

# The OpenTok API

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# Agenda

- What is OpenTok?
- OpenTok Basics
- Platform
- Let's build!

# What is OpenTok?

The OpenTok platform **makes it easy to embed high-quality real-time interactive video**, voice, messaging, screen-sharing and more into web, mobile, and desktop apps.

# What is OpenTok?

The platform includes client-side SDKs for web, iOS, Android, and Windows as well as server-side SDKs that wrap the OpenTok REST API.

# OpenTok Basics

# OpenTok Basics

- Session
- Token
- Publishing & Subscribing
- Events

# Session

- A “virtual room” where participants interact
- Has a unique sessionId
- Where users can publish and subscribe

# Types of Sessions

- Relayed
  - Relayed (Peer-to-Peer) - Media is streamed directly between clients. Good for remote areas that are not close to an OpenTok Media Router.
- Routed
  - Routed - Media is streamed through OpenTok's SFU. This provides upload bandwidth savings for large calls and the ability to record (archive), broadcast, and dial out with SIP.



# Token

- A participant's key to a session
- Expire after a certain time (specified by the developer)
- Can contain custom metadata
- Roles
  - Moderator
  - Publisher
  - Subscriber

# Publishing & Subscribing

- Publisher
  - Creator of the stream
  - Has the ability to publish audio or video only
- Subscriber
  - Receiver of the stream
  - Has the ability to subscribe to audio or video only

# Events

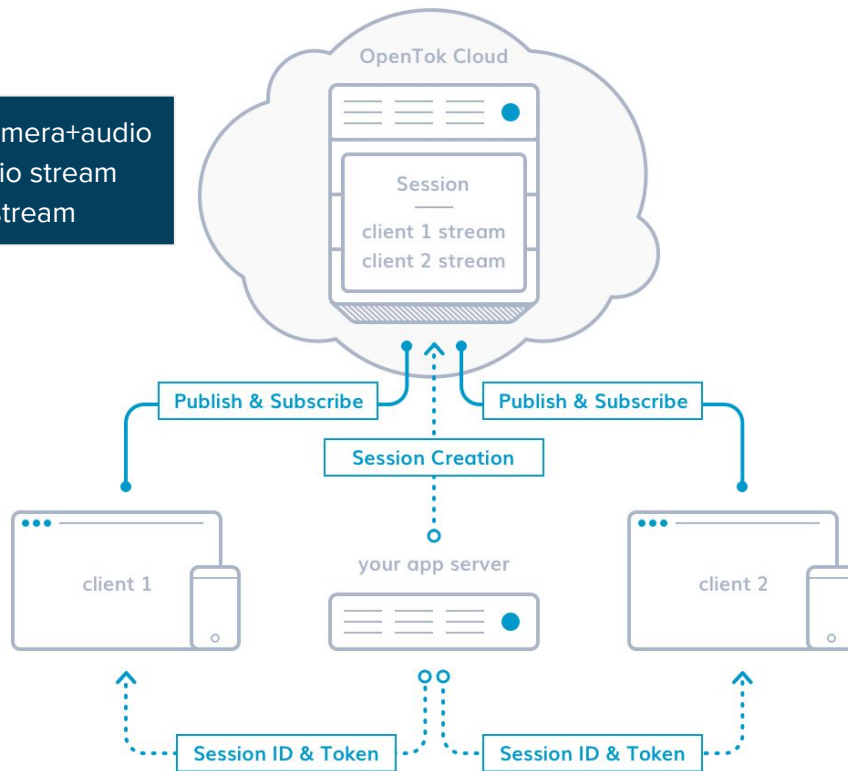
- Session Events
  - Connection Events
    - connectionCreated
    - connectionDestroyed
  - Stream Events
    - sessionConnected
    - streamCreated
    - streamDestroyed
    - sessionDisconnected
    - sessionReconnecting
    - sessionReconnected
    - streamPropertyChanged
  - Error Event
    - Error
  - Signal
  - Many more

# API Model



*Publish:* patient phone camera+audio  
*Publish:* stethoscope audio stream  
*Subscribe:* doctor video stream

*Publish:* doctor laptop camera+audio  
*Subscribe:* phone video stream  
*Subscribe:* stethoscope audio stream



# OpenTok Platform

# Supported Platforms

- Web
- iOS
- Android
- Windows
- Unity (beta)
  - Available for iOS, Android, Windows, Mac
- Linux (beta)
- Mac (private beta)
- React Native (supported by community)
- Cordova(supported by community)

# Supported Browsers

- Chrome
- Firefox
- Safari
- Edge (beta)
- Internet Explorer
- Opera

# Archiving (Recording)



# Types of Archives

- Composed
  - Stitched recording with layout control
  - Resolution Support
- Individual Stream
  - Intended for use with a post-processing tool, to produce customized content generated by your application.

# Layout Control

- You can specify the layout of the videos when you start the archive and you can also update the layout when the archive is in progress
- Predefined Layouts
  - Best Fit
  - Picture in Picture
  - Vertical Presentation
  - Horizontal Presentation
- Custom Layouts using CSS

# Resolution Support

- Composed
  - 1280 x 720
  - 640 x 480
- Individual
  - Resolution captured by the camera

# Storing Archives

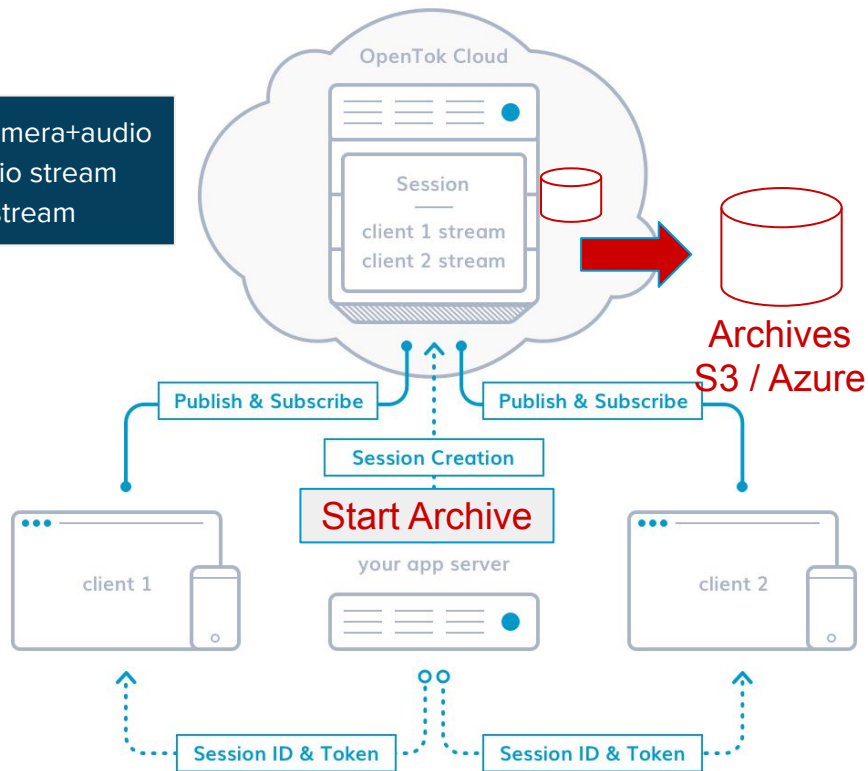
- AWS S3
- Microsoft Azure
- ...

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*Publish:* doctor laptop camera+audio  
*Subscribe:* phone video stream  
*Subscribe:* stethoscope audio stream



# Let's build!

<https://github.com/msach22/opentok-vonage-campus>