# How to build examples using Xcode 10 and higher

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## Preparing examples for building

### Building with local SDK archive

This way is obsoleted and not recommended since iOS SDK build 2.6.97

#### 1. Install Cocoapods to build dependencies

sudo gem install cocoapods

#### 2. Download the source code of the examples for Mac

git clone https://github.com/flashphoner/wcs-ios-sdk-samples.git

#### 3. Download and unpack the iOS SDK

```
wget http://flashphoner.com/downloads/builds/flashphoner_client/wcs-ios-sdk/2.6/WCS-iOS-SDK-2.6.x.tar.gz
tar -xvzf WCS-iOS-SDK-2.6.x.tar.gz
```

#### 4. After unpacking, there are the following frameworks:

two frameworks in builds before 2.6.86

FPWCSApi2.framework FPWCSApi2Swift.xcframework

three frameworks since build 2.6.86

FPWCSApi2.framework FPWCSApi2Swift.xcframework WebRTC.xcframework

#### since build 2.6.95 Objective C framework is shipped as XCFramework like others

FPWCSApi2.xcframework FPWCSApi2Swift.xcframework WebRTC.xcframework

#### since build 2.6.97 SDK archive contains unpacked Cocoapods bundles

FPWCSApi2 FPWCSApi2Swift FPWebRTC

5. Copy the unpacked frameworks to the sample folder

iOS SDK builds before 2.6.97

mkdir -p wcs-ios-sdk-samples/Frameworks
cp -R FPWCSApi2.xcframework FPWCSApi2Swift.xcframework WebRTC.xcframework wcs-ios-sdk-samples/Frameworks

iOS SDK builds since 2.6.97

```
mkdir -p wcs-ios-sdk-samples/sdk/fp_wcs_api2/Pods
cp -R FPWCSApi2 FPWCSApi2Swift WebRTC wcs-ios-sdk-samples/sdk/fp_wcs_api2/Pods
cd wcs-ios-sdk-samples
mv Podfile Podfile.public
mv Podfile.local Podfile
```

6. As a result, we have got the sample folder with the framework (iOS SDK). Now we can start building.

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total 64								
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-rw-rr	1	Flashphoner	staff	245	Apr	22	2019	Info.plist
-rw-rr	1	Flashphoner	staff	1567	Apr	13	13:16	Podfile
-rw-rr	1	Flashphoner	staff	465	Jun	17	13:12	Podfile.lock
drwxr-xr-x	10	Flashphoner	staff	320	Jun	17	13:12	Pods
-rw-rr	1	Flashphoner	staff	27	Apr	22	2019	README.md
-rw-rr	1	Flashphoner	staff	35	Apr	22	2019	README.txt
drwxr-xr-x	12	Flashphoner	staff	384	Apr	13	13:16	Swift
drwxr-xr-x	19	Flashphoner	staff	608	0ct	16	2020	WCSExample
drwxr-xr-x@	6	Flashphoner	staff	192	Jun	17	12:24	WCSExample.xcodeproj
drwxr-xr-x@	5	Flashphoner	staff	160	Jul	2	2020	WCSExample.xcworkspace
-rwxr-xr-x	1	Flashphoner	staff	10331	Apr	13	13:16	build_example.sh

7. Run Cocoapods

pod install

📄 wcs-ios-sdk-samples — -bash — 119×39

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Last login: Thu Nov 15 11:33:15 on ttys000 Mac-mini:~ oskar\$ cd wcs-ios-sdk-samples Mac-mini:wcs-ios-sdk-samples oskar\$ pod install Analyzing dependencies Downloading dependencies Installing JSONModel (1.7.0) Installing SocketRocket (0.5.1) Generating Pods project Integrating client project Sending stats Pod installation complete! There are 2 dependencies from the Podfile and 2 total pods installed. Mac-mini:wcs-ios-sdk-samples oskar\$

### Building with SDK from Cocoapods

This way is preferrable since iOS SDK build 2.6.97

#### 1. Install Cocoapods to build dependencies

sudo gem install cocoapods

#### 2. Download the source code of the examples for Mac

git clone https://github.com/flashphoner/wcs-ios-sdk-samples.git

#### 3. Run Cocoapods (this step may take a time because FPWebRTC framework is slightly fat)

pod install

• • •

Alexanders-MacBook-Pro:iOS-SDK-Samples-2.6 Flashphoner\$ pod install
Analyzing dependencies
Downloading dependencies
Installing FPWCSApi2 (2.6.97)
Installing FPWCSApi2Swift (2.6.97)
Installing FPWebRTC (2.6.97)
Installing GPUImage (0.1.7)
Installing SocketRocket (0.5.1)
Generating Pods project
Integrating client project
Pod installation complete! There are 4 dependencies from the Podfile and 5 total pods installed.

