

## Quickstart Examples SC

localhost:3000/quickstart/?roomName=testroom

Twilio tools INFO Debug roshan

Video Quick Start More Examples Leave Room

IronMan1

ironMan1



2 Issues: 2 | ⚡

```
{"type": "heartbeat"}  
2024-06-19T09:08:16.604Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming:  
{"type": "heartbeat"}  
2024-06-19T09:08:16.707Z debug index.js:23788  
ws://global.vss.twilio.com/signaling Outgoing:  
{"type": "heartbeat"}  
2024-06-19T09:08:17.267Z info [connect index.js:23788  
#1 event  
↳ {elapsedTime: 22563, group: 'quality', level: 'info',  
name: 'active-ice-reporter', timestamp: 1716780097267, ...}  
2024-06-19T09:08:20.704Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming:  
{"type": "heartbeat"}  
2024-06-19T09:08:21.589Z debug index.js:23788  
ws://global.vss.twilio.com/signaling Outgoing:  
{"type": "heartbeat"}  
2024-06-19T09:08:24.804Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming:  
{"type": "heartbeat"}  
2024-06-19T09:08:26.391Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Outgoing:  
{"type": "heartbeat"}  
2024-06-19T09:08:27.269Z info [connect index.js:23788  
#1 event  
↳ {elapsedTime: 32565, group: 'quality', level: 'info',  
name: 'stats-report', timestamp: 171678107269, ...}  
2024-06-19T09:08:27.269Z info [connect index.js:23788  
#1 event  
↳ {elapsedTime: 32565, group: 'quality', level: 'info',  
name: 'active-ice-candidate-pair', timestamp: 1716780107269, ...}  
2024-06-19T09:08:28.904Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming:  
{"type": "heartbeat"}  
2024-06-19T09:08:31.195Z debug index.js:23788  
[TwilioConnection #1: ws://global.vss.twilio.com/signaling] Outgoing:  
{"type": "heartbeat"}  
>
```

**Bandwidth Constraints**

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

**Participant's Media**

**Select Bandwidth Constraints**

Max Audio Bitrate (bps)

No limit

Max Video Bitrate (bps)

No limit

**Disconnect from Room**

Console Output:

```
42 Issues: 39 3 0
2965-40db-531-65b4ca6d11", "enabled": true, "id": "MT4c47b3b70593ab862903d353be12f1", "name": "a827ecdc-fcf9-46c6-948d-91ccfc0259", "state": "connected", "media_warnings": []}, "participants": [{"sid": "PA9f295de98ccbc508dd535e271565b7", "identity": "Jolly Bobo Liberty", "tracks": [{"revision": 1, "state": "created"}, {"revision": 2, "is_recording": true, "subscribed": "revision:0", "tracks": []}], "published": "revision:1", "tracks": [{"kind": "audio", "priority": "standard", "id": "0b403c15-90e4-4ec2-99a8-3d95267ef0c", "enabled": true, "sid": "MTa73a2eac10a089909", "name": "bc27afee-c723-4d9c-a6de-81a7d1b38dfb30", "state": "ready"}, {"kind": "video", "priority": "standard", "id": "7e095b40-2965-40db-531-65b4ca6d11", "enabled": true, "sid": "MT4c47b3b70593ab862903d353be12f1", "name": "a827ecdc-fcf9-46c6-948d-91ccfc0259", "state": "ready"}]}, {"type": "heartbeat"}], "timestamp": 171678173904, "room": "MT73a2eac10a089909", "connection_id": "7d1b38dfb30"}] Dimensions: { width: 640, height: 480 }

2024-06-19T09:09:25.062Z debug index.js:26961 [RemoteVideoTrack #1] MT73a2eac10a089909: Started
2024-06-19T09:09:28.124Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:29.310Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:29.822Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:30.002Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}

2024-06-19T09:09:32.124Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
```

**Bandwidth Constraints**

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

**Participant's Media**

**Select Bandwidth Constraints**

Max Audio Bitrate (bps)

16000

Max Video Bitrate (bps)

No limit

**Disconnect from Room**

Console Output:

```
42 Issues: 39 3 0
{"type": "heartbeat"}], "timestamp": 171678173904, "room": "MT73a2eac10a089909", "connection_id": "7d1b38dfb30"}] Dimensions: { width: 640, height: 480 }

2024-06-19T09:09:33.102Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
2024-06-19T09:09:33.904Z info [connect index.js:26961 #1 event
  > [elapsedTime: 21063, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678173904, ...]
2024-06-19T09:09:34.624Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
2024-06-19T09:09:34.989Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
2024-06-19T09:09:34.999Z info [connect index.js:26961 #2 event
  > [elapsedTime: 12542, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678173904, ...]
2024-06-19T09:09:34.999Z info [connect index.js:26961 #2 event
  > [elapsedTime: 12542, group: 'quality', level: 'info', name: 'active-ice-candidate-pair', timestamp: 171678173909, ...]
2024-06-19T09:09:36.124Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
2024-06-19T09:09:37.510Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
2024-06-19T09:09:39.425Z debug index.js:26961 [TwilioConnection #1: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
2024-06-19T09:09:39.404Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
2024-06-19T09:09:40.324Z debug index.js:26961 [TwilioConnection #2: ws://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output:

```
42 Issues: 39 3 ⓘ Default levels ▾
[{"type": "heartbeat"}]
2024-06-19T09:09:43.903Z info [connect] index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:43.904Z info [connect] index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:44.324Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:44.325Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:44.420Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:44.421Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:44.820Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output:

```
42 Issues: 39 3 ⓘ Default levels ▾
[{"type": "heartbeat"}]
2024-06-19T09:09:48.425Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:48.426Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:49.026Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:49.027Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}
2024-06-19T09:09:49.712Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:52.425Z debug index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
2024-06-19T09:09:53.810Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
2024-06-19T09:09:53.830Z debug index.js:26961
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
2024-06-19T09:09:54.910Z info [connect] index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}>
2024-06-19T09:09:54.910Z info [connect] index.js:26961
[TwilioConnection #2: wss://global.vss.twilio.com/signaling] Outgoing: {"type": "heartbeat"}>
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output (Partial):

```
42 Issues: 39 3 0
("type": "heartbeat")
2024-06-19T09:09:53.010Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:09:53.330Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: ("type": "heartbeat")
2024-06-19T09:09:53.904Z info [connect index.js:26961 #1: event {"elapsedTime": 41063, group: "quality", level: "info", > name: "stats-report", timestamp: 171678193904, ...}
2024-06-19T09:09:54.007Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:09:54.910Z info [connect index.js:26961 #2: event {"elapsedTime": 32543, group: "quality", level: "info", > name: "stats-report", timestamp: 171678194904, ...}
2024-06-19T09:09:54.910Z info [connect index.js:26961 #2: event {"elapsedTime": 32543, group: "quality", level: "info", > name: "active-ice-candidate-pair", timestamp: 171678014910, ...}
2024-06-19T09:09:55.525Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:09:58.632Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: ("type": "heartbeat")
2024-06-19T09:09:58.688Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Outgoing: ("type": "heartbeat")
2024-06-19T09:10:00.628Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output (Partial):

```
42 Issues: 39 3 0
("type": "heartbeat")
2024-06-19T09:10:00.628Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:10:01.758Z debug index.js:26961 [RemoteVideoTrack #4: RTCTrackId=ac10a0998905e47d1b38db30] Dimensions changed: > {width: 480, height: 360}
2024-06-19T09:10:01.911Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:10:03.434Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing: ("type": "heartbeat")
2024-06-19T09:10:03.804Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Outgoing: ("type": "heartbeat")
2024-06-19T09:10:03.904Z info [connect index.js:26961 #1: event {"elapsedTime": 51063, group: "quality", level: "info", > name: "stats-report", timestamp: 17167823904, ...}
2024-06-19T09:10:03.904Z info [connect index.js:26961 #1: event {"elapsedTime": 51063, group: "quality", level: "info", > name: "active-ice-candidate-pair", timestamp: 17167823904, ...}
2024-06-19T09:10:04.725Z debug index.js:26961 [TwilioConnection #2: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:10:04.989Z info [connect index.js:26961 #2: event {"elapsedTime": 42542, group: "quality", level: "info", > name: "stats-report", timestamp: 17167824904, ...}
2024-06-19T09:10:06.011Z debug index.js:26961 [TwilioConnection #1: wss://global.vss.twilio.com/signaling] Incoming: ("type": "heartbeat")
2024-06-19T09:10:06.740Z debug [RemoteVideoTrack #4: RTCTrackId=ac10a0998905e47d1b38db30] > {width: 320, height: 240}
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output (Partial):

```
42 Issues: 39 3 | ⚡ Default levels ▾
("type": "heartbeat")
2024-06-19T09:18:03.610Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:03.904Z info [connect] index.js:26961
#1 event
#1 {elapsedTime: 51063, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678263904, ...}
2024-06-19T09:18:03.904Z info [connect] index.js:26961
#1 event
#1 {elapsedTime: 51063, group: 'quality', level: 'info', name: 'active-ice-candidate-pair', timestamp: 171678263904, ...}
2024-06-19T09:18:04.989Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:04.989Z info [connect] index.js:26961
#2 event
#2 {elapsedTime: 42542, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678264000, ...}
2024-06-19T09:18:04.989Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:04.740Z debug [RemoteVideoTrack #4] index.js:26961
MTs732625ac10a0896905e47d1b38fb30 Dimensions changed: > {width: 320, height: 240}
2024-06-19T09:18:08.236Z debug [TwilioConnection #1] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:08.411Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:08.725Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:08.725Z debug [TwilioConnection #1] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:08.911Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
```

Bandwidth Constraints

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with the given bandwidth constraints.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 * @returns {CancelablePromise<Room>}
 */
function connectWithBandwidthConstraints(token, roomName, maxAudioBitrate, maxVideoBitrate) {
  return Video.connect(token, {
    maxAudioBitrate,
    maxVideoBitrate,
    name: roomName
  });
}

/**
 * Update the bandwidth constraints of a Room.
 * @param {Room} room - The Room whose bandwidth constraints have changed
 * @param {?number} maxAudioBitrate - Max audio bitrate (bps)
 * @param {?number} maxVideoBitrate - Max video bitrate (bps)
 */
function updateBandwidthConstraints(room, maxAudioBitrate, maxVideoBitrate) {
  room.localParticipant.setParameters({
    maxAudioBitrate,
    maxVideoBitrate
  });
}

exports.connectWithBandwidthConstraints = connectWithBandwidthConstraints;
exports.updateBandwidthConstraints = updateBandwidthConstraints;

```

Participant's Media

Select Bandwidth Constraints

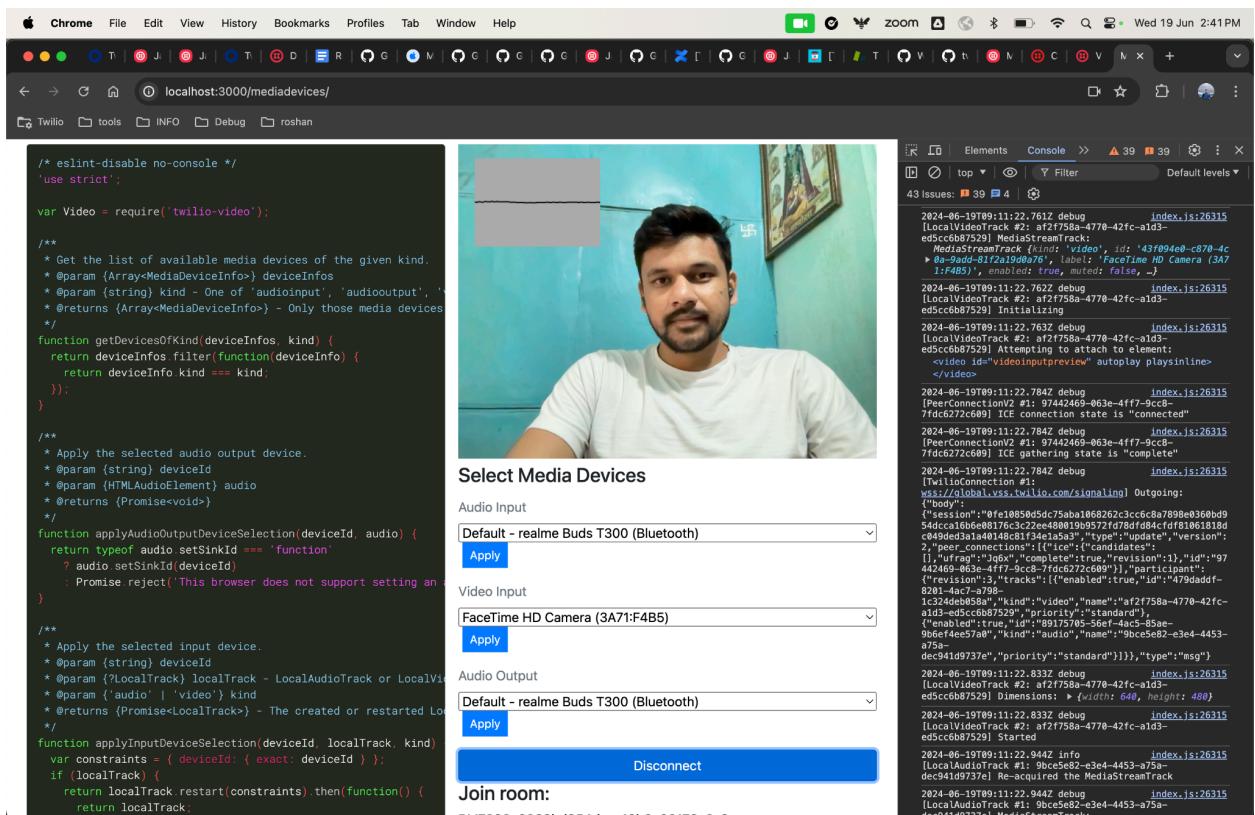
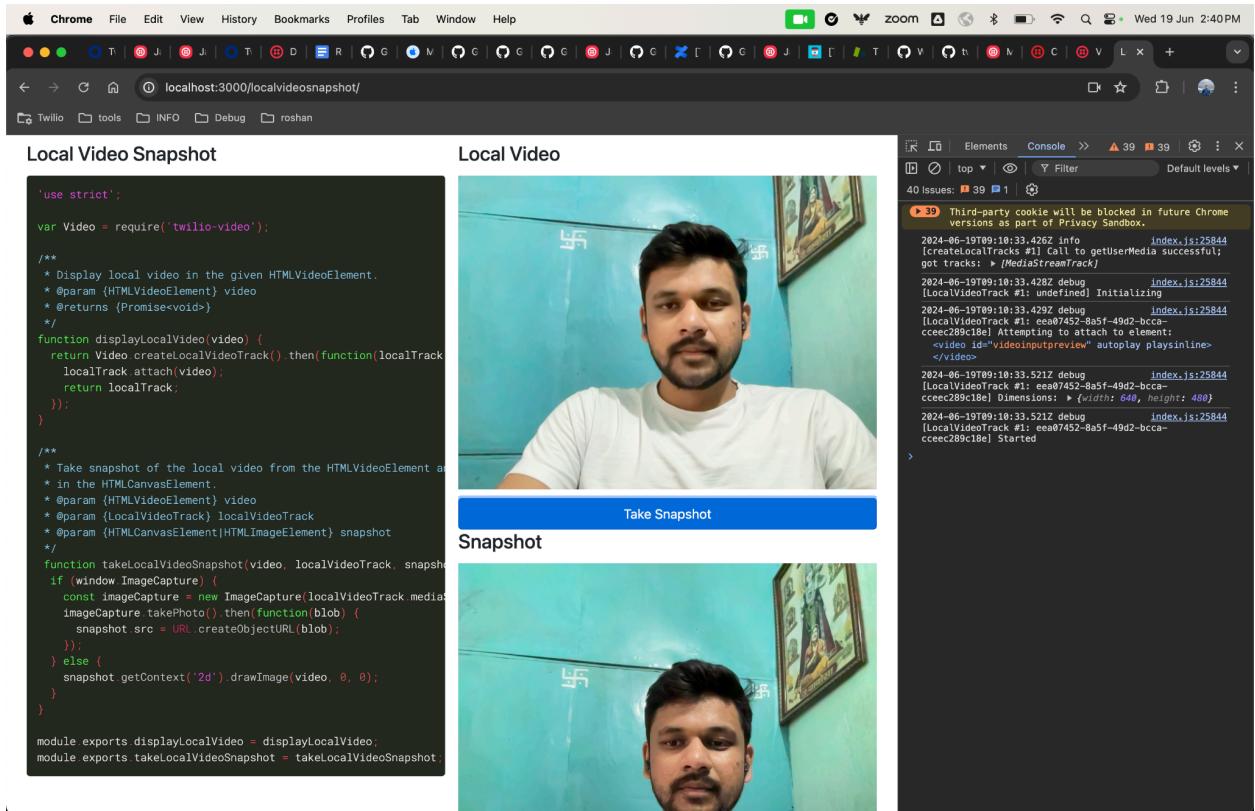
Max Audio Bitrate (bps)

