoginAndPasswordInput
loginAlertView.AlertViewStyle = UIAlertViewStyle.LoginAndPasswordInput;

// Getting the fields Username and Password
var usernameTextField = loginAlertView.GetTextField(0);
var passwordTextField = loginAlertView.GetTextField(1);

// Setting a placeholder
usernameTextField.Placeholder = "user@stackoverflow.com";
passwordTextField.Placeholder = "Password";

// Adding the button click handler.
loginAlertView.Clicked += (alertViewSender, buttonArguments) =>
{
    // Check if cancel button is pressed
    if (buttonArguments.ButtonIndex == loginAlertView.CancelButtonIndex)
    {
        // code
    }

    // In our case loginAlertView.FirstOtherButtonIndex is equal to the OK button
    if (buttonArguments.ButtonIndex == loginAlertView.FirstOtherButtonIndex)
    {
        // code
    }
}
```

```
};

// Show the login alert dialog
loginAlertView.Show();
```

iOS8 UIAlertController . UIAlertControllerStyle .

AlertView ActionSheet .

```
var alert = UIAlertController.Create(title, message, UIAlertControllerStyle.ActionSheet);
```

```
alert.AddAction(UIAlertAction.Create(otherTitle, UIAlertActionStyle.Destructive, (action) => {
    // ExecuteSomeAction();
}));
alert.AddAction(UIAlertAction.Create(cancelTitle, UIAlertActionStyle.Cancel, null));

//Add additional actions if necessary
```

void .AddAction() .

, "OK" private void DoStuff(){...} .

```
UIAlertAction action = UIAlertAction.Create("OK", UIAlertActionStyle.Cancel, DoStuff);
alert.AddAction(action);
```

DoStuff () .

```
this.PresentViewController(alert, true, null);
```

iOS NSRunLoop UIAlertView UIAlertView . iOS7 . C # / .

UIAlertView async / await :

```
Task ShowModalAlertViewAsync (string title, string message, params string[] buttons)
{
    var alertView = new UIAlertView (title, message, null, null, buttons);
    alertView.Show ();
    var tsc = new TaskCompletionSource ();

    alertView.Clicked += (sender, buttonArgs) => {
        Console.WriteLine ("User clicked on {0}", buttonArgs.ButtonIndex);
        tsc.TrySetResult (buttonArgs.ButtonIndex);
    };
    return tsc.Task;
}

//Usage
async Task PromptUser() {
    var result = await ShowModalAlertViewAsync
```

```
        ("Alert", "Do you want to continue?", "Yes", "No"); //process the result  
    }
```

: <https://riptutorial.com/ko/xamarin-ios/topic/433/>

19:

Examples

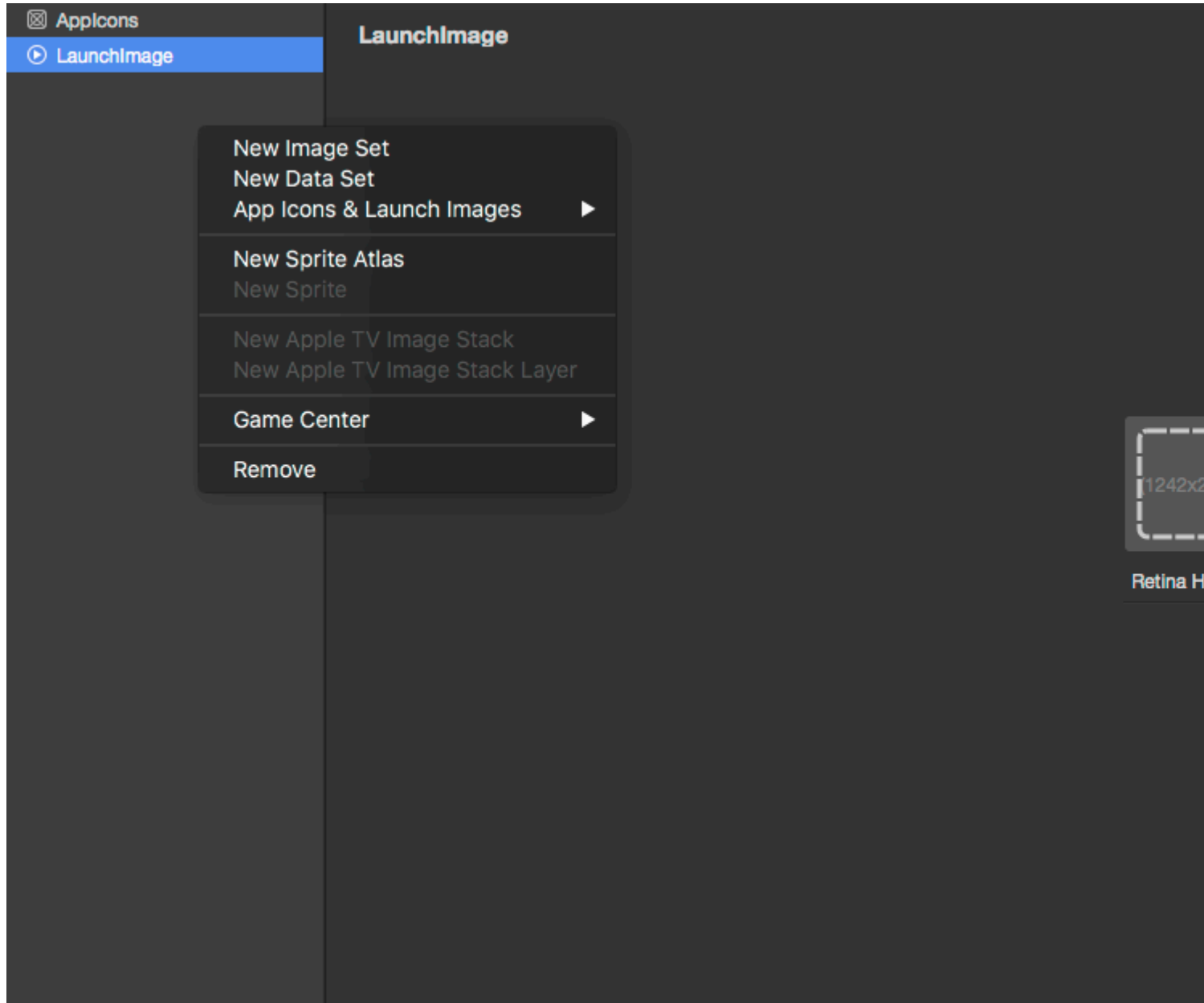
1. Info.plist .
2. .
3. Source () Applcons .
4. Assets.xcassets .
5. Applcons .
6. / .
7. xcasset .

: <https://riptutorial.com/ko/xamarin-ios/topic/6539/---->

20:

Examples

Xamarin Studio ,



5 .

.

.

On-Demand Resource Tags:

Render As: Default



Vector



1x



2x



3x

Universal



Vector



1x



2x



R4



3x

iPhone



Vector



1x



2x

iPad



Vector



2x



38mm 2x



42mm 2x

Apple Watch



Vector



1x



2x

Mac

XCode iOS 1, 2, 3 . Xamarin PDF .

iPhone Xamarin 4 iPhone (5, 5S SE) iOS7 R4 .

iOS Xamarin .

: <https://riptutorial.com/ko/xamarin-ios/topic/6630/-->

21: ID



Touch ID

