

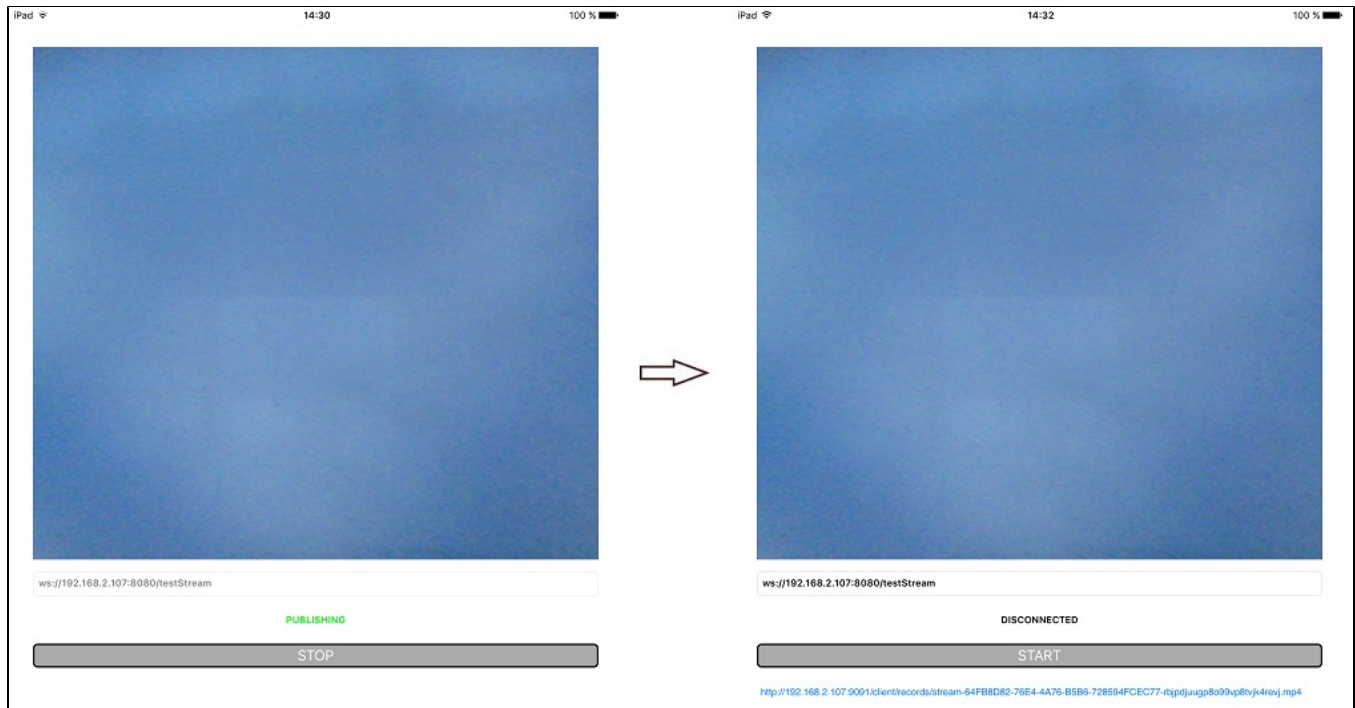
iOS Stream Recording

Example of iOS application for stream recording

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

On the screenshot below (from left to right)

- a stream is being published
- stream publication is stopped and connection to server is closed



In the URL specified in the input field

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

Above the input field video from the camera is displayed.

When publication is stopped, download link for the recording of the published stream is displayed.

Work with code of the example

To analyze the code, let's take StreamRecording example, 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 <FPWCSPi2/FPWCSPi2.h>
```

2. Session creation and connection to server.

FPWCSPi2 createSession, FPWCSPi2Session connect [code](#)

The options include:

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

```

- (FPWCSApi2Session *)connect {
    FPWCSApi2SessionOptions *options = [[FPWCSApi2SessionOptions alloc] init];
    url = [[NSURL alloc] initWithString:_connectUrl.text];
    options.urlServer = [NSString stringWithFormat:@"%@@://%@:%@", url.scheme, url.host, url.port];
    streamName = [url.path.stringByDeletingPathExtension stringByReplacingOccurrencesOfString: @"/" withString:
@""];
    options.appKey = @"defaultApp";
    NSError *error;
    FPWCSApi2Session *session = [FPWCSApi2 createSession:options error:&error];
    ...
    [session connect];
    return session;
}

```

3. Receiving the event confirming successful connection.

ViewController onConnected[code](#)

On this event, ViewController publishStream method is called to publish the stream

```

- (void)onConnected:(FPWCSApi2Session *)session {
    [self publishStream];
}

```

4. Stream publishing.

FPWCSApi2Session createStream, FPWCSApi2Stream publish[code](#)

Object with next stream options is passed to createStream method:

- stream name
- view to display video
- 'true' for parameter 'record' to enable stream recording
- video constraints for iPad

```

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

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

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

```

5. Receiving the event confirming successful stream publishing.

ViewController onPublishing[code](#)

When the stream is published, FPWCSEApi2Stream method getRecordName is used to get the filename of the stream recording

```
- (void)onPublishing:(FPWCSEApi2Stream *)stream {
    [_startButton setTitle:@"STOP" forState:UIControlStateNormal];
    [self changeViewState:_startButton enabled:YES];
    recordName = [stream getRecordName];
}
```

6. Disconnection.

FPWCSEApi2Session disconnect[code](#)

```
- (void)startButton:(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 {
        [self changeViewState:_connectUrl enabled:NO];
        [self connect];
    }
}
```

7. Receiving the event confirming successful disconnection.

ViewController onDisconnected[code](#)

On this event, the record file download link is formed, and ViewController playVideo is called to play the record

```
- (void)onDisconnected {
    [self changeViewState:_connectUrl enabled:YES];
    [self onUnpublished];
    if (url && recordName) {
        NSString *urlString = @"http://www.sample-videos.com/video/mp4/720/big_buck_bunny_720p_1mb.mp4";
        NSString *urlString = [NSString stringWithFormat:@"http://%@:9091/client/records/%@", url.host,
recordName];
        _recordLink.text = urlString;
        [self playVideo: urlString];
    }
}
```

8. Record playback

AVPlayer play[code](#)

```
- (void)playVideo:(NSString *)urlString {
    NSURL *url = [NSURL URLWithString:urlString];
    AVURLAsset *movieAsset = [AVURLAsset URLAssetWithURL:url options:nil];
    [movieAsset.resourceLoader setDelegate:self queue:dispatch_get_main_queue()];

    AVPlayerItem *playerItem = [AVPlayerItem playerItemWithAsset:movieAsset];
    _player = [AVPlayer playerWithPlayerItem:playerItem];
    _playerViewController.player = _player;
    [_player play];
}
```