Max Video Bitrate (bps)

Disconnect from Room

Console Output (Partial):

```
42 Issues: 39 3 | ⚡ Default levels ▾
("type": "heartbeat")
2024-06-19T09:18:08.411Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:08.725Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:10.011Z debug [TwilioConnection #1] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:12.726Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
2024-06-19T09:18:13.037Z debug [TwilioConnection #1] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:13.212Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Outgoing: ("type": "heartbeat")
2024-06-19T09:18:13.983Z info [connect] index.js:26961
#1 event
#1 {elapsedTime: 61062, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678213903, ...}
2024-06-19T09:18:14.111Z debug [index.js:26961]
#2 event
#2 {elapsedTime: 52546, group: 'quality', level: 'info', name: 'stats-report', timestamp: 171678214913, ...}
2024-06-19T09:18:14.914Z info [connect] index.js:26961
#1 event
#1 {elapsedTime: 52547, group: 'quality', level: 'info', name: 'active-ice-candidate-pair', timestamp: 171678214914, ...}
2024-06-19T09:18:16.825Z debug [TwilioConnection #2] ws://global.vss.twilio.com/signaling Incoming: ("type": "heartbeat")
```



localhost:3000/mediadevices

```

/* eslint-disable no-console */
'use strict';

var Video = require('twilio-video');

/**
 * Get the list of available media devices of the given kind.
 * @param {Array<MediaDeviceInfo>} deviceInfos
 * @param {string} kind - One of 'audioinput', 'audiooutput', ...
 * @returns {Array<MediaDeviceInfo>} - Only those media devices
 */
function getDevicesOfKind(deviceInfos, kind) {
  return deviceInfos.filter(function(deviceInfo) {
    return deviceInfo.kind === kind;
  });
}

/**
 * Apply the selected audio output device.
 * @param {string} deviceId
 * @param {HTMLAudioElement} audio
 * @returns {Promise<void>}
 */
function applyAudioOutputDeviceSelection(deviceId, audio) {
  return typeof audio.setSinkId === 'function'
    ? audio.setSinkId(deviceId)
    : Promise.reject('This browser does not support setting an audio output device');
}

/**
 * Apply the selected input device.
 * @param {string} deviceId
 * @param {LocalTrack} localTrack - LocalAudioTrack or LocalVideoTrack
 * @param {'audio' | 'video'} kind
 * @returns {Promise<LocalTrack>} - The created or restarted LocalTrack
 */
function applyInputDeviceSelection(deviceId, localTrack, kind) {
  var constraints = { deviceId: { exact: deviceId } };
  if (localTrack) {
    return localTrack.restart(constraints).then(function() {
      return localTrack;
    });
  }
}

function applyDeviceSelection(deviceId, localTrack, kind) {
  var constraints = { deviceId: { exact: deviceId } };
  if (localTrack) {
    return localTrack.restart(constraints).then(function() {
      return localTrack;
    });
  }

  return kind === 'audio'
    ? Video.createLocalAudioTrack(constraints)
    : Video.createLocalVideoTrack(constraints);
}

/**
 * Ensure that media permissions are obtained.
 * @returns {Promise<void>}
 */

```

**Select Media Devices**

Audio Input

Default - realme Buds T300 (Bluetooth)

Apply

Video Input

FaceTime HD Camera (3A71:F4B5)

Apply

Audio Output

Default - realme Buds T300 (Bluetooth)

Apply

Disconnect

Join room:

RM7898e0360bd954dcca16b6e08176c3c2

localhost:3000/mediadevices

```

2024-06-19T09:11:22,761Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] MediaStreamTrack:
  > 0a-9add-812a190a767, label: 'FaceTime HD Camera (3A71:F4B5)'
  > 1c24deb058a*, enabled: true, muted: false, ...
2024-06-19T09:11:22,762Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Initializing
2024-06-19T09:11:22,763Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Attempting to attach to element:
  <video id="videoinputpreview" autoplay playsinline>
    </video>
2024-06-19T09:11:22,784Z debug index.js:26315
[PeerConnectionV2 #1: 97442469-063e-4ff7-9c8e-7fd6272c6b99] ICE connection state is "connected"
2024-06-19T09:11:22,784Z debug index.js:26315
[PeerConnectionV2 #1: 97442469-063e-4ff7-9c8e-7fd6272c6b99] ICE gathering state is "complete"
2024-06-19T09:11:22,784Z debug index.js:26315
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing:
  ("body": {"session": "afef10850d5d75aba10682623:c6c8a7808e0360bd954cc10b6e08176c3:c22ee48001095572fd78dfdb4fdf81061818d8c049ded3a104048c8f134el5a3", "version": "1", "type": "update", "constraints": [{"peer_connections": [{"ice": "trickle", "revision": "1"}, {"id": "97442469-063e-4ff7-9c8e-7fd6272c6b99"}], "participant": "0a-9add-812a190a767", "revision": "3", "tracks": [{"enabled": true, "id": "479dadff-8201-4ac7-7798-1c24deb058a", "kind": "video", "name": "af2f758a-4778-42fc-aid3-ed5cc6b87529", "priority": "standard"}, {"enabled": true, "id": "8915705-56ef-4ac5-85ae-9bce5eb2-e3e4-4453-a75a-dec941d9737e", "kind": "audio", "name": "90ce5eb2-e3e4-4453-a75a-dec941d9737e", "priority": "standard"}]}, "type": "msg"}
2024-06-19T09:11:22,833Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Dimensions: > {width: 640, height: 480}
2024-06-19T09:11:22,833Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Started
2024-06-19T09:11:22,944Z info index.js:26315
[LocalAudioTrack #1: 9bce5eb2-e3e4-4453-a75a-dec941d9737e] Re-acquired the MediaStreamTrack
2024-06-19T09:11:22,944Z debug index.js:26315
[LocalAudioTrack #1: 9bce5eb2-e3e4-4453-a75a-dec941d9737e] MediaStreamTrack:

```

localhost:3000/mediadevices

```

/* eslint-disable no-console */
'use strict';

var Video = require('twilio-video');

/**
 * Get the list of available media devices of the given kind.
 * @param {Array<MediaDeviceInfo>} deviceInfos
 * @param {string} kind - One of 'audioinput', 'audiooutput', ...
 * @returns {Array<MediaDeviceInfo>} - Only those media devices
 */
function getDevicesOfKind(deviceInfos, kind) {
  return deviceInfos.filter(function(deviceInfo) {
    return deviceInfo.kind === kind;
  });
}

/**
 * Apply the selected audio output device.
 * @param {string} deviceId
 * @param {HTMLAudioElement} audio
 * @returns {Promise<void>}
 */
function applyAudioOutputDeviceSelection(deviceId, audio) {
  return typeof audio.setSinkId === 'function'
    ? audio.setSinkId(deviceId)
    : Promise.reject('This browser does not support setting an audio output device');
}

/**
 * Apply the selected input device.
 * @param {string} deviceId
 * @param {LocalTrack} localTrack - LocalAudioTrack or LocalVideoTrack
 * @param {'audio' | 'video'} kind
 * @returns {Promise<LocalTrack>} - The created or restarted LocalTrack
 */
function applyInputDeviceSelection(deviceId, localTrack, kind) {
  var constraints = { deviceId: { exact: deviceId } };
  if (localTrack) {
    return localTrack.restart(constraints).then(function() {
      return localTrack;
    });
  }
}

function applyDeviceSelection(deviceId, localTrack, kind) {
  var constraints = { deviceId: { exact: deviceId } };
  if (localTrack) {
    return localTrack.restart(constraints).then(function() {
      return localTrack;
    });
  }

  return kind === 'audio'
    ? Video.createLocalAudioTrack(constraints)
    : Video.createLocalVideoTrack(constraints);
}

/**
 * Ensure that media permissions are obtained.
 * @returns {Promise<void>}
 */

```

**Select Media Devices**

Audio Input

Default - realme Buds T300 (Bluetooth)

Apply

Video Input

FaceTime HD Camera (3A71:F4B5)

Apply

Audio Output

Default - realme Buds T300 (Bluetooth)

Apply

Disconnect

Join room:

RM7898e0360bd954dcca16b6e08176c3c2

Please join the above Room from another device/browser using [QuickStart App](#) to see media input device changes taking effect.

localhost:3000/mediadevices

```

2024-06-19T09:11:22,761Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] MediaStreamTrack:
  > 0a-9add-812a190a767, label: 'FaceTime HD Camera (3A71:F4B5)'
  > 1c24deb058a*, enabled: true, muted: false, ...
2024-06-19T09:11:22,762Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Initializing
2024-06-19T09:11:22,763Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Attempting to attach to element:
  <video id="videoinputpreview" autoplay playsinline>
    </video>
2024-06-19T09:11:22,784Z debug index.js:26315
[PeerConnectionV2 #1: 97442469-063e-4ff7-9c8e-7fd6272c6b99] ICE connection state is "connected"
2024-06-19T09:11:22,784Z debug index.js:26315
[PeerConnectionV2 #1: 97442469-063e-4ff7-9c8e-7fd6272c6b99] ICE gathering state is "complete"
2024-06-19T09:11:22,784Z debug index.js:26315
[TwilioConnection #1: wss://global.vss.twilio.com/signaling] Outgoing:
  ("body": {"session": "afef10850d5d75aba10682623:c6c8a7808e0360bd954cc10b6e08176c3:c22ee48001095572fd78dfdb4fdf81061818d8c049ded3a104048c8f134el5a3", "version": "1", "type": "update", "constraints": [{"peer_connections": [{"ice": "trickle", "revision": "1"}, {"id": "97442469-063e-4ff7-9c8e-7fd6272c6b99"}], "participant": "0a-9add-812a190a767", "revision": "3", "tracks": [{"enabled": true, "id": "479dadff-8201-4ac7-7798-1c24deb058a", "kind": "video", "name": "af2f758a-4778-42fc-aid3-ed5cc6b87529", "priority": "standard"}, {"enabled": true, "id": "8915705-56ef-4ac5-85ae-90ce5eb2-e3e4-4453-a75a-dec941d9737e", "kind": "audio", "name": "90ce5eb2-e3e4-4453-a75a-dec941d9737e", "priority": "standard"}]}, "type": "msg"}
2024-06-19T09:11:22,833Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Dimensions: > {width: 640, height: 480}
2024-06-19T09:11:22,833Z debug index.js:26315
[LocalVideoTrack #2: af2f758a-4778-42fc-aid3-ed5cc6b87529] Started
2024-06-19T09:11:22,944Z info index.js:26315
[LocalAudioTrack #1: 9bce5eb2-e3e4-4453-a75a-dec941d9737e] Re-acquired the MediaStreamTrack
2024-06-19T09:11:22,944Z debug index.js:26315
[LocalAudioTrack #1: 9bce5eb2-e3e4-4453-a75a-dec941d9737e] MediaStreamTrack:

```

Codec Preferences

```
'use strict';

var Video = require('twilio-video');

/** 
 * Connect to a Room with the given codec preferences.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {Array<AudioCodeName>} preferredAudioCodecs - Preferred audio codecs
 * @param {Array<VideoCodeName>} preferredVideoCodecs - Preferred video codecs
 * @returns {CancelablePromise<Room>}
 */
function connectWithPreferredCodecs(token, roomName, preferred) {
  return Video.connect(token, {
    preferredAudioCodecs: preferredAudioCodecs,
    preferredVideoCodecs: preferredVideoCodecs,
    name: roomName
  });
}

exports.connectWithPreferredCodecs = connectWithPreferredCodecs
```

Participant's Media

Select Codec Preferences

Preferred Audio Codec: ISAC

Selected Audio Codec: opus

Preferred Video Codec: H264

Selected Video Codec: H264

[Disconnect from Room](#)

Console Output:

```
42 issues: 39 3
227, name: 'wss://global.vss.twilio.com/signaling' Published: ("revision":1, "tracks": [{"id": "PAB5d4c67abd2a8aeff51c8773b2a736a", "identity": "Zesty Lando Kane"}, {"tracks": [{"kind": "audio", "priority": "standard", "id": "9cab80b5-8b94-4a8c-be51-518c4d3b6e55", "enabled": true, "id": "MT3dc191c8af3139-502b3061dc332d18", "name": "1dd2b19-ecf9-4f69-8af6-de8ad9ea2f7", "state": "ready"}, {"kind": "video", "priority": "standard", "id": "ffad592a-8dbb-4b42-8b3c-fc860ced9fde", "enabled": true, "id": "MTcBaa19253a51b32d7cfdf1ce6d339d5", "name": "1f42d381-b3d-49cf-bfcf-93a-288d162a", "state": "ready}], "revision": 3, "state": "connected", "id": "9cab80b5-8b94-4a8c-be51-518c4d3b6e55", "name": "PA346abed99cfa3b0d7aea2534b4161", "identity": "Kindly Penny Vail"}, {"tracks": [{"revision": 1, "state": "connected"}, {"recording": true, "is_recording": true, "subscribed": true}, {"revision": 0, "tracks": []}], "published": {"revision": 1, "tracks": [{"kind": "audio", "priority": "standard", "id": "9cab80b5-8b94-4a8c-be51-518c4d3b6e55", "enabled": true, "id": "MT3dc191c8af3139-502b3061dc332d18", "name": "1dd2b19-ecf9-4f69-8af6-de8ad9ea2f7", "state": "ready"}, {"kind": "video", "priority": "standard", "id": "ffad592a-8dbb-4b42-8b3c-fc860ced9fde", "enabled": true, "id": "MTcBaa19253a51b32d7cfdf1ce6d339d5", "name": "1f42d381-b3d-49cf-bfcf-93a-288d162a", "state": "ready"}]}], "type": "msg"
2024-06-19T09:13:52.492Z info [connect #1 event: index.js:26205
  {elapsedTime: 21739, group: 'quality', level: 'info', name: 'status-report', timestamp: 1718788432402, -}
2024-06-19T09:13:52.509Z debug [RemoteVideoTrack #3: index.js:26205
  MTcBaa19253a51b32d7cfdf1ce6d339d5] Dimensions:
  > {width: 440, height: 480}
2024-06-19T09:13:52.509Z debug [Connect #1 event: index.js:26205
  MTcBaa19253a51b32d7cfdf1ce6d339d5] Started
2024-06-19T09:13:54.509Z debug [TwilioConnection #2: index.js:26205
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:13:55.309Z debug [TwilioConnection #1: index.js:26205
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:13:56.409Z debug [TwilioConnection #1: index.js:26205
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}
2024-06-19T09:13:56.461Z debug [TwilioConnection #2: index.js:26205
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}]
```