```
if (context.CanEvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, out AuthError))
```

ID UI

```
context.EvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, myReason, replyHandler);
```

EvaluatePolicy . , . .

InvokeOnMainThread .

```
var replyHandler = new LAContextReplyHandler((success, error) =>
{
    this.InvokeOnMainThread(() =>
    {
        if (success)
        {
            Console.WriteLine("You logged in!");
            PerformSegue("AuthenticationSegue", this);
        }
        else {
            //Show fallback mechanism here
        }
    });
});
```

context.EvaluatedPolicyDomainState (NSData) . . :

```
if (context.CanEvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, out AuthError))
{
    var policyState = context.EvaluatedPolicyDomainState;

    var replyHandler = new LAContextReplyHandler((success, error) =>
    {
        this.InvokeOnMainThread(() =>
        {
            if (success)
            {
                Console.WriteLine("You logged in!");
            }
        }
    });
}
```

```

        PerformSegue("AuthenticationSegue", this);
    }
    else {
        //Show fallback mechanism here
    }
});

});
context.EvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, myReason,
replyHandler);
};

```

Examples

ID

Touch ID .

```

if (context.CanEvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, out
AuthError))

```

ID UI .

```

context.EvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, myReason,
replyHandler);

```

EvaluatePolicy . , . . .

InvokeOnMainThread .

```

var replyHandler = new LAContextReplyHandler((success, error) =>
{
    this.InvokeOnMainThread(() =>
    {
        if (success)
        {
            Console.WriteLine("You logged in!");
            PerformSegue("AuthenticationSegue", this);
        }
        else {
            //Show fallback mechanism here
        }
    });
});
});

```

context.EvaluatedPolicyDomainState (NSData) . . . :

.

```

if (context.CanEvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, out
AuthError))
{
    var policyState = context.EvaluatedPolicyDomainState;

```

```

var replyHandler = new LAContextReplyHandler((success, error) =>
{
    this.InvokeOnMainThread(() =>
    {
        if (success)
        {
            Console.WriteLine("You logged in!");
            PerformSegue("AuthenticationSegue", this);
        }
        else {
            //Show fallback mechanism here
        }
    });
});
context.EvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, myReason,
replyHandler);
};

```

```

partial void AuthenticateMe(UIButton sender)
{
    var context = new LAContext();
    //Describes an authentication context
    //that allows apps to request user authentication using Touch ID.
    NSError AuthError;
    //create the reference for error should it occur during the authentication.
    var myReason = new NSString("To add a new chore");
    //this is the string displayed at the window for touch id

    if (context.CanEvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, out
AuthError))
    // check if the device have touchId capabilities.
    {
        var replyHandler = new LAContextReplyHandler((success, error) =>
        {
            this.InvokeOnMainThread(() =>
            {
                if (success)
                {
                    Console.WriteLine("You logged in!");
                    PerformSegue("AuthenticationSegue", this);
                }
                else {
                    //Show fallback mechanism here
                }
            }
        });
    });
    context.EvaluatePolicy(LAPolicy.DeviceOwnerAuthenticationWithBiometrics, myReason,
replyHandler); //send touch id request
};
}

```

- <https://github.com/benhysell/V.TouchIdExample>

- <http://benjaminhysell.com/archive/2014/11/authentication-in-xamarin-ios-with-touch-id-or->

```

//Simple View with a switch to enable / disable Touch ID and
//a button to invoke authentication

/// <summary>
/// Enable/Disable Touch ID
/// </summary>
/// <param name="sender">Sender.</param>
partial void TouchIdEnableDisable(UISwitch sender)
{
    if (sender.On)
    {
        //enable Touch ID
        //set our record
        //note what you fill in here doesn't matter, just needs to be
        //consistent across all uses of the record
        var secRecord = new SecRecord(SecKind.GenericPassword)
        {
            Label = "Keychain Item",
            Description = "fake item for keychain access",
            Account = "Account",
            Service = "com.yourcompany.touchIdExample",
            Comment = "Your comment here",
            ValueData = NSData.FromString("my-secret-password"),
            Generic = NSData.FromString("foo")
        };

        secRecord.AccessControl = new
        SecAccessControl(SecAccessible.WhenPasscodeSetThisDeviceOnly,
        SecAccessControlCreateFlags.UserPresence);
        SecKeyChain.Add(secRecord);

        authenticateButton.Enabled = true;
    }
    else
    {
        //disable Touch ID
        var record = new SecRecord(SecKind.GenericPassword)
        {
            Service = "com.yourcompany.touchIdExample",
            UseOperationPrompt = "Authenticate to Remove Touch ID / Passcode from Test App"
        };

        SecStatusCode result;

        //query one last time to ensure they can remove it
        SecKeyChain.QueryAsRecord(record, out result);
        if (SecStatusCode.Success == result || SecStatusCode.ItemNotFound == result)
        {
            //remove the record
            SecKeyChain.Remove(record);
            authenticateButton.Enabled = false;
        }
        else
        {
            //could not authenticate, leave switch on
            sender.On = true;
        }
    }
}
}

```



```
/// <summary>
/// Show Touch ID to user and evaluate authentication
/// </summary>
/// <param name="sender">Sender.</param>
partial void AuthenticateUser(UIButton sender)
{
    var rec = new SecRecord(SecKind.GenericPassword)
    {
        Service = "com.yourcompany.touchIdExample",
        UseOperationPrompt = "Authenticate to access Test App"
    };
    SecStatusCode res;
    SecKeyChain.QueryAsRecord(rec, out res);
    if (SecStatusCode.Success == res || SecStatusCode.ItemNotFound == res)
    {
        //Success!!
        //add your code here to continue into your application
        AuthenticatedLabel.Hidden = false;
    }
    else
    {
        //Failure
        AuthenticatedLabel.Hidden = true;
    }
}
```

ID : <https://riptutorial.com/ko/xamarin-ios/topic/577/-id>

22: UIRefreshControl

Examples

UITableView UIRefreshControl

:

UITableView - UITableView

DataSource - UITableViewSource .

DataSource.Objects - List <object> () UIViewController .

```
private UIRefreshControl refreshControl;

public override void ViewDidLoad()
{
    base.ViewDidLoad();

    // Set the DataSource for the UITableView
    TableView.Source = dataSource = new DataSource(this);

    // Create the UIRefreshControl
    refreshControl = new UIRefreshControl();

    // Handle the pullDownToRefresh event
    refreshControl.ValueChanged += refreshTable;

    // Add the UIRefreshControl to the UITableView
    TableView.AddSubview(refreshControl);
}

private void refreshTable(object sender, EventArgs e)
{
    fetchData();
    refreshControl.EndRefreshing();
    TableView.ReloadData();
}

private void fetchData()
{
    var objects = new List<object>();
    // fetch data and store in objects.
    dataSource.Objects = objects;
}
```

UIRefreshControl : <https://riptutorial.com/ko/xamarin-ios/topic/4642/--uirefreshcontrol->

23: UIRefreshControl

Examples

UIScrollView UIRefreshControl

```
_scrollView UIScrollView .
```

```
UITableView, UICollectionView scrollviews UI .
```

```
,
```

```
UIRefreshControl refreshControl = new UIRefreshControl();
```

```
, . .
```

1 :

```
refreshControl.ValueChanged += (object sender, EventArgs e) => MyMethodCall();
```

2 :

```
refreshControl.ValueChanged += (object sender, EventArgs e) =>
{
    //Write code here
};
```

3 :

```
refreshControl.ValueChanged += HandleRefreshValueChanged;

void HandleRefreshValueChanged(object sender, EventArgs e)
{
    //Write code here
}
```

```
, . .
```

```
_scrollView.AddSubview(refreshControl);
```

UIRefreshControl : <https://riptutorial.com/ko/xamarin-ios/topic/8371/--uirefreshcontrol->

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