

# iOS Streamer

## Example of streamer for iOS

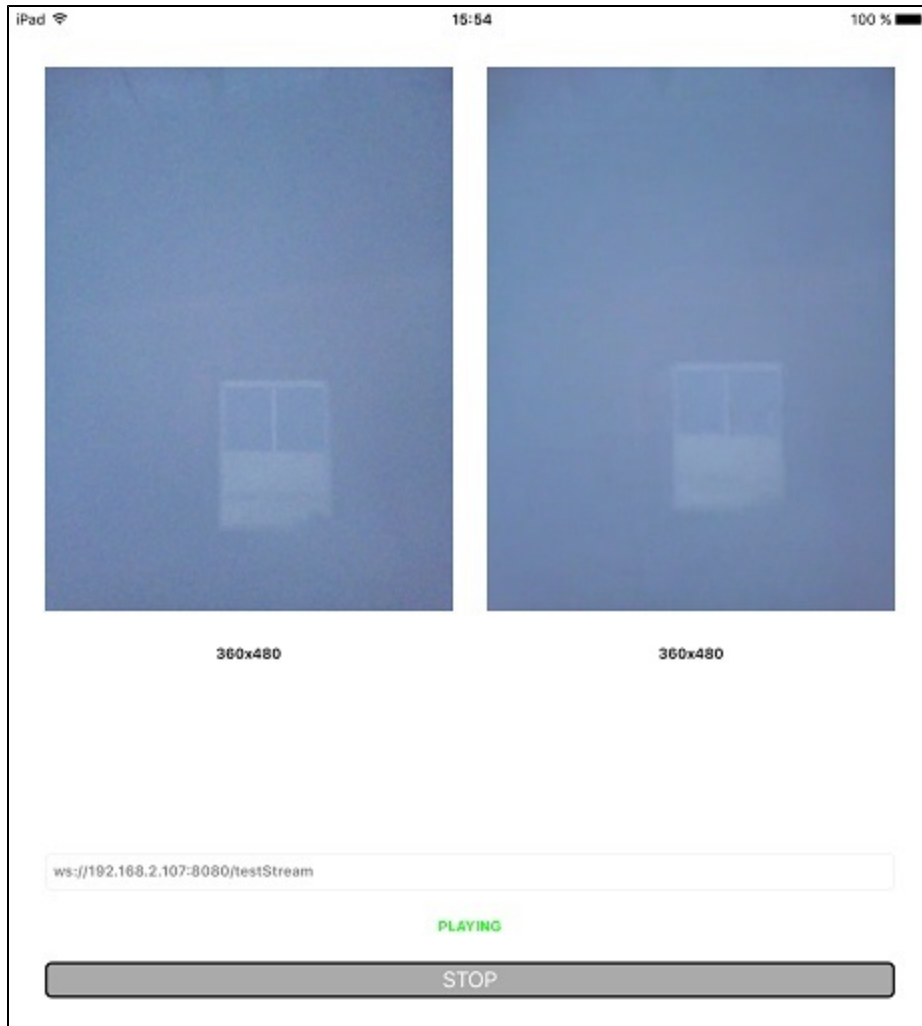
This streamer can be used to publish WebRTC video stream on Web Call Server.

On the screenshot below the example is displayed when a stream is being published.  
In the URL specified in the input field

- 192.168.2.107 is the address of the WCS server
- testStream is the stream name

Two videos are played

- left - video from the camera
- right - the published video stream is played from the server



## Work with code of the example

To analyze the code, let's take Streamer example version, which can be downloaded with build [2.5.2](#).

View class for the main view of the application: ViewController (header file [ViewController.h](#); implementation file [ViewController.m](#)).

### 1. Import of API [code](#)

```
#import <FPWCSApi2/FPWCSApi2.h>
```

### 2. Session creation.

FPWCSEApi2 createSession[code](#)

The options include:

- URL of WCS server
- appKey of internal server-side application (defaultApp)

```
FPWCSEApi2SessionOptions *options = [[FPWCSEApi2SessionOptions alloc] init];
NSURL *url =[[NSURL alloc] initWithString:_connectUrl.text];
options.urlServer = [NSString stringWithFormat:@"%s://%s:%s", url.scheme, url.host, url.port];
streamName = [url.path.stringByDeletingPathExtension stringByReplacingOccurrencesOfString: @"/" withString:@""];
options.appKey = @"defaultApp";
NSError *error;
session = [FPWCSEApi2 createSession:options error:&error];
```