Codec Preferences

```
'use strict';

var Video = require('twilio-video');

/** 
 * Connect to a Room with the given codec preferences.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {Array<AudioCodeName>} preferredAudioCodecs - Preferred audio codecs
 * @param {Array<VideoCodeName>} preferredVideoCodecs - Preferred video codecs
 * @returns {CancelablePromise<Room>}
 */
function connectWithPreferredCodecs(token, roomName, preferred) {
  return Video.connect(token, {
    preferredAudioCodecs: preferredAudioCodecs,
    preferredVideoCodecs: preferredVideoCodecs,
    name: roomName
  });
}

exports.connectWithPreferredCodecs = connectWithPreferredCodecs
```

Participant's Media

Select Codec Preferences

Preferred Audio Codec: Opus

Selected Audio Codec: opus

Preferred Video Codec: VP8

Selected Video Codec: VP8

[Disconnect from Room](#)

Console Output:

```
42 issues: 39 3
{"enabled": true, "id": "e9f7236e-cb8f-4ea9-8bd3-48335a07815d", "kind": "video", "name": "de7cbfbf-2e9e-43f2-bcda-2aaa3fad054f", "priority": "standard"}, {"type": "msg"
2024-06-19T09:14:11.007Z debug [TwilioConnection #3: index.js:26205
  wss://global.vss.twilio.com/signaling] Incoming: {"body": {"version": 2, "type": "update", "id": "Me99f55dcf8f85da99785f41c2253", "participants": [{"id": "PA81868ead4040ef53a0d53a58b3c", "identity": "gnoomious Zelma Minneapolis"}, {"tracks": [{"kind": "audio", "priority": "standard", "id": "7af4d44f-6057-4b1b-81f7-fc12a5a0c4f", "enabled": true, "id": "WfTe15c5c780b0cd5def47f8c3ad4f14", "name": "ed18479-7bee-40f7-85b0-fdb26bf65d5", "state": "ready"}, {"kind": "video", "priority": "standard", "id": "0f77236e-cb8f-4eaa-8bd3-48335a07815d", "enabled": true, "id": "MT1cb7b91c5af0dcfcfc5eb58795e0a33", "name": "de7cbfbf-2e9e-43f2-bcda-2aaa3fad054f", "state": "ready}], "revision": 3, "state": "connected", "id": "7af4d44f-6057-4b1b-81f7-fc12a5a0c4f", "name": "PA346abed99cfa3b0d7aea2534b4161", "identity": "Kindly Penny Vail"}, {"tracks": [{"revision": 1, "state": "connected"}, {"recording": true, "is_recording": true, "subscribed": true}, {"revision": 0, "tracks": []}], "published": {"revision": 1, "tracks": [{"kind": "audio", "priority": "standard", "id": "7af4d44f-6057-4b1b-81f7-fc12a5a0c4f", "enabled": true, "id": "WfTe15c5c780b0cd5def47f8c3ad4f14", "name": "ed18479-7bee-40f7-85b0-fdb26bf65d5", "state": "ready"}, {"kind": "video", "priority": "standard", "id": "0f77236e-cb8f-4eaa-8bd3-48335a07815d", "enabled": true, "id": "MT1cb7b91c5af0dcfcfc5eb58795e0a33", "name": "de7cbfbf-2e9e-43f2-bcda-2aaa3fad054f", "state": "ready"}]}], "type": "msg"
2024-06-19T09:14:11.522Z debug [RemoteVideoTrack #7: index.js:26205
  MT1cb7b91c5af0dcfcfc5eb58795e0a33] Dimensions:
  > {width: 440, height: 480}
2024-06-19T09:14:11.531Z debug [TwilioConnection #1: index.js:26205
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:14:12.491Z info [connect #1 event: index.js:26205
  {elapsedTime: 41737, group: 'quality', level: 'info', name: 'status-report', timestamp: 1718788452400, -}
2024-06-19T09:14:13.713Z debug [TwilioConnection #3: index.js:26205
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}]
```

## Codec Preferences

```
'use strict';

var Video = require('twilio-video');

/* 
 * Connect to a Room with the given codec preferences.
 * @param {string} token - Token for joining the Room
 * @param {string} roomName - Room name
 * @param {Array<AudioCodecsName>} preferredAudioCodecs - Preferred audio codecs
 * @param {Array<VideoCodecsName>} preferredVideoCodecs - Preferred video codecs
 * @returns {CancelablePromise<Room>}
 */
function connectWithPreferredCodecs(token, roomName, preferred) {
  return Video.connect(token, {
    preferredAudioCodecs: preferredAudioCodecs,
    preferredVideoCodecs: preferredVideoCodecs,
    name: roomName
  });
}

exports.connectWithPreferredCodecs = connectWithPreferredCodecs
```

## Participant's Media



## Select Codec Preferences

Preferred Audio Codec: PCMA

Selected Audio Codec: opus

Preferred Video Codec: VP9

Selected Video Codec: VP8

Disconnect from Room

Console Output:

```
42 issues: 39 | 39 | 8 | Filter Default levels ▾
42:2:23 2024-06-19T09:14:27.704Z [twilio-video] | Participant {
  "revision":3,"tracks": [{"enabled":true,"id":"7dbc829d-11db-4f3c-95e6-085422a0a9cb","kind":"audio","name":"b015a039-62ec-4901-9b2f-9d34c0080422","priority":"standard"}, {"enabled":true,"id":"24651e8-6830-41db-b8bd-070212a4f700","priority":"standard"}]}, "type":"msg"
2024-06-19T09:14:27.742Z debug [TwilioConnection #4: index.js:26205
wss://global.vss.twilio.com/signaling] Incoming: {"body":
{"version":2,"type":"update","id":"Mtc7ed92f3efd93ecf8798b51cd85b3
255","name":"b015a039-62ec-4901-9b2f-9d34c0080422","participants": [{"id":7736b141902116ba6f6116af60a8221,"identity":"Jolly
Ulysses Yale","tracks": [{"kind":"video","priority":"standard","id":24651e8-6830-41db-
b8bd-070212a4f700,"enabled":true,"name":"Wt7736b141902116ba6f6116af60a8221
a21","state":"ready"}, {"kind":"audio","priority":"standard","id":7dbc829d-11db-4f3c-
95e6-085422a0a9cb,"enabled":true,"name":"Wt7736b141902116ba6f6116af60a8221
341,"state":"ready"}],"revision":3,"state":"connected","warnings":[]}, {"participants": [{"id":7736b141902116ba6f6116af60a8221,"identity":"Kindly
Proud Vail","tracks": [], "revision":1,"state":"connected"}, {"recording": {"enabled":true,"revision":6,"is_recording":true,"subscribed": true,"tracks":[]}, {"kind":"video","priority":"standard","id":24651e8-6830-41db-
b8bd-070212a4f700,"enabled":true,"name":"Wt7736b141902116ba6f6116af60a8221
a21","state":"ready"}, {"kind":"audio","priority":"standard","id":7dbc829d-11db-4f3c-
95e6-085422a0a9cb,"enabled":true,"name":"Wt7736b141902116ba6f6116af60a8221
341,"name":"b015a039-62ec-4901-9b2f-9d34c0080422"}]}, "type":"msg"
2024-06-19T09:14:27.742Z debug [RemoteVideoTrack index.js:26205
#11 Mtc7ed92f3efd93ecf8798b51cd85b3
255,"name":"b015a039-62ec-4901-9b2f-9d34c0080422"], "type":"msg"
2024-06-19T09:14:27.765Z debug [RemoteVideoTrack index.js:26205
#11 Mtc7ed92f3efd93ecf8798b51cd85b3
255,"name":"b015a039-62ec-4901-9b2f-9d34c0080422] Started
2024-06-19T09:14:27.765Z debug [TwilioConnection #1: index.js:26205
wss://global.vss.twilio.com/signaling] Incoming:
{"type":"heartbeat"}
2024-06-19T09:14:30.129Z debug [TwilioConnection #4: index.js:26205
wss://global.vss.twilio.com/signaling] Incoming:
{"type":"heartbeat"}
```

## Share Your Screen

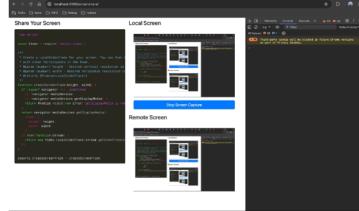
```
'use strict';

const Video = require('twilio-video');

/*
 * Create a LocalVideoTrack for your screen. You can then share it
 * with other Participants in the Room.
 * @param {number} height - Desired vertical resolution in pixels
 * @param {number} width - Desired horizontal resolution in pixels
 * @returns {Promise<LocalVideoTrack>}
 */
function createScreenTrack(height, width) {
  if (typeof navigator === 'undefined' || !navigator.mediaDevices || !navigator.mediaDevices.getDisplayMedia) {
    return Promise.reject(new Error('getDisplayMedia is not supported'))
  }
  return navigator.mediaDevices.getDisplayMedia({
    video: {
      height: height,
      width: width
    }
  }).then(function(stream) {
    return new Video.LocalVideoTrack(stream.getVideoTracks())
  })
}

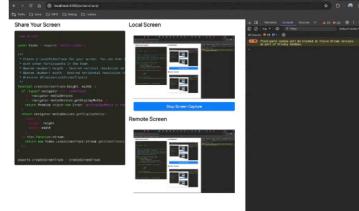
exports.createScreenTrack = createScreenTrack;
```

## Local Screen



Stop Screen Capture

## Remote Screen



|| http://localhost:3000 is sharing a window. Stop sharing Hide

Console Output:

```
40 issues: 39 | 39 | 1 | Filter Default levels ▾
40:2:23 2024-06-19T09:14:30.129Z [Third-party cookie will be blocked in future Chrome versions as part of Privacy Sandbox]
```

**Dominant Speaker Detection**

```
'use strict';

var Video = require('twilio-video');

/** 
 * Connect to a Room with the Dominant Speaker API enabled
 * This API is available only in Small Group or Group Rooms
 * @param {string} token - Token for joining the Room
 * @returns {CancelablePromise<Room>}
 */
function connectToRoomWithDominantSpeaker(token) {
  return Video.connect(token, {
    dominantSpeaker: true
  });
}

/** 
 * Listen to changes in the dominant speaker and update you
 * @param {Room} room - The Room you just joined
 * @param {function} updateDominantSpeaker - Updates the app
 * @returns {void}
 */
function setupDominantSpeakerUpdates(room, updateDominantSpeaker) {
  room.on('dominantSpeakerChanged', function(participant) {
    console.log('A new RemoteParticipant is now the dominant speaker');
    updateDominantSpeaker(participant);
  });
}

exports.connectToRoomWithDominantSpeaker = connectToRoomWithDominantSpeaker;
exports.setupDominantSpeakerUpdates = setupDominantSpeakerUpdates;
```

**Join room:**

RM3c2b190c298ac0a4487c690bb304b017

Please join the above Room using the [QuickStart App](#) or connect the below Participants to the Room and unmute only one of them.

Alice	Disconnect	Unmute
Mak	Connect	
Bob	Disconnect	Mute
Charlie	Connect	

**Room state is:**

Connected

Disconnected

Reconnecting

**Create Room**

After you have created the Room, please either turn off your internet network for a little while and then turn it back on, or switch between networks. The Twilio Video SDK will try to re-establish connection to the Room, which will transition to the "connecting" state. Once reconnection is complete, the Room will transition back to the "connected" state. You can join other user to the room using button below.

**Join Room**

Console Output:

```
A new RemoteParticipant is now the dominant speaker: index.js:26
> RemoteParticipant {audioTracks: Map(1), dataTracks: Map(0), ...}
A new RemoteParticipant is now the dominant speaker: index.js:26
> RemoteParticipant {audioTracks: Map(1), dataTracks: Map(0), ...}
A new RemoteParticipant is now the dominant speaker: index.js:26
null
A new RemoteParticipant is now the dominant speaker: index.js:26
null
A new RemoteParticipant is now the dominant speaker: index.js:26
> RemoteParticipant {audioTracks: Map(1), dataTracks: Map(0), ...}
```

**Reconnection States and Events**

```
'use strict';

/** 
 * Listen to Room reconnection events and update the UI accordingly
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI with the current state
 * @returns {void}
 */
function setupReconnectionUpdates(room, updateRoomState) {
  room.on('disconnected', (room, error) => {
    if (error.code === 20104) {
      console.log(`Signaling reconnection failed due to error ${error}`);
    } else if (error.code === 53000) {
      console.log(`Signaling reconnection attempts exhausted`);
    } else if (error.code === 53204) {
      console.log(`Signaling reconnection took too long!`);
    }
    updateRoomState(room.state);
  });

  room.on('reconnected', () => {
    console.log(`Reconnected to the Room!`);
    updateRoomState(room.state);
  });

  room.on('reconnecting', (error) => {
    if (error.code === 53001) {
      console.log(`Reconnecting your signaling connection!`);
    } else if (error.code === 53405) {
      console.log(`Reconnecting your media connection!`);
    }
    updateRoomState(room.state);
  });
}

exports.setupReconnectionUpdates = setupReconnectionUpdates;
```

**Room state is:**

Connected

Disconnected

Reconnecting

**Create Room**

After you have created the Room, please either turn off your internet network for a little while and then turn it back on, or switch between networks. The Twilio Video SDK will try to re-establish connection to the Room, which will transition to the "connecting" state. Once reconnection is complete, the Room will transition back to the "connected" state. You can join other user to the room using button below.

**Join Room**

Console Output:

```
2024-06-19T09:17:36.689Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] Starting ICE gathering
timeout: 15000
2024-06-19T09:17:36.690Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] ICE connection state is
"checking"
2024-06-19T09:17:36.692Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] ICE connection state is
"connected"
2024-06-19T09:17:36.748Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] Clearing ICE gathering
timeout
2024-06-19T09:17:36.812Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] Clearing ICE gathering
timeout
2024-06-19T09:17:36.812Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] Clearing ICE gathering
timeout
2024-06-19T09:17:36.975Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] ICE connection state is
"connected"
2024-06-19T09:17:36.976Z debug [PeerConnectionV2 #1: index.js:25971
33a0810f-74aa-4bc6-8d9d-987a5b1acea7] ICE gathering state is
"connecting"
2024-06-19T09:17:36.977Z debug [TwilioConnection #1: index.js:25971
wss://global.vss.twilio.com/signaling] Outgoing: {"body": {
  "session": "9fe10850d5dc75aba1068262623cc68a73fe5393823ac834c3f538a
  8843b75fb21722b5f5d61b30ea9fcfa76d42be4ef6fd502c72673a45c66f8
  3aaftfb", "type": "update", "version": 0, "peer_connections": [{"ice": {
    "connection": "9fe10850d5dc75aba1068262623cc68a73fe5393823ac834c3f538a
    8843b75fb21722b5f5d61b30ea9fcfa76d42be4ef6fd502c72673a45c66f8
    3aaftfb"}, "type": "msg"}]}
2024-06-19T09:17:36.977Z debug [TwilioConnection #1: index.js:25971
wss://global.vss.twilio.com/signaling] Incoming: {"body": {
  "version": 0, "track": "9fe10850d5dc75aba1068262623cc68a73fe5393823ac834c3f538a
  8843b75fb21722b5f5d61b30ea9fcfa76d42be4ef6fd502c72673a45c66f8
  3aaftfb", "type": "recording", "enabled": true, "revision": 1, "is_recording": false, "subscribed": true
}, "type": "msg"}
2024-06-19T09:17:37.224Z debug [TwilioConnection #1: index.js:25971
wss://global.vss.twilio.com/signaling] Incoming: {"body": {
  "version": 0, "track": "9fe10850d5dc75aba1068262623cc68a73fe5393823ac834c3f538a
  8843b75fb21722b5f5d61b30ea9fcfa76d42be4ef6fd502c72673a45c66f8
  3aaftfb", "type": "recording", "enabled": true, "revision": 1, "is_recording": false, "subscribed": true
}, "type": "msg"}
2024-06-19T09:17:39.692Z debug [TwilioConnection #1: index.js:25971
wss://global.vss.twilio.com/signaling] Incoming: {"type": "heartbeat"}
```



**Reconnection States and Events**

```
'use strict';

/**
 * Listen to Room reconnection events and update the UI accordingly
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when state changes
 * @returns {void}
 */
function setupReconnectionUpdates(room, updateRoomState) {
  room.on('disconnected', (room_error) => {
    if (error.code === 20104) {
      console.log(`Signaling reconnection failed due to exception ${error.message}`);
    } else if (error.code === 53000) {
      console.log(`Signaling reconnection attempts exhausted`);
    } else if (error.code === 53204) {
      console.log(`Signaling reconnection took too long!`);
    }
    updateRoomState(room.state);
  });

  room.on('reconnected', function() {
    console.log(`Reconnected to the Room!`);
    updateRoomState(room.state);
  });

  room.on('reconnecting', function(error) {
    if (error.code === 53001) {
      console.log(`Reconnecting your signaling connection!`);
    } else if (error.code === 53405) {
      console.log(`Reconnecting your media connection!`);
    }
    updateRoomState(room.state);
  });
}

exports.setupReconnectionUpdates = setupReconnectionUpdates
```

**Room state is:**

- Connected**
- Disconnected**
- Reconnecting**

**Create Room**

After you have created the Room, please either turn off your internet network for a little while and then turn it back on, or switch between networks. The Twilio Video SDK will try to re-establish connection to the Room, which will transition to the "connecting" state. Once reconnection is complete, the Room will transition back to the "connected" state. You can join other user to the room using button below.