## Building and launching examples using Xcode

1. Now, as soon as all dependencies are ready, open workspace in Xcode.

Important!You should open the workspace, not the project file. Otherwise, the build may be broken.

		wcs-ios-sdk-samples	C Search	
Favorites Recents Applications Downloads iCloud Cloud Drive Desktop Documents Locations Remote Disc	<ul> <li>build_example.sh</li> <li>FPWCSApi2.framework</li> <li>Info.plist</li> <li>Podfile</li> <li>Podfile.lock</li> <li>Pods</li> <li>README.md</li> <li>README.txt</li> <li>WCSExample</li> <li>WCSExamplecworkspace</li> </ul>		WCSExample.xcworkspace Xcode Workspace - 28 KB Tags Add Tags Created Today, 11:36 Modified Today, 11:36	3
				Cancel Open

2. On General page for each example set the checkbox Automatically manage signing and set iPhone developer certificate.

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General	Capabilities Resource Tag	gs Info	Build Settings	Build Phases	Build Rules	
PROJECT	▼ Identity					1
WCSExample						
TARGETS	Display Name	TwoWayStreamin	ng			
E TwoWayStreaming	Bundle Identifier	com.flashphone	.ios.TwoWayStreami	ng		
MediaDevices	Version	1.0				
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A Strangers						
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	6	Automatically	manage signing			
A VideoChat		Reade will crea	te and update profiles	, app IDs, and		
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A ClickToCall	Provisioning Profile	Xcode Managed	Profile (i)			
	Signing Certificate	iPhone Develope	1			
	Deployment Info					
	Deployment Target	9.1		~		
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	Status Bar Style	Default		<b>•</b>		
		Hide status ba	ar			
		Requires full s	creen			
	App Icons and Launch Images					
	App Icons Source	TwoWayStream	nglcon	٥ ᅌ		
	Launch Images Source	Use Asset Cata	log			
+ - 🕞 Filter	Launch Screen File	LaunchScreen		~		

() Since build2.6.10, steps 3-5 are not required!

3. At the bottom of General page delete the libraries libstdc++.6.0.9.tbd n libstdc.tbd (if they are in list). Add the library libstdc++.tbd if it is not in list.

Name	Status
libicucore.tbd	Required 🗘
libstdc++.6.0.9.tbd	Required 🗘
libstdc++.tbd	Required 🗘
libc.tbd	Required 🗘
libsqlite3.tbd	Required 🗘
🚔 Foundation.framework	Required 🗘
AVFoundation.framework	Required 🗘
🚔 UIKit.framework	Required 🗘
🚔 GLKit.framework	Required 🗘
🚔 CoreMedia.framework	Required 🗘
CoreGraphics.framework	Required 🗘
🚔 VideoToolbox.framework	Required 🗘
Pods_TwoWayStreaming.framework	Required 🗘
FPWCSApi2.framework	Required 🗘

### 4. On Build settings tab in Linking section add -ObjC linker flag

毘 < > 📓 WCSExample	e					< 🔺 > 🔃			
Ceneral General	Signing & Capabilities	Resource Tags	Info	Build Settings	Build Phases	Build Rules			
PROJECT	Basic Customized	All Combined	Levels	+	Q~ Search				
🛓 WCSExample	▼ Linking								
TARGETS	Setting								
😑 TwoWayStreaming	Bundle Load	<b>P</b> r							
A MediaDevices	Compatibility	Version							
A Player	Current Libra	ry Version							
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	Display Man	led Names		No 🗘	No 🗘				
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5. Choose File - Workspace settings menu item and set Legacy Build System value for Build System parameter

Shared Workspace Settin	gs:
Build System	/ New Build System (Default) Legacy Build System
Per-User Workspace Sett	ings:
Build System:	Use Shared Setting
Derived Data:	Default Location
	/Users/oskar/Libraryr/Xcode/DerivedData O Advanced
Issues:	Show live issues for source code
	<ul> <li>Show issues for active scheme only</li> <li>Show all issues</li> </ul>
	Done

6. For Two Way Streaming example choose target Generic iOS Device and start building from the Product - Build menu. Then connect your iPhone or iPad via USB and choose it to run the example.



7. After successful deployment and launch, the debug information is displayed in the lower part. This means, the Media Devices example has been correctly installed to iPhone or iPad and is running.

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													<pre>' ':UIView:0x102697540 )&gt;",     "<nslayoutconstraint:0x102607640 ' ':uiview:0x102697540="" (active),="" )="" [rtceaglvideoview:0x102697840]-(0)-="" [rtceaglvideoview:0x102697840]-(0)- ="" h:="" names:="">",     "<nslayoutconstraint:0x1025af9b0 (active)="" 0x102697350.width="UIView:0x1026922a0.width" uiview:="">",     "<nslayoutconstraint:0x10268e050 'uiview-="" (active)="" 0x1026922a0.width="375" encapsulated-layout-width'="" uiview:="">" ) Will attempt to recover by breaking constraint <nslayoutconstraint:0x1026b07d0 (active)="" 0x102697840]-(0)-[rtceaglvideoview:0x10269ea10]="" h:[rtceaglvideoview:=""> Make a symbolic breakpoint at     UIViewAlertForUnsatisfiableConstraints to catch this     in the debugger. The methods in the UIConstraintBasedLayoutDebugging     category on UIView listed in <uikit uiview.h=""> may     also be helpful.</uikit></nslayoutconstraint:0x1026b07d0></nslayoutconstraint:0x10268e050></nslayoutconstraint:0x1025af9b0></nslayoutconstraint:0x102607640></pre>
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8.On iPhone, you should see the interface of the application you can start testing using the WCS server

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wss://wcs5-e	wss://wcs5-eu.flashphoner.com:8443/					
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	PUBLISH					
	Switch camera					
Play Stream						
streamName						
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9. Connect to the server and send a video stream from the web camera to the iPhone.



So, we have built Two Way Streaming example on Mac OS Mojave using Xcode 10.1 from the source code using the iOS SDK (FPWCSApi2.framework) and executed this example on iPhone 6. The example demonstrated successful streaming of a video through Web Call Server 5.