3. Connection to the server

FPWCSEApi2Session connect[code](#)

```
[session connect];
```

4. Receiving the event confirming successful connection.

ViewController onConnected[code](#)

On this event,ViewController publishStreammethod is called to publish the stream

```
- (void)onConnected:(FPWCSEApi2Session *)session {
    [_connectButton setTitle:@"STOP" forState:UIControlStateNormal];
    // [self changeViewState:_connectButton enabled:YES];
    [self publishStream];
}
```

5. Stream publishing.

FPWCSEApi2Session createStream, FPWCSEApi2Stream publish[code](#)

Object with next stream options is passed to createStream method:

- stream name
- view to display video
- video constraints (for iPad for example)

```

- (FPWCSApi2Stream *)publishStream {
    FPWCSApi2Session *session = [FPWCSApi2 getSessions][0];
    FPWCSApi2StreamOptions *options = [[FPWCSApi2StreamOptions alloc] init];
    options.name = streamName;
    options.display = _videoView.local;
    if ( UI_USER_INTERFACE_IDIOM() == UIUserInterfaceIdiomPad ) {
        options.constraints = [[FPWCSApi2MediaConstraints alloc] initWithAudio:YES videoWidth:640 videoHeight:
480 videoFps:15];
    }
    NSError *error;
    publishStream = [session createStream:options error:&error];
    ...
    if(![publishStream publish:&error]) {
        UIAlertController * alert = [UIAlertController
            alertControllerWithTitle:@"Failed to publish"
            message:error.localizedDescription
            preferredStyle:UIAlertControllerStyleAlert];

        UIAlertAction* okButton = [UIAlertAction
            actionWithTitle:@"Ok"
            style:UIAlertActionStyleDefault
            handler:^(UIAlertAction * action) {
                [self onUnpublished];
            }];

        [alert addAction:okButton];
        [self presentViewController:alert animated:YES completion:nil];
    }
    return publishStream;
}

```

6. Receiving the event confirming successful stream publishing.

ViewController onPublishing[code](#)

On this event, ViewController playStream method is called to play preview stream

```

- (void)onPublishing:(FPWCSApi2Stream *)stream {
    [self playStream];
}

```

7. Preview stream playback.

FPWCSApi2Session createStream, FPWCSApi2Stream play[code](#)

Object with next stream options is passed to createStream method:

- stream name
- view to display video

```

- (FPWCSEApi2Stream *)playStream {
    FPWCSEApi2Session *session = [FPWCSEApi2 getSessions][0];
    FPWCSEApi2StreamOptions *options = [[FPWCSEApi2StreamOptions alloc] init];
    options.name = streamName;
    options.display = _videoView.remote;
    NSError *error;
    playStream = [session createStream:options error:nil];
    ...
    if(![playStream play:&error]) {
        UIAlertController * alert = [UIAlertController
                                     alertControllerWithTitle:@"Failed to play"
                                     message:error.localizedDescription
                                     preferredStyle:UIAlertControllerStyleAlert];

        UIAlertAction* okButton = [UIAlertAction
                                    initWithTitle:@"Ok"
                                    style:UIAlertActionStyleDefault
                                    handler:^(UIAlertAction * action) {

                                    }]];

        [alert addAction:okButton];
        [self presentViewController:alert animated:YES completion:nil];
    }
    return playStream;
}

```

## 8. Disconnection

FPWCSEApi2Session disconnect[code](#)

```

- (void)connectButton:(UIButton *)button {
    [self changeViewState:button enabled:NO];
    if ([button.titleLabel.text isEqualToString:@"STOP"]) {
        if ([FPWCSEApi2 getSessions].count) {
            FPWCSEApi2Session *session = [FPWCSEApi2 getSessions][0];
            NSLog(@"Disconnect session with server %@", [session getServerUrl]);
            [session disconnect];
        } else {
            NSLog(@"Nothing to disconnect");
            [self onDisconnected];
        }
    } else {
        //todo check url is not empty
        [self changeViewState:_connectUrl enabled:NO];
        [self connect];
    }
}

```

## 9. Receiving the event confirming successful disconnection.

ViewController onDisconnected[code](#)

```

- (void)onDisconnected {
    [_connectButton setTitle:@"START" forState:UIControlStateNormal];
    [self changeViewState:_connectButton enabled:YES];
    [self changeViewState:_connectUrl enabled:YES];
    [self onUnpublished];
    [self onStopped];
}

```