**Leave Room**



The browser window shows the Twilio Video SDK's handling of reconnection states. It includes a code snippet for setting up reconnection updates, a list of possible states (Connected, Disconnected, Reconnecting), and instructions for testing the reconnection logic by disconnecting the network. A video feed of a man is displayed at the bottom.

**Network Quality**

**Join Room:**

After creating the Room with the desired verbosity levels, please join the above Room using the [QuickStart App](#) or connect the below Participants to the Room. You can also change the verbosity levels and observe the change in the verbosity of the reported Network Quality stats.

Participant	Action
Alice	<b>Disconnect</b>
Bob	<b>Connect</b>
Mak	<b>Connect</b>
Charlie	<b>Connect</b>

**NQ Level (You):** 5



The browser window shows the Twilio Video SDK's handling of network quality reporting. It includes a code snippet for connecting participants with network quality enabled, a list of participants (Alice, Bob, Mak, Charlie) with their respective 'Connect' and 'Disconnect' buttons, and a live video feed of a man. The video feed shows a green wall in the background.

Enabling and Disabling Tracks

```
'use strict';

/**
 * Mute/unmute your media in a Room.
 * @param {Room} room - The Room you have joined
 * @param {'audio' | 'video'} kind - The type of media you want to mute/unmute
 * @param {'mute' | 'unmute'} action - Whether you want to mute/unmute
 */
function muteOrUnmuteYourMedia(room, kind, action) {
  const publications = kind === 'audio'
    ? room.localParticipant.audioTracks
    : room.localParticipant.videoTracks;

  publications.forEach(function(publication) {
    if (action === 'mute') {
      publication.track.disable();
    } else {
      publication.track.enable();
    }
  });
}

/**
 * Mute your audio in a Room.
 * @param {Room} room - The Room you have joined
 * @returns {void}
 */
function muteYourAudio(room) {
  muteOrUnmuteYourMedia(room, 'audio', 'mute');
}

/**
 * Mute your video in a Room.
 * @param {Room} room - The Room you have joined
 * @returns {void}
 */
function muteYourVideo(room) {
  muteOrUnmuteYourMedia(room, 'video', 'mute');
}
```

Local Media Controls

[Enable Audio](#) [Disable Video](#)

RemoteParticipant View

localhost:3000/remotereconnection/

Remote Participant Reconnection States

```
'use strict';

/**
 * Listen to RemoteParticipant reconnection events and update the UI
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a participant reconnects
 * @returns {void}
 */
function handleRemoteParticipantReconnectionUpdates(room, updateRoomState) {
  room.on('participantReconnecting', function(participant) {
    updateParticipantState(participant.state);
  });

  room.on('participantReconnected', function(participant) {
    updateParticipantState(participant.state);
  });
}

/**
 * Listen to LocalParticipant reconnection events and update the UI
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a participant reconnects
 * @returns {void}
 */
function handleLocalParticipantReconnectionUpdates(room, updateRoomState) {
  const localParticipant = room.localParticipant;

  localParticipant.on('reconnecting', function() {
    updateParticipantState(localParticipant.state);
  });

  localParticipant.on('reconnected', function() {
    updateParticipantState(localParticipant.state);
  });
}

exports.handleLocalParticipantReconnectionUpdates = handleLocalParticipantReconnectionUpdates;
exports.handleRemoteParticipantReconnectionUpdates = handleRemoteParticipantReconnectionUpdates;
```

Local View

[Simulate Reconnection](#)

State

- Connected
- Reconnecting

Remote View

Remote Participant Reconnection States

```
'use strict';

/*
 * Listen to RemoteParticipant reconnection events and update
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a state change occurs
 * @returns {void}
 */
function handleRemoteParticipantReconnectionUpdates(room, updateRoomState) {
  room.on('participantReconnecting', function(participant) {
    updateParticipantState(participant.state);
  });

  room.on('participantReconnected', function(participant) {
    updateParticipantState(participant.state);
  });
}

/*
 * Listen to LocalParticipant reconnection events and update
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a state change occurs
 * @returns {void}
 */
function handleLocalParticipantReconnectionUpdates(room, updateRoomState) {
  const localParticipant = room.localParticipant;

  localParticipant.on('reconnecting', function() {
    updateParticipantState(localParticipant.state);
  });

  localParticipant.on('reconnected', function() {
    updateParticipantState(localParticipant.state);
  });

  exports.handleLocalParticipantReconnectionUpdates =
    handleLocalParticipantReconnectionUpdates;
  exports.handleRemoteParticipantReconnectionUpdates =
    handleRemoteParticipantReconnectionUpdates;
}
```

## Local View



Simulate Reconnection

State

- Connected
- Reconnecting

## Remote View



2024-06-19T09:20:38.382 debug [LocalParticipant #1: index.js:25944] PAg69aeac180c07dbf887e29cae66038391 Transitioned to state: connected

2024-06-19T09:20:38.382 info [LocalParticipant #1: index.js:25944] PAg69aeac180c07dbf887e29cae66038391 reconnected

2024-06-19T09:20:38.382 info [Room #1: index.js:25944] RMf0f62aa5374fa7a2892b19b6346a38] Transitioned to state: connected

40 issues 39 | 1 | Filter Default levels ▾

Wed 19 Jun 2:50PM

Remote Participant Reconnection States

```
'use strict';

/*
 * Listen to RemoteParticipant reconnection events and update
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a state change occurs
 * @returns {void}
 */
function handleRemoteParticipantReconnectionUpdates(room, updateRoomState) {
  room.on('participantReconnecting', function(participant) {
    updateParticipantState(participant.state);
  });

  room.on('participantReconnected', function(participant) {
    updateParticipantState(participant.state);
  });
}

/*
 * Listen to LocalParticipant reconnection events and update
 * @param {Room} room - The Room you have joined
 * @param {function} updateRoomState - Updates the app UI when a state change occurs
 * @returns {void}
 */
function handleLocalParticipantReconnectionUpdates(room, updateRoomState) {
  const localParticipant = room.localParticipant;

  localParticipant.on('reconnecting', function() {
    updateParticipantState(localParticipant.state);
  });

  localParticipant.on('reconnected', function() {
    updateParticipantState(localParticipant.state);
  });

  exports.handleLocalParticipantReconnectionUpdates =
    handleLocalParticipantReconnectionUpdates;
  exports.handleRemoteParticipantReconnectionUpdates =
    handleRemoteParticipantReconnectionUpdates;
}
```

## Local View



Simulate Reconnection

State

- Connected
- Reconnecting

## Remote View



map2  
 http://www.webrtc.org/experiments/rtp-hdrext/abs-send-time<br/>
 http://www.ietf.org/jid/draft-holme-rmcat-transport-wide-cc-extsens-0009<br/>
 map2@rtpfb:96 VP8@90000<br/>rtpfb:96 goog:removal<br/>rtpfb:fb:96 nack@rtpfb:fb;96 nack pli@rtpfb:fb:96  
 nack@rtpfb:fb;96 nack pli@rtpfb:fb:96 rtpfb:fb:96 nack pli@rtpfb:fb:96 rtpfb:fb:96 nack pli@rtpfb:fb:96 level-asymmetry-allowed@l1;packetization-mode@l1;profile-level@l1  
 ulpfec@90000<br/>src-group@FID 770127354  
 map2@rtpfb:fb:96 csrc@src=group1<br/>cname@6e6b08e70MOTM<br/>maessrc@405527627  
 cname@6e6b08e70MOTM<br/>maudt@9 UDP/TLS/RTP/AVP@111<br/>nc@IN IP@0.0.0.0<br/>rtpcp@9 IN IP@0.0.0.0<br/>ice-options@trickle<br/>ice-peer-deactivation-interval@256  
 E@0:9:20:84:1@0:0:0:1;E@89:53:91:0@5:33:12:36:45:52:30:0:C:7:F:C:5:F:D:43:D:1F:6:BF:1D@1:81:60:f@0:<br/>setup@passive<br/>mid@audio@r@n@<br/>ice-options@trickle<br/>ice-finger-print-interval@256  
 D@0:9:20:84:1@0:0:0:1;E@89:53:91:0@5:33:12:36:45:52:30:0:C:7:F:C:5:F:D:43:D:1F:6:BF:1D@1:81:60:f@0:<br/>setup@passive<br/>mid@video@r@n@<br/>ice-options@trickle<br/>ice-finger-print-interval@256  
 E@0:9:20:84:1@0:0:0:1;E@89:53:91:0@5:33:12:36:45:52:30:0:C:7:F:C:5:F:D:43:D:1F:6:BF:1D@1:81:60:f@0:<br/>setup@passive<br/>mid@video@r@n@<br/>ice-options@trickle<br/>ice-finger-print-interval@256  
 map2@rtpfb:fb:96 cmr@rtpfb:fb:96 nack@rtpfb:fb:96  
 http://www.webrtc.org/experiments/rtp-hdrext/abs-send-time<br/>
 http://www.ietf.org/jid/draft-holme-rmcat-transport-wide-cc-extsens-0009<br/>
 map2@rtpfb:fb:96 goog:removal<br/>rtpfb:fb:96 transport-cc<br/>rtpfb:fb:96 nack@rtpfb:fb:96 rtpfb:fb:96 nack pli@rtpfb:fb:96 level-asymmetry-allowed@l1;packetization-mode@l1;profile-level@l1  
 ulpfec@90000<br/>"; "id": "4caca1cd-e5e2-4755-9244-ebd00e466207"}, {"type": "sync", "version": 12, "session": "0fc10850d5dc75ab8106262c3cc6ca8@0f26a2537df7a2892b19b6346386c9ae180c97dbf8ab797e7891a3c4708698843382f17803393e668d39e5c011j3j1511n165c1516xvC151m65151r34w005351656741@nbg4y02k10j1j152r7mzGj06c2h2z4mzV1Nj1n2dusM7qW1z2yB0t2L7rt31g0q0dlCJncmfudM10n1srwlRphk10j1Pjw1b1bEWySeSB1YySvdmY1iwi1dm1kW8l0n1951wJauWj0z1zNz4Nzqz0d43l1C1ehA1D1E3Mt1HMONyDcsIm1zcy1E1UnLG2yXw51uMz0qj3d59Q2s1j6n0g304pJz1u10q1pPaG31VY\_Etc8o9Gn1800Ytg-1DpOvxF0r">B@0:  
 2024-06-19T09:20:32.6782 debug [TwilioConnection #5: index.js:25944] wss://aut.vss.twilio.com/signaling] Incoming: {"negotiatedTimeout":5000,"type": "welcome"}  
 2024-06-19T09:20:32.6782 info [connect #1 eve > {elapsedTime: 23968, group: 'signaling', lev en, timestamp: 171878883270}]>

40 issues 39 | 1 | Filter Default levels ▾

Wed 19 Jun 2:50PM

Chrome File Edit View History Bookmarks Profiles Tab Window Help

localhost:3000/datatracks/

Twilio tools INFO Debug roshan

## Data Tracks

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to the given Room with a LocalDataTrack.
 * @param {string} token - AccessToken for joining the Room
 * @returns {CancelablePromise<Room>}
 */
async function connectToRoomWithDataTrack(token, roomName) {
  const localDataTrack = new Video.LocalDataTrack({
    name: 'chat',
  });

  const room = await Video.connect(token, {
    name: roomName,
    tracks: [localDataTrack],
  });

  return room;
}

/**
 * Send a chat message using the given LocalDataTrack.
 * @param {LocalDataTrack} dataTrack - The (@link LocalDataTrack)
 * @param {string} message - The message to be sent
 */
function sendChatMessage(dataTrack, message) {
  dataTrack.send(message);
}

/**
 * Receive chat messages from RemoteParticipants in the given Room.
 * @param {Room} room - The Room you are currently in
 * @param {Function} onMessageReceived - Updates UI when a message is received
 */
function receiveChatMessages(room, onMessageReceived) {
  room.participants.forEach(function(participant) {
    participant.dataTracks.forEach(function(publication) {
      publication.on('message', function(message) {
        onMessageReceived(message);
      });
    });
  });
}
```

**P1**

Disconnect from Room

P2: has connected

P1: hi P2

P2: Hi P1

Message

**Submit**

**P2**

Disconnect from Room

P1: hi P2

P2: Hi P1

Message

**Submit**

Console Output:

```
2024-06-19T09:20:56.283Z info [connect #1 event index.js:26086
  <elapsedTime: 11718, group: 'quality', level: 'info', name: 'stats-report', timestamp: 1718788856283, ->]
2024-06-19T09:20:56.284Z info [connect #1 event index.js:26086
  <elapsedTime: 11719, group: 'quality', level: 'info', name: 'acti-ve-ice-candidate-pair', timestamp: 1718788856284, ->]
2024-06-19T09:20:56.912Z debug [TwilioConnection #1: index.js:26086
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:20:57.560Z debug [TwilioConnection #2: index.js:26086
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}
2024-06-19T09:20:59.479Z debug [TwilioConnection #2: index.js:26086
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:21:00.911Z debug [TwilioConnection #1: index.js:26086
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:21:00.992Z debug [TwilioConnection #1: index.js:26086
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}
2024-06-19T09:21:02.356Z debug [TwilioConnection #2: index.js:26086
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}
2024-06-19T09:21:02.465Z info [connect #2 event index.js:26086
  <elapsedTime: 11287, group: 'quality', level: 'info', name: 'stats-report', timestamp: 1718788862462, ->]
2024-06-19T09:21:02.463Z info [connect #2 event index.js:26086
  <elapsedTime: 11288, group: 'quality', level: 'info', name: 'acti-ve-ice-candidate-pair', timestamp: 1718788862463, ->]
2024-06-19T09:21:03.480Z debug [TwilioConnection #2: index.js:26086
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:21:05.010Z debug [TwilioConnection #1: index.js:26086
  wss://global.vss.twilio.com/signaling] Incoming:
  {"type": "heartbeat"}
2024-06-19T09:21:06.298Z debug [TwilioConnection #1: index.js:26086
  wss://global.vss.twilio.com/signaling] Outgoing:
  {"type": "heartbeat"}
2024-06-19T09:21:06.292Z info [connect #1 event index.js:26086
  <elapsedTime: 21717, group: 'quality', level: 'info', name: 'stats-report', timestamp: 1718788866292, ->]
```

Chrome File Edit View History Bookmarks Profiles Tab Window Help

localhost:3000/manualrenderhint/

Twilio tools INFO Debug roshan

## Video Track Manual Controls

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with 'manual' mode. The default mode
 * is 'auto'. @param {string} token - AccessToken for joining the Room
 * @returns {Room}
 */
function joinRoom(token) {
  return Video.connect(token, {
    name: 'my-cool-room',
    bandwidthProfile: {
      video: {
        contentPreferencesMode: 'manual',
        clientTrackSwitchOffControl: 'manual'
      }
    }
  });
}

/**
 * Switch on the RemoteVideoTrack.
 * @param {RemoteVideoTrack} track - The RemoteVideoTrack
 * @returns {RemoteVideoTrack}
 */
function switchOn(track) {
  return track.switchOn();
}

/**
 * Switch off the RemoteVideoTrack.
 * @param {RemoteVideoTrack} track - The RemoteVideoTrack
 * @returns {RemoteVideoTrack}
 */
function switchOff(track) {
  return track.switchOff();
}
```

## Remote Video Controls

Switch Off Control:

Content Preferences:

## Remote Video Track

## Video Bitrate

Chrome File Edit View History Bookmarks Profiles Tab Window Help

localhost:3000/autorenderhint/

Twilio tools INFO Debug roshan

### Video Track Automatic Controls

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with 'auto' mode. This is the default
 * @param {string} token - AccessToken for joining the Room
 * @returns {Room}
 */
function joinRoom(token) {
  return Video.connect(token, {
    name: 'my-cool-room',
    bandwidthProfile: {
      video: {
        contentPreferencesMode: 'auto',
        clientTrackSwitchOffControl: 'auto'
      }
    }
  });
}

module.exports.joinRoom = joinRoom;
```

### Remote Video Controls

Toggle Visibility:

Video Size:

### Remote Video Track



### Video Bitrate



14:48:00 14:49:00 14:50:00 14:51:00 14:52:00

600  
400  
200  
0

Chrome File Edit View History Bookmarks Profiles Tab Window Help

localhost:3000/autorenderhint/

Twilio tools INFO Debug roshan

### Video Track Automatic Controls

```
'use strict';

var Video = require('twilio-video');

/**
 * Connect to a Room with 'auto' mode. This is the default
 * @param {string} token - AccessToken for joining the Room
 * @returns {Room}
 */
function joinRoom(token) {
  return Video.connect(token, {
    name: 'my-cool-room',
    bandwidthProfile: {
      video: {
        contentPreferencesMode: 'auto',
        clientTrackSwitchOffControl: 'auto'
      }
    }
  });
}

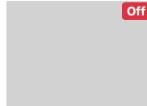
module.exports.joinRoom = joinRoom;
```

### Remote Video Controls

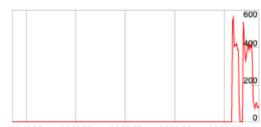
Toggle Visibility:

Video Size:

### Remote Video Track



### Video Bitrate



14:48:00 14:49:00 14:50:00 14:51:00 14:52:00

600  
400  
200  
0

**Set up the Video Demo React App on your laptop.  
React Screen shots with description.**

Video Group room

<https://www.twilio.com/docs/video/tutorials/understanding-video-rooms#video-group-rooms>

Both signaling and media is routed via twilio

Room Name: Avatars

SID: RMc0076da31213941de205c22641a00cd2

The screenshot shows a browser window with the URL [video-app-0309-1033-dev.twilio.io](https://video-app-0309-1033-dev.twilio.io). The main content is a "Join a Room" form. On the left, there's a red sidebar with a video camera icon and the text "Twilio Programmable Video". The main form has fields for "Your Name" (containing "Aang") and "Room Name" (containing "Avatars"). A "Continue" button is at the bottom right of the form. The browser's address bar shows the full URL. To the right of the main content, the Chrome developer tools Network tab is open. It displays a list of network requests with columns for Name, Status, Type, Initiator, Size, and Time. Key entries include:

Name	Status	Type	Initiator	Size	Time
video-app-0309-1033-dev...	200	document	Other	923 B	890 ms
UoC73wrK3lTeHuS_vtQ...	200	font	css	(memory)	0 ms
main.8636b258.js	304	script	(index).0	148 B	361 ms
token	200	fetch	usePasscodeAuth	661 B	2.90 s
data:image/svg+xml,...	200	svg+xml	Other	(memory)	0 ms
tflite-simd-1-0-0.js	200	script	useBackground	19.4 kB	1.40 s
selfie_segmentation_lands...	200	fetch	useBackground	250 kB	3.98 s
data:image/svg+xml,...	200	svg+xml	shared.js:28	(memory)	0 ms
tflite-simd-1-0-0.wasm	200	wasm	tflite-simd-1-0-1	2.6 MB	6.97 s
Abstract.bf969afc331e21...	200	jpeg	useBackground	85.6 kB	413 ms
selfie_segmentation_lands...	200	fetch	useBackground	(disk ...)	2 ms
tflite-simd-1-0-0.wasm	200	wasm	tflite-simd-1-0-1	(disk ...)	6 ms

At the bottom of the Network tab, it says "12 requests | 3.0 MB transferred | 8.3 MB resources | Finish: 13.17 s | DOMContentLoaded".

Chrome File Edit View History Bookmarks Profiles Tab Window Help

video-app-0309-1033-dev.twilio.com Mon 24 Jun 9:24PM

Twilio tools INFO Debug roshan

Logout

Join Avatars

Twilio Programmable Video

Mute Stop Video

Noise Cancellation Enabled

Settings Cancel Join Now

Network tab in DevTools showing network requests:

Name	Status	Type	Initiator	Size	Time
video-app-0309-1033-dev...	200	document	Other	923 B	890 ms
UcC73FwrK3lTeHuS_fvQt...	200	font	css (mem...	0 ms	0 ms
main.86366258.js	304	script	(index):0	148 B	361 ms
token	200	fetch	usePasscodeAu...	661 B	2.90 s
data:image/svg+xml,...	200	svg+xml	Other (mem...	0 ms	0 ms
tflite-simd-1-0-0.js	200	script	useBackgroundd...	19.4 kB	1.40 s
selfie_segmentation_lands...	200	fetch	useBackgroundd...	250 kB	3.98 s
data:image/svg+xml,...	200	svg+xml	shared.js:28 (mem...	0 ms	0 ms
tflite-simd-1-0-0.wasm	200	wasm	tflite-simd-1-0-1...	2.6 MB	6.97 ms
Abstract.b9f69fcfa331e21...	200	jpeg	useBackgroundd...	85.6 kB	413 ms
selfie_segmentation_lands...	200	fetch	useBackgroundd...	disk c...	2 ms
tflite-simd-1-0-0.wasm	200	wasm	tflite-simd-1-0-1...	disk c...	6 ms
krispsdk.mjs	304	script	VM83:3	282 B	847 ms
model_32.kw	200	xhr	krispsdk.mjs:20	5.9 MB	3.15 s

14 requests | 8.9 MB transferred | 14.2 MB resources | Finish: 31.1 min | DOMContent

Chrome File Edit View History Bookmarks Profiles Tab Window Help

video-app-0309-1033-dev.twilio.com Mon 24 Jun 9:24PM

Twilio tools INFO Debug roshan

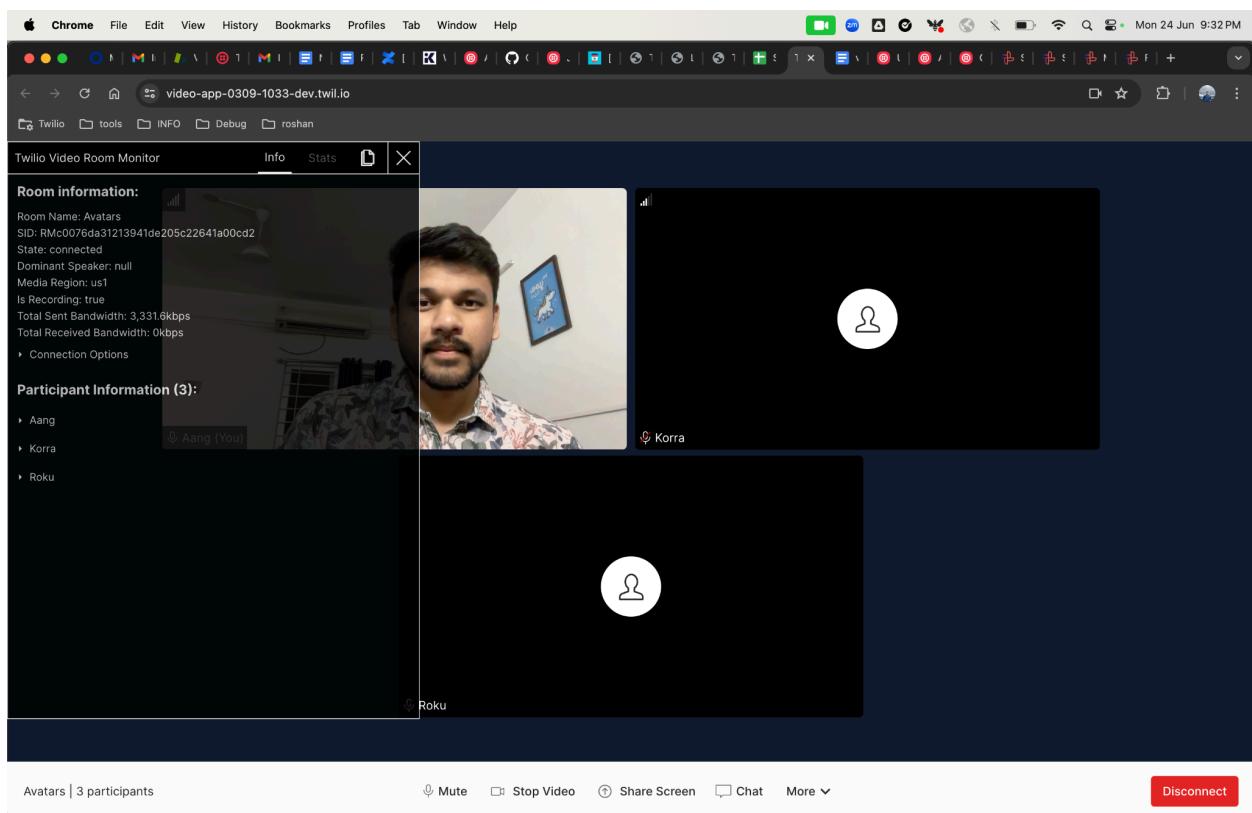
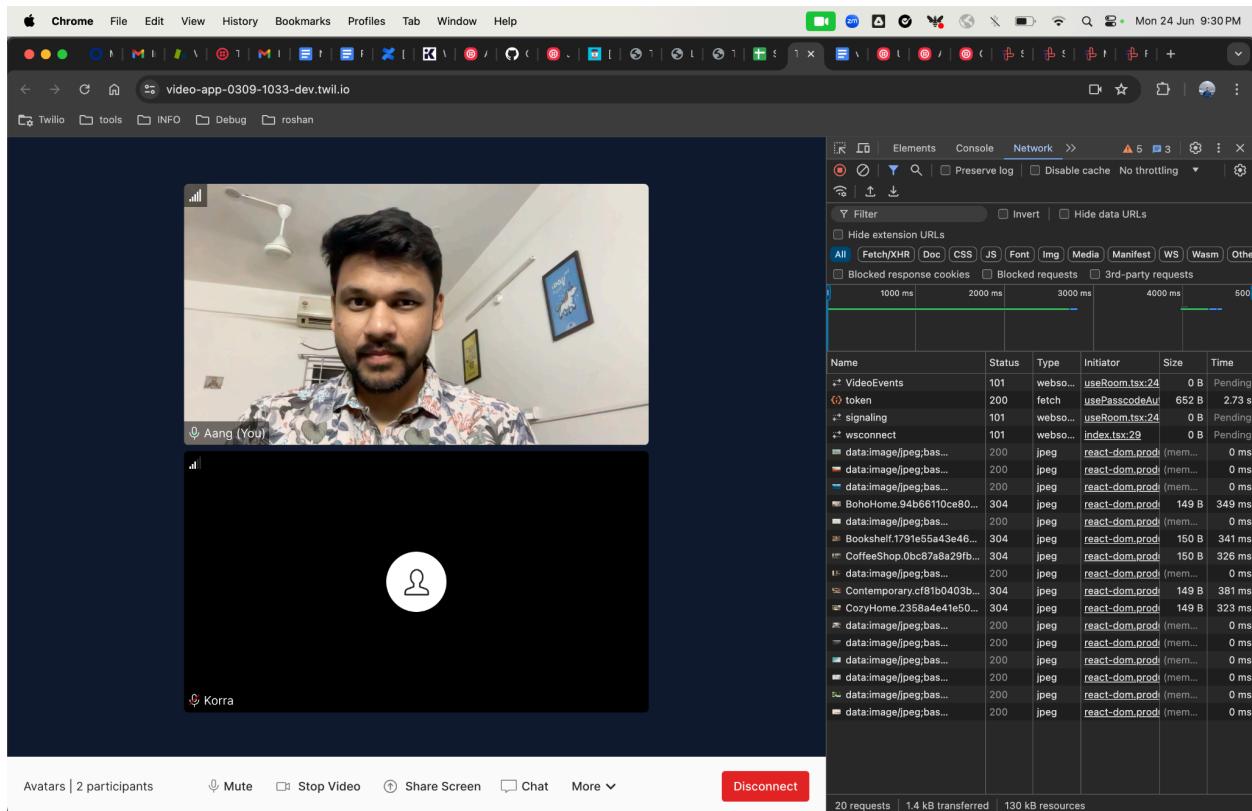
Recording is in progress.

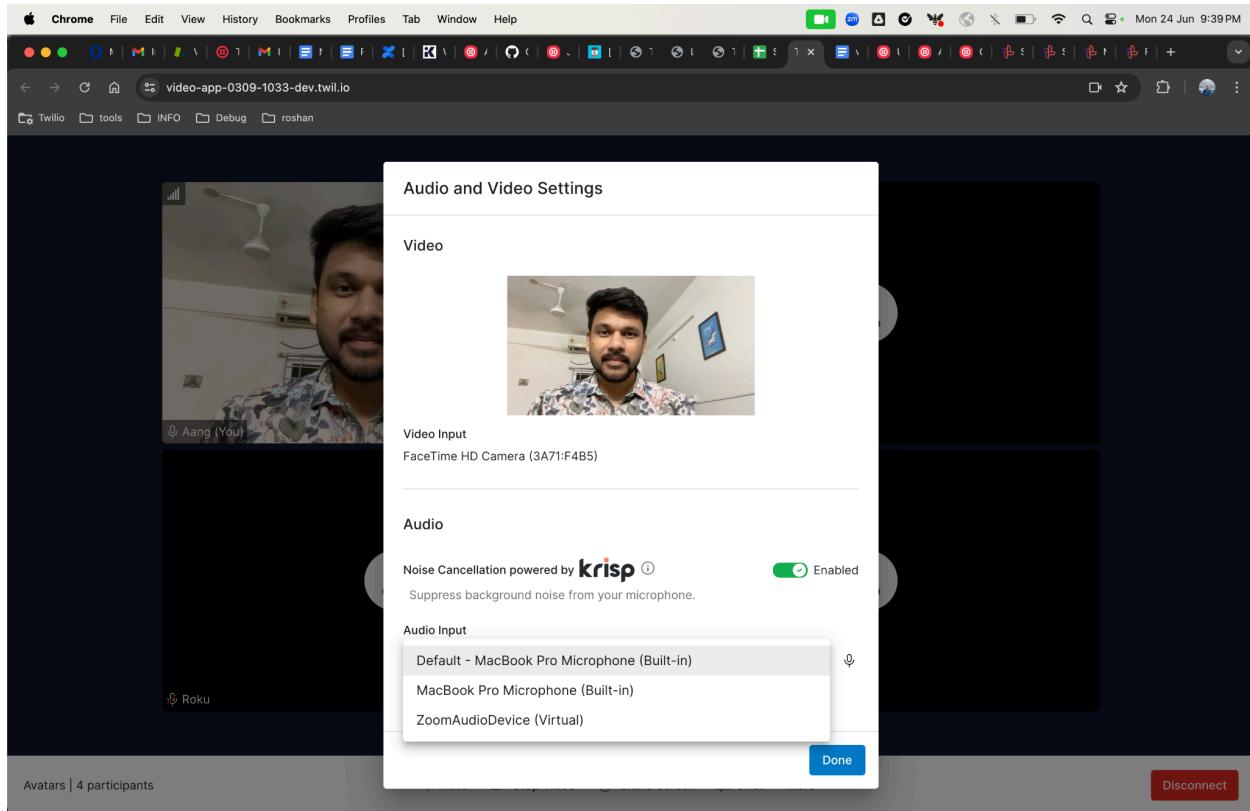
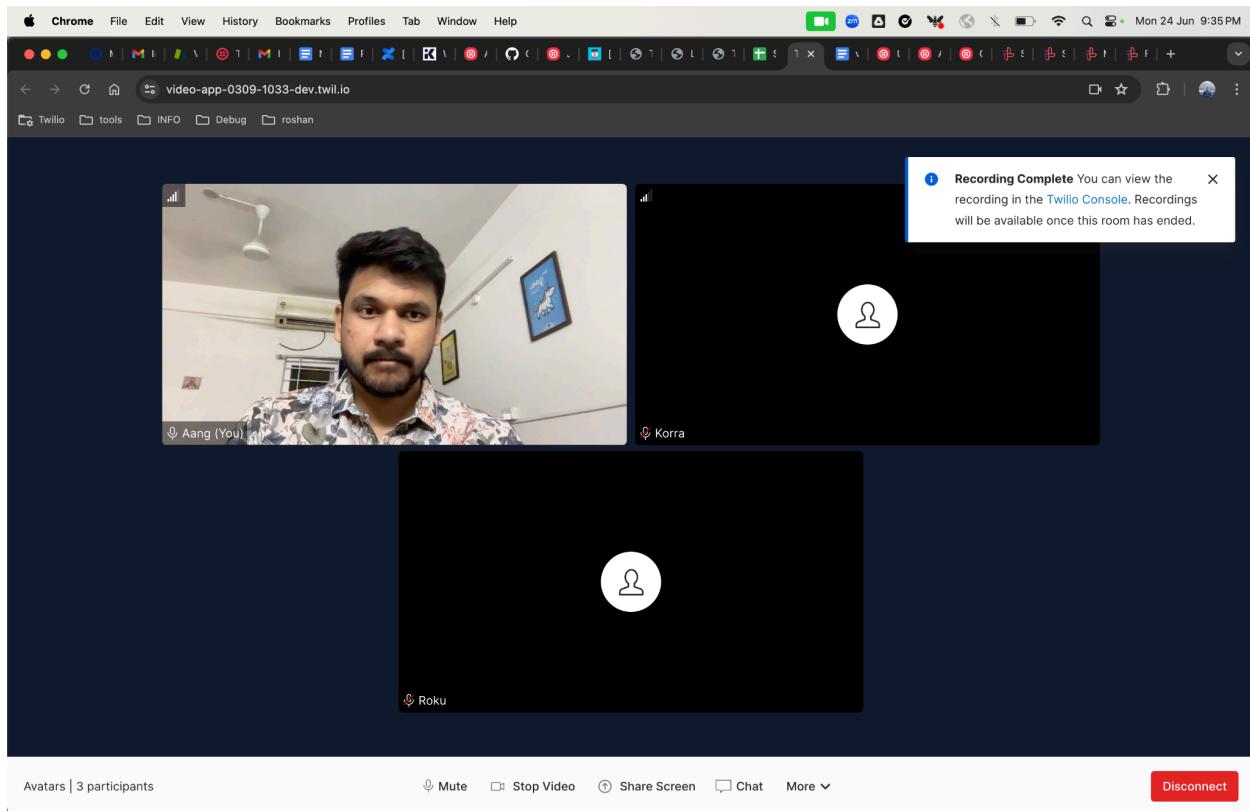
Aang (You)

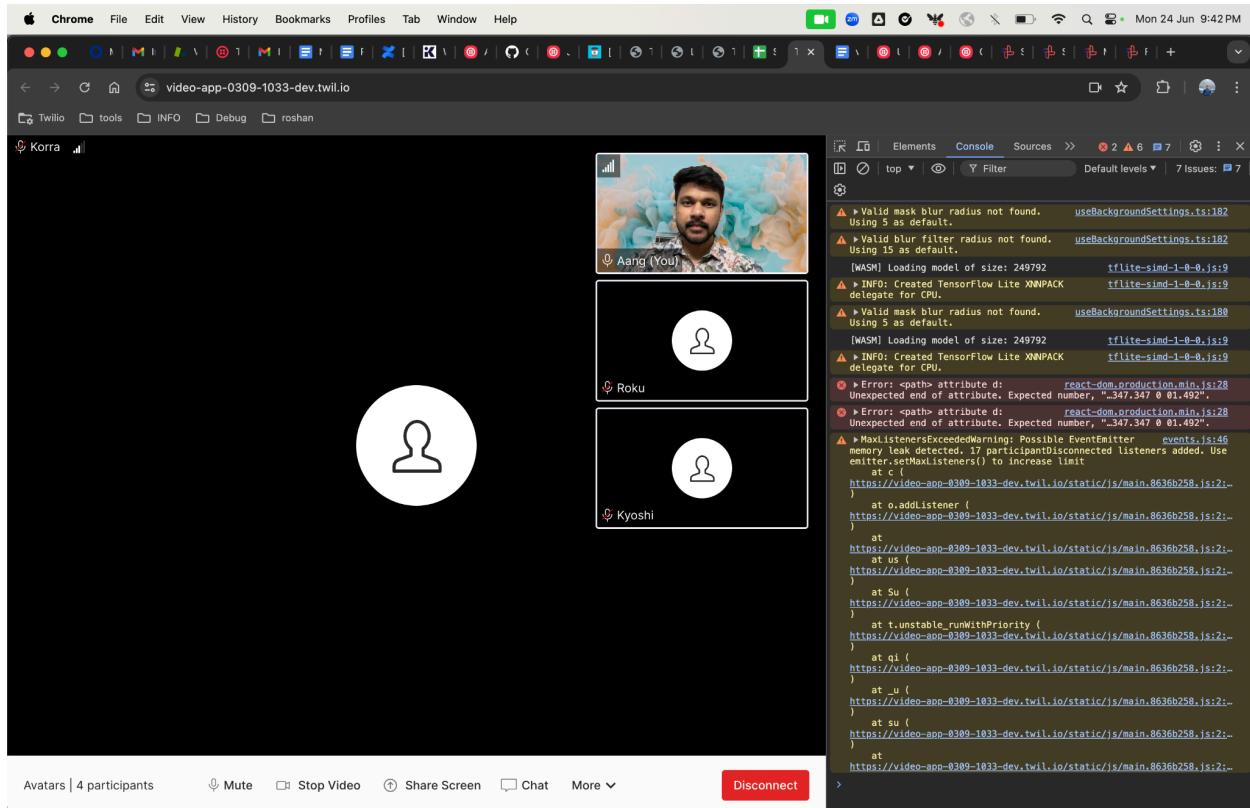
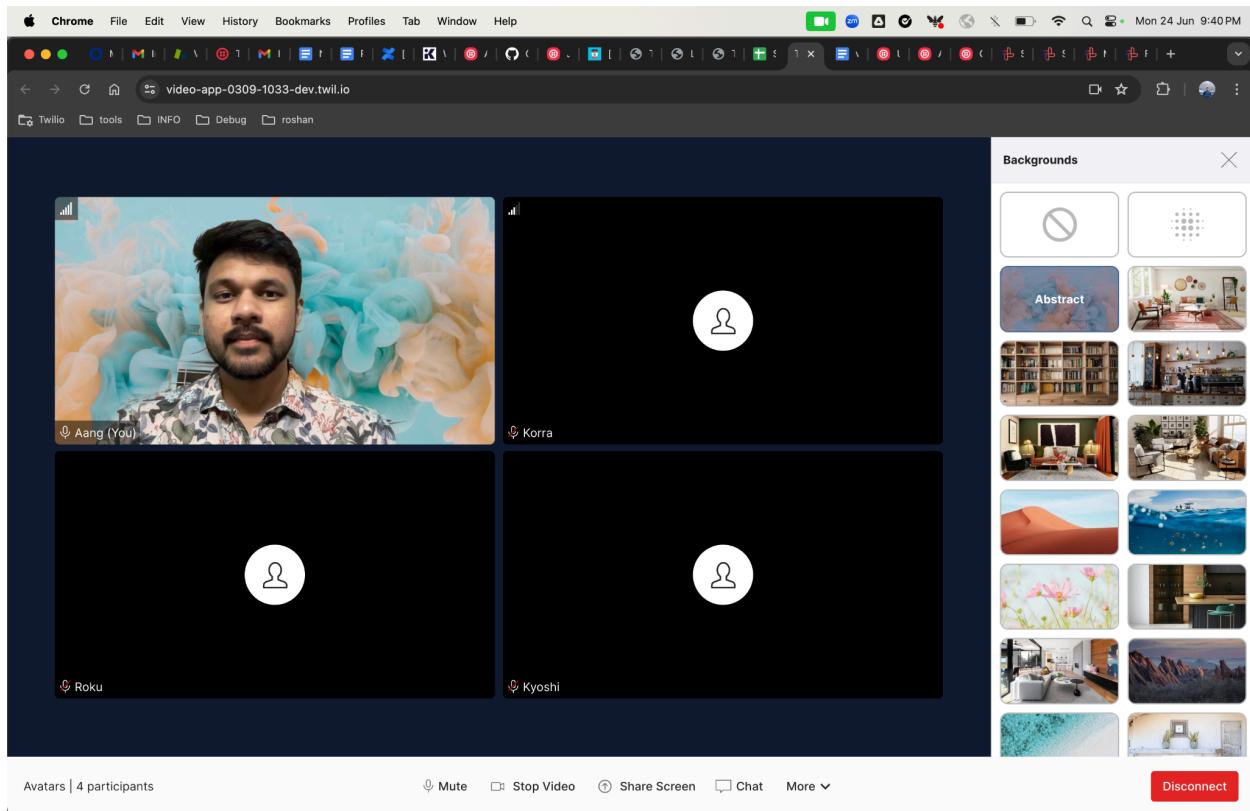
Network tab in DevTools showing network requests:

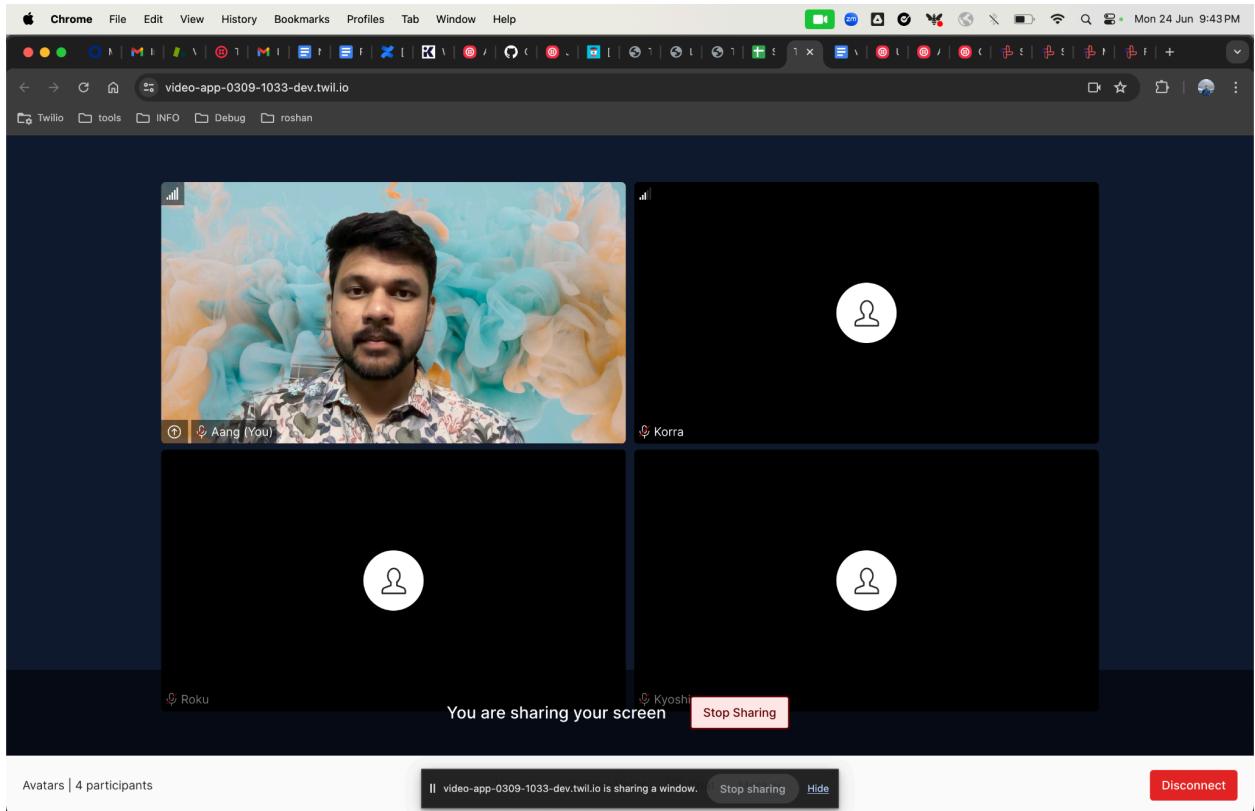
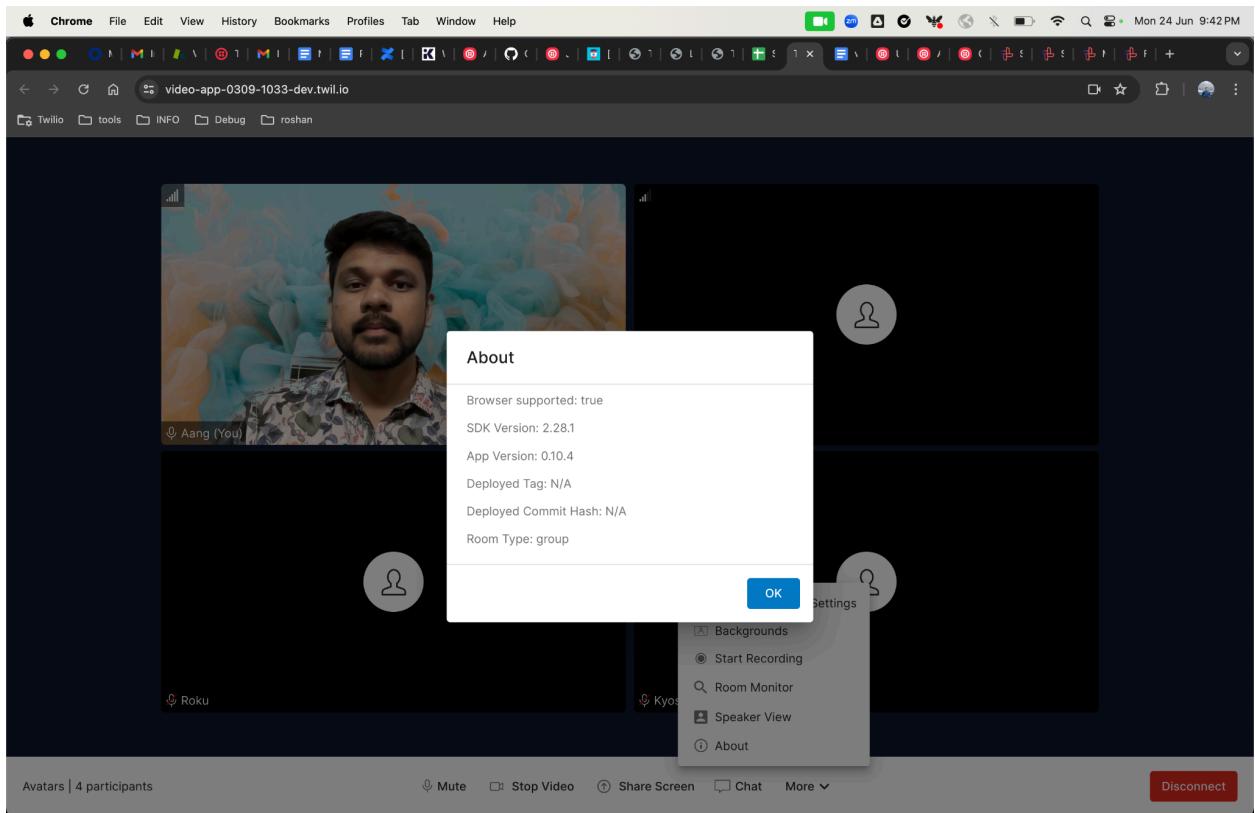
Name	Status	Type	Initiator	Size	Time
VideoEvents	101	websocket	useRoom.tsx:24	0 B	Pending
token	200	fetch	usePasscodeAu...	652 B	2.73 s
signaling	101	websocket	useRoom.tsx:24	0 B	Pending
wsconnect	101	websocket	index.tsx:29	0 B	Pending
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
BohoHome.94b6110c80...	304	jpeg	react-dom.prod...	149 B	349 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
Bookshelf.1791e55a43e46...	304	jpeg	react-dom.prod...	150 B	341 ms
CoffeeShop.0bc57a8a29fb...	304	jpeg	react-dom.prod...	150 B	326 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
Contemporary.cf181a0403b...	304	jpeg	react-dom.prod...	149 B	381 ms
CozyHome.2358ba4e1e50...	304	jpeg	react-dom.prod...	149 B	323 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms
data:image/jpeg,bas...	200	jpeg	react-dom.prod...	(mem...	0 ms

20 requests | 1.4 kB transferred | 130 kB resources





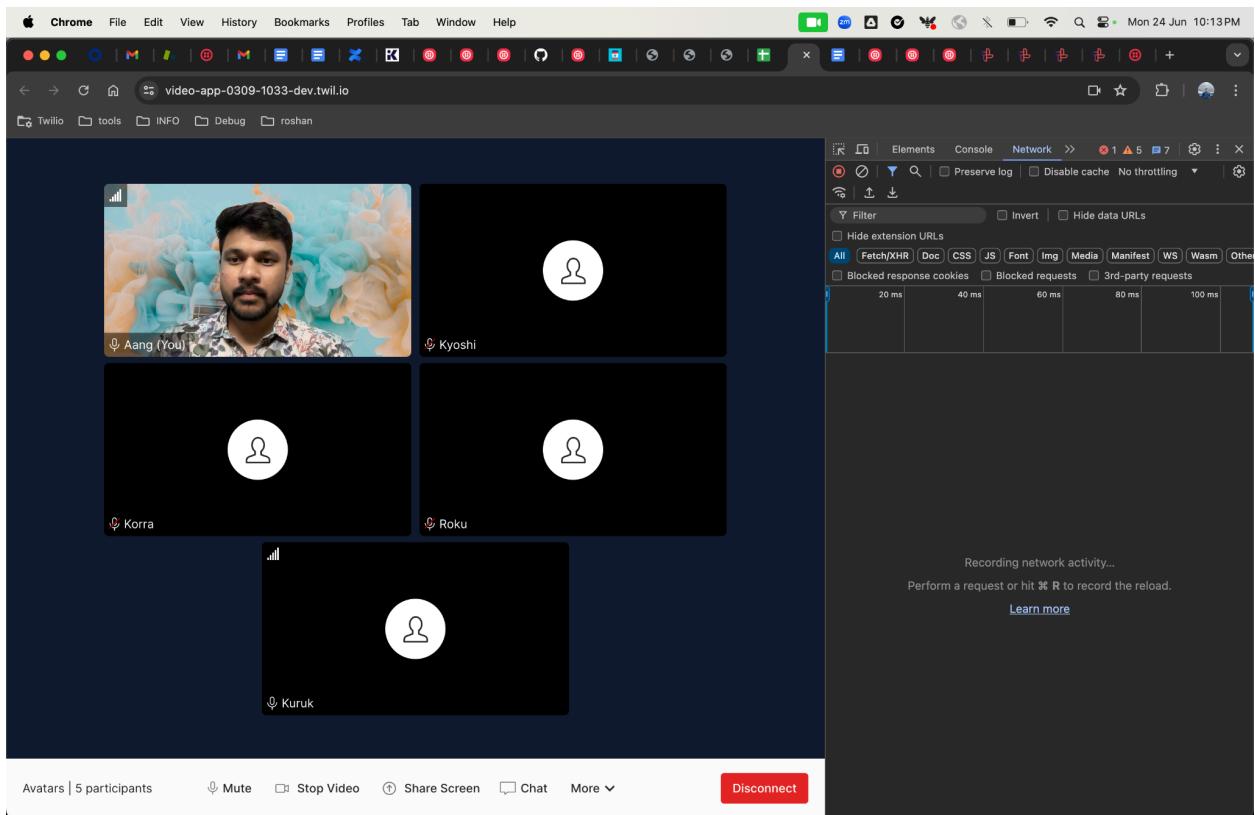




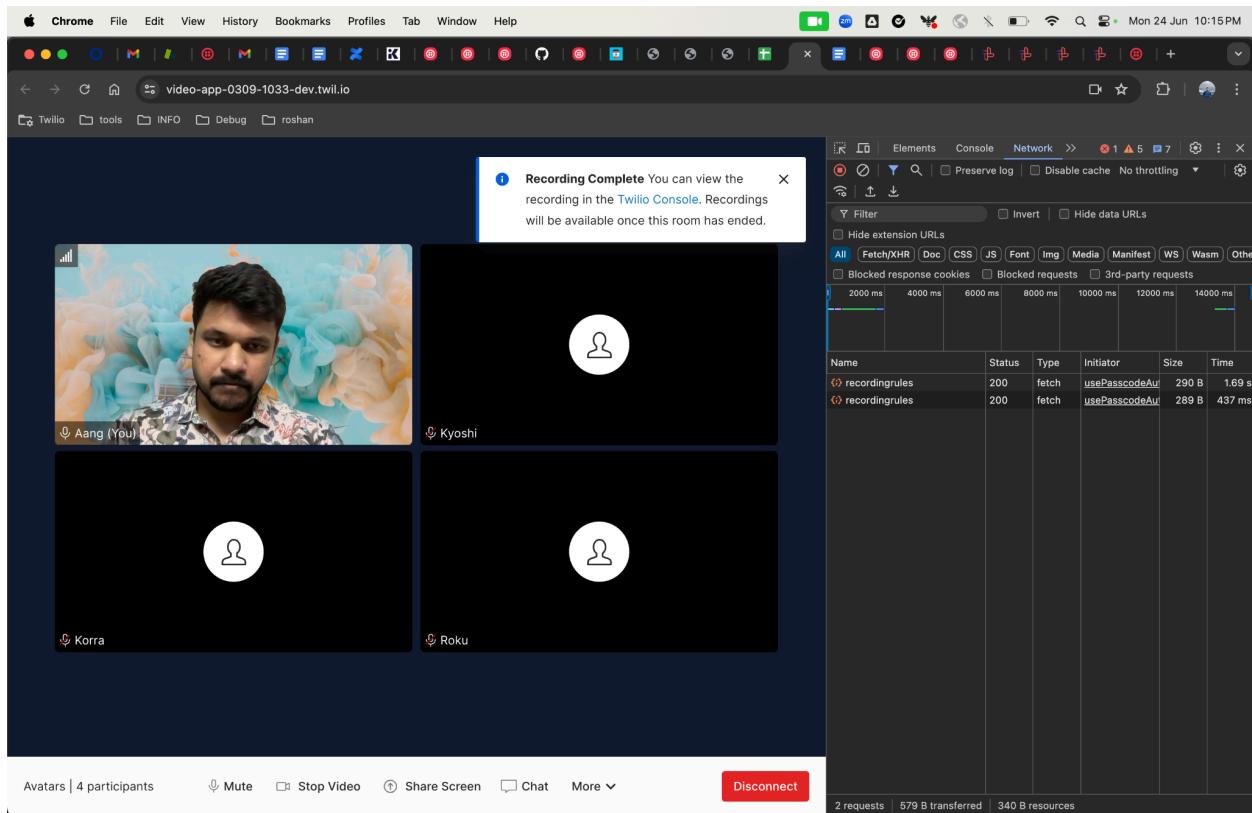
A screenshot of a browser window showing a video conference interface. The main video feed shows a man with a beard and a floral shirt. The interface includes participant avatars for 'Aang (You)', 'Kyoshi', 'Korra', and 'Roku'. A message at the bottom says 'You are sharing your screen' with a 'Stop Sharing' button. The browser's developer tools are open, showing the Network tab with requests to 'fonts.gstatic.com'. The status bar indicates 'Avatars | 4 participants'.

A screenshot of a browser window showing a video conference interface. The main video feed shows a man with a beard and a floral shirt. The interface includes participant avatars for 'Aang (You)', 'Kyoshi', 'Korra', and 'Roku'. A message at the bottom says 'You are sharing your screen' with a 'Stop Sharing' button. To the right is a 'Chat' sidebar with messages from 'Aang (You)', 'Korra', 'Roku', and 'Kyoshi'. A text input field at the bottom of the sidebar says 'Write a message...'. The browser's developer tools are open, showing the Network tab with requests to 'fonts.gstatic.com'. The status bar indicates 'Avatars | 4 participants'.

## PSTN User added from code



Recorded with PSTN user



```
const accountSid = 'AC0fe10850d5dc75aba1068262c3cc6c8a';
const authToken = '';
const client = require('twilio')(accountSid, authToken);

const call = client.calls.create({
  from: "+447361584698",
  to: "+917989178039",
  twiml: "<Response><Say>Ahoy, World!</Say><Connect><Room participantIdentity='Kuruk'>Avatars</Room><Connect></Response>";
});
```

Peers room

Recently created Rooms				
	timestamp	room sid	room name	med'⋮
1	type video codecs			*
2	-----	-----	-----	↻
3	2024-06-25T12:39:47.554Z	RM48a2aade27dfd6cebbece2e2cf876bea	securepeer	⋮
	to-peer		peer-	

Twilio Video offers two distinct types of rooms for video communication: Group Rooms and Peer-to-Peer (P2P) Rooms. Group Rooms utilize server-based routing, where media streams are sent to Twilio's servers and then distributed to participants. This architecture supports larger groups by offloading the processing and bandwidth management to Twilio's infrastructure, providing optimized media quality and the ability to handle complex network environments. Group Rooms also support server-side recording, making them ideal for larger meetings, webinars, and scenarios where recording the session is necessary. The centralized bandwidth usage and Twilio's media handling capabilities ensure a consistent and reliable experience for participants.

In contrast, P2P Rooms establish direct connections between participants without routing media through Twilio's servers. This approach can offer lower latency for smaller groups, typically up to 10 participants, as it eliminates the intermediary server. However, it requires each participant to maintain direct connections with every other participant, leading to higher bandwidth usage and potential issues with network configurations, such as firewalls and NAT. P2P Rooms are suitable for small team meetings, one-on-one calls, or situations where low latency is critical. They provide a straightforward setup but do not support server-side recording, making them less suitable for larger groups or scenarios needing advanced media processing and centralized control.

## Compositions

Create an audio-only composition.

```
curl -X POST "https://video.twilio.com/v1/Compositions" \
--data-urlencode "AudioSources=RT3260a277e4fa97e66ba3a72eacc2b490" \
--data-urlencode
>StatusCallback=https://webhook.site/6c34827f-29ed-407f-b86e-d20e9363f5e4" \
--data-urlencode "Format=mp4" \
--data-urlencode "RoomSid=RM09d0c0d0a767ce89c5c1a51f340ab774" \
-u $TWILIO_ACCOUNT_SID:$TWILIO_AUTH_TOKEN

{"trim": true, "room_sid": "RM09d0c0d0a767ce89c5c1a51f340ab774", "duration": 0, "size": 0,
"audio_sources_excluded": [], "sid": "CJ7acc561efb30deea31149a939832cbb",
"status_callback_method": "POST", "status": "enqueued", "format": "mp4", "bitrate": 0,
"video_layout": {}, "date_completed": null, "url":
"https://video.twilio.com/v1/Compositions/CJ7acc561efb30deea31149a939832cbb",
"media_external_location": null, "date_deleted": null, "account_sid":
"AC0fe10850d5dc75aba1068262c3cc6c8a", "audio_sources":}
```

```
["RT3260a277e4fa97e66ba3a72eacc2b490"], "date_created": "2024-06-26T13:38:33Z",
"resolution": "640x480", "status_callback":
"https://webhook.site/6c34827f-29ed-407f-b86e-d20e9363f5e4", "links": {"media":
https://video.twilio.com/v1/Compositions/CJ7acc561efb30deeaa31149a939832ccb/Media"}
```

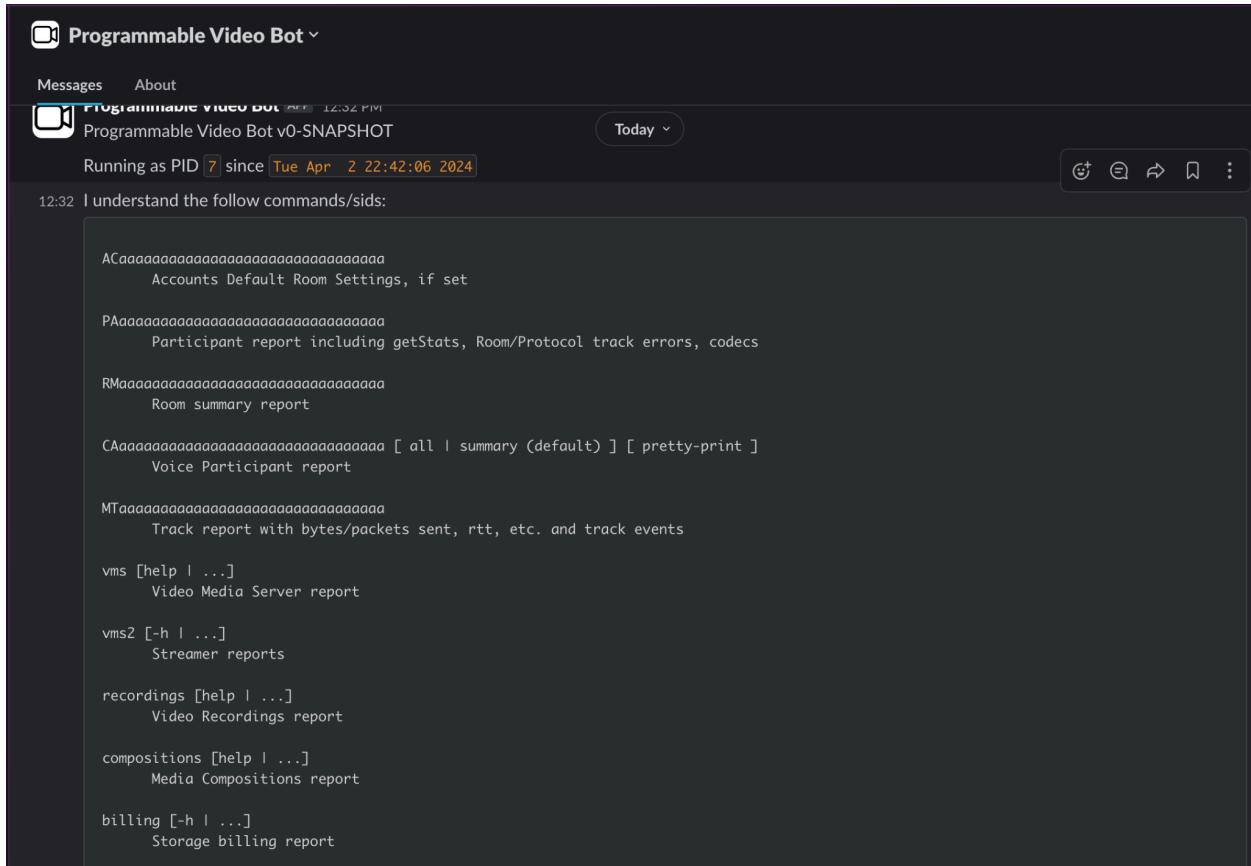
Create a video grid composition

```
VIDEO_LAYOUT_OBJ=$(cat << EOF
{
  "transcode": {"video_sources": ["RT2bb84ef1da148a38b93456d1ded44457"]}
}
EOF
)
curl -X POST "https://video.twilio.com/v1/Compositions" \
--data-urlencode "VideoLayout=$VIDEO_LAYOUT_OBJ" \
--data-urlencode "StatusCallback=https://webhook.site/6c34827f-29ed-407f-b86e-d20e9363f5e4" \
--data-urlencode "Format=mp4" \
--data-urlencode "RoomSid=RM09d0c0d0a767ce89c5c1a51f340ab774" \
-u $TWILIO_ACCOUNT_SID:$TWILIO_AUTH_TOKEN

{"trim": true, "room_sid": "RM09d0c0d0a767ce89c5c1a51f340ab774", "duration": 0, "size": 0,
"audio_sources_excluded": [], "sid": "CJ5e913a918c2674bb63f170af1c5b5444",
"status_callback_method": "POST", "status": "enqueued", "format": "mp4", "bitrate": 0,
"video_layout": {"transcode": {"z_pos": 0, "reuse": "show_oldest", "x_pos": 0, "max_columns": null,
"cells_excluded": [], "video_sources_excluded": [], "height": null, "width": null, "max_rows": null,
"y_pos": 0, "video_sources": ["RT2bb84ef1da148a38b93456d1ded44457"]}},
"date_completed": null, "url":
"https://video.twilio.com/v1/Compositions/CJ5e913a918c2674bb63f170af1c5b5444",
"media_external_location": null, "date_deleted": null, "account_sid":
```

```
"AC0fe10850d5dc75aba1068262c3cc6c8a", "audio_sources": [], "date_created": "2024-06-26T13:41:07Z", "resolution": "640x480", "status_callback": "https://webhook.site/6c34827f-29ed-407f-b86e-d20e9363f5e4", "links": {"media": "https://video.twilio.com/v1/Compositions/CJ5e913a918c2674bb63f170af1c5b5444/Media"}}
```

## Programmable-Video Bot (a Slack App)



The screenshot shows a Slack message from the 'Programmable Video Bot' channel. The message is a command listing for the bot. It includes a list of commands with their descriptions:

- Aaaaaaaa [accounts] Accounts Default Room Settings, if set
- PAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa [participants] Participant report including getStats, Room/Protocol track errors, codecs
- RMaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa [room] Room summary report
- CAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa [all | summary (default) | pretty-print] Voice Participant report
- MTaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa [tracks] Track report with bytes/packets sent, rtt, etc. and track events
- vms [help | ...] Video Media Server report
- vms2 [-h | ...] Streamer reports
- recordings [help | ...] Video Recordings report
- compositions [help | ...] Media Compositions report
- billing [-h | ...] Storage billing report

**Programmable Video Bot** ▾

Messages About

**Roshan Kumar Singh** 12:34 PM  
AC0fe10850d5dc75aba1068262c3cc6c8a

Today ▾

**Programmable Video Bot** APP 12:34 PM  
Account Info for AC0fe10850d5dc75aba1068262c3cc6c8a

Account Info	
Created On	Alias
2024-04-05T10:37:26.903Z	Video
Modified On	Configuration
2024-06-24T18:24:10.814Z	VS57cfb939b64b8a7bfa2f043b9cb33bc2
Adhoc Room	Turn
enabled	enabled
Media Region	Record Participants on connect
us1	enabled
Room Timeout	Room Type
300	peer-to-peer
Status Callback URL	Status Callback Method
<a href="https://webhook.site/58b78aa4-2531-4ffa-80d5-d5477f8a31bb">https://webhook.site/58b78aa4-2531-4ffa-80d5-d5477f8a31bb</a>	POST
Video Codecs	Account Read Rate Limit
VP8,H264	80
Account Write Rate Limit	Rooms Concurrent High
20	2
Participants Concurrent High	Concurrent Max Limit
3	10000

Recently created Rooms ▾

1	timestamp	room sid	room name	media region	room
	type	video codecs			

Programmable Video Bot					
Messages		About			
12:34 Recently created Rooms ▾		Today ▾			
1	timestamp	room sid	room name	med	
2	type	video codecs			
3	2024-06-24T18:25:12.813Z	RM91a2bd16faf4ef4d90339fb1fae6f0b6	secure	us1	group
4	H264, VP8				
5	2024-06-24T18:25:10.729Z	RM91a2bd16faf4ef4d90339fb1fae6f0b6	secure	us1	group
6	2024-06-24T17:18:53.503Z	RMa963579eb5cce37d1395f828a0028783	peers	us1	group
7	H264, VP8				
8	2024-06-24T17:18:51.552Z	RMa963579eb5cce37d1395f828a0028783	peers	us1	group
9	2024-06-24T15:54:54.310Z	RMc0076da31213941de205c22641a00cd2	Avatars	us1	group
10	H264, VP8				
11	2024-06-24T15:54:52.159Z	RMc0076da31213941de205c22641a00cd2	Avatars	us1	group
12	2024-06-24T06:30:49.442Z	RMe17a98eecc982c82b72b14f81d3c32fe	Avatars	us1	group
13	VP8, H264				
14	2024-06-24T06:30:46.107Z	RMe17a98eecc982c82b72b14f81d3c32fe	Avatars	us1	group
15	2024-06-20T05:38:03.097Z	RM65a4f48bdd61873e2260918392607123	testroom1	us1	group
16	H264, VP8				
17	2024-06-20T05:38:03.094Z	RM65a4f48bdd61873e2260918392607123	testroom1	us1	group
18	2024-06-20T05:27:58.810Z	RMb2fefc483927b4a5d4f1100fde5494af	testroom1	us1	group
19	H264, VP8				
20	2024-06-20T05:27:58.810Z	RMb2fefc483927b4a5d4f1100fde5494af	testroom1	us1	group
21	2024-06-20T05:27:14.994Z	RMa29e171b92ceb6f24c70239803f333b6	testroom1	us1	group
22	H264, VP8				
23	2024-06-20T05:27:14.990Z	RMa29e171b92ceb6f24c70239803f333b6	testroom1	us1	group
24	2024-06-20T05:24:52.717Z	RM6036eca5e3017063456de00b950eec30	testroom1	us1	group
25	H264, VP8				
26	2024-06-20T05:24:52.715Z	RM6036eca5e3017063456de00b950eec30	testroom1	us1	group

<https://console.twilio.com/us1/monitor/insights/video/video-rooms/RMc0076da31213941de205c22641a00cd2/participants/PAe68fe2c37825ed57f1d43d8e0a316019>

Messages About

 **Roshan Kumar Singh** 12:47 PM  
PAe68fe2c37825ed57f1d43d8e0a316019

 **Programmable Video Bot** APP 12:47 PM  
Participant Analysis for PAe68fe2c37825ed57f1d43d8e0a316019

Today ▾

**Participant Info**

<b>Identity</b>	<b>RoomSid</b>
Aang	RMc0076da31213941de205c22641a00cd
	2
<b>AccountSid</b>	<b>Account Friendly Name</b>
AC0fe10850d5dc75aba1068262c3cc6c8a	None
<b>Country</b>	<b>City</b>
None	None
<b>Start Time</b>	<b>End Time</b>
2024-06-24T15:54:54.31Z	2024-06-24T16:15:39.209Z
<b>Date Created</b>	<b>Date Update</b>
2024-06-24T15:54:54.31Z	2024-06-24T16:15:39.209Z
<b>Duration</b>	<b>Status</b>
1244	disconnected
<b>Browser</b>	<b>Browser Version</b>
Chrome	126.0.0.0
<b>Platform Name</b>	<b>Platform Version</b>
Mac%20OS	10.15.7
<b>Hardware Device Model</b>	<b>Hardware Device Manufacturer</b>
None	None
<b>Hardware Device Architecture</b>	<b>SDK Version</b>
None	2.28.1
<b>Video Codec</b>	
VP8	

⊕ ↻ ⌂

Messages About

No errors found for PAe68fe2c37825ed57f1d43d8e0a316019 Today ▾

Track Events ▾

rev	timestamp	event	sid	id
kind				
3	2024-06-24T15:54:54.486Z	track_added	MT4be474a271f5a0dbe968c425779be3d3	f601d1e3-9ed3-4fba-b7aa-e4f0201972fb
video				
4	2024-06-24T15:54:54.486Z	track_added	MT5d00f9c27b1e90cef4d7619d73de2a4a	9da3edf8-734b-4cb8-b6e4-3ba761408aaf
audio				
5	2024-06-24T16:12:59.385Z	track_disabled	MT5d00f9c27b1e90cef4d7619d73de2a4a	9da3edf8-734b-4cb8-b6e4-3ba761408aaf
audio				

Selected active-ice-candidate-pair:

direction	type	ip	port
remote	host	3.235.111.245	16330
local	srfcx	103.88.103.59	60672

Group Room ice events:

timestamp	ice state
2024-06-24T15:54:55.109Z	CONNECTED
2024-06-24T15:55:02.819Z	COMPLETED

12:47 VSG events for PAe68fe2c37825ed57f1d43d8e0a316019 ▾

- 1 Room Name: Avatars | Sid: RMc0076da31213941de205c22641a00cd2 | Account Sid: AC0fe10850d5dc75aba1068262c3cc6c8a
- 2 Call Sid: CAfc5031fb17cef6adbfcbbde011798e43 | Participant Sid: PAe68fe2c37825ed57f1d43d8e0a316019 | Identity: Aang | Signaling Region: in1
- 3 2024-06-24T15:54:53.588Z: INITIAL to AUTHENTICATING on event room-info-ws-request
- 4 2024-06-24T15:54:53.792Z: AUTHENTICATING to ICING on event authentication-event: {"success":true}
- 5 2024-06-24T15:54:53.792Z: ICING to ICED on event authentication-success {"success":true, "Identity": "Aang", "Room": "Avatars", "Call": "RMc0076da31213941de205c22641a00cd2", "Participant": "PAe68fe2c37825ed57f1d43d8e0a316019", "SignalingRegion": "in1", "Event": "authentication-event", "EventTime": "2024-06-24T15:54:53.792Z", "EventSource": "VSG", "EventTarget": "RMc0076da31213941de205c22641a00cd2", "EventDetail": "Success", "EventCode": 200}

RMc0076da31213941de205c22641a00cd

Messages	About
RMc0076da31213941de205c22641a00cd2	Today ▾
 <b>Programmable Video Bot</b> APP 12:49 PM	    
Room Info	
AccountSid	Created On
AC0fe10850d5dc75aba1068262c3cc6c8a	2024-06-24 15:54:54.310
Ended On	Room Name
2024-06-24 16:53:15.894	Avatars
VideoMediaServerId	Status Callback
VM672a66bc9c74b85a7b8bcc74f697601	POST <a href="https://webhook.site/58b78aa4-2531-4ffa-80d5-d5477f8a31bb">https://webhook.site/58b78aa4-2531-4ffa-80d5-d5477f8a31bb</a>
6	
Room Type	Unique Participants
group	6
Unique Identities	Turn Enabled
5	True
Recordings Enabled	IsAdhoc
True	False
Completed via REST API	Is V3 Room
No	False
Media Region	Video Codecs
us1	VP8, H264
Status	Duration (seconds)
completed	3501
Maximum Participants	Maximum Participant Duration
50	14400

Participants Info ▾	
	Today ▾
1	joined (UTC) subscribed
2	----- -----
3	2024-06-24 15:54:54.311
4	2024-06-24 15:58:21.819
5	2024-06-24 16:01:31.789
	left (UTC)
	sid
	identity
	ICE
	published
1	PAe68fe2c37825ed57f1d43d8e0a316019
2	Aang
3	YES
4	YES
5	YES
	VP8, H264
	us1
	Media Region:
	Audio Only: False
	Is V3 Room: False
	VMS: VM672a66bc9c74b85a7b8bcc74f697601
	Participants:
1	P1: PAe68fe2c37825ed57f1d43d8e0a316019   CAfc5031fb17cef6adbcbdde011798e43   Aang   unified   jsdk 2.28.1   Chrome 126.0.0
Room Summary Report ▾	
1	Summary for Room: Avatars   RMc0076da31213941de205c22641a00cd2   AC0fe10850d5dc75aba1068262c3cc6c8a
2	Topology: group   Adhoc: False   TURN: True   Recording on Connect: True   Video Codecs: H264, VP8   Media Region: us1
3	Audio Only: False   Is V3 Room: False
4	VMS: VM672a66bc9c74b85a7b8bcc74f697601
5	Participants:
1	P1: PAe68fe2c37825ed57f1d43d8e0a316019   CAfc5031fb17cef6adbcbdde011798e43   Aang   unified   jsdk 2.28.1   Chrome 126.0.0
No errors found for RMc0076da31213941de205c22641a00cd2	
12:49	Dimensions Width (downsampling) ▾
1	participant_sid
2	-----
3	PAe68fe2c37825ed57f1d43d8e0a316019
4	MT4be474a271f5a0dbe968c425779be3d3
5	localVideoTrack
3	320
4	640
5	1280
3	PAadaab5b4acab0f04a7f236c48933061c
4	MT51f6e7007732426a22763300f09b99c1
5	localVideoTrack
3	320
4	320
5	640
3	PA8e87016c865305357808edf2fb8178af
4	MT9c2fe422238f22a5b6164c8ee877ab1e
5	localVideoTrack
3	180
4	360
5	720
Round Trip Time (RTT client) ▾	
1	participant_sid
2	-----
3	PAe68fe2c37825ed57f1d43d8e0a316019
4	228
3	229
4	249
3	PAc7c4c6f591d8602dbb0aa7089435ec1f
4	227
3	228
4	257

**Messages**   **About**

	participant_sid	25th	50th	Today
1	PAe68fe2c37825ed57f1d43d8e0a316019	228	229	249
2	PAc7c4c6f591d8602dbb0aa7089435ec1f	227	228	257
3	PAdaab5b4aacab0f04a7f236c48933061c	223	226	248

No send/receive bandwidth found for Room sid: RMc0076da31213941de205c22641a00cd2. (Group Room only)

Track Info Summary Report ▾

1	participant_sid	track	type	codec	lost	sent	rcvd	b_sent
2	b_rcvd	fr w h						
3	PAdaab5b4aacab0f04a7f236c48933061c	MT51f6e7007732426a22763300f09b99c1	local	VP8	2	6453		7123627
4	PAdaab5b4aacab0f04a7f236c48933061c	MTf2677bbe58515ab2446e30156dd05b5c	local	opus	35	69712		1988858
5	PAdaab5b4aacab0f04a7f236c48933061c	MTcf4f60dd9e94c9d9806982fae6ac07a9	remote		0		0	

Local Tracks lost Summary Report ▾

1	participant_sid	track_id	track_type	packets_lost
2				
3	PA8e87016c865305357808edf2fb8178af	23dd92aa-152f-47f8-8668-a04f6700bd87	localAudioTrack	4
4	PA8e87016c865305357808edf2fb8178af	619d89bc-2c7f-4579-b6c3-36dd456add96	localVideoTrack	0
5	PAe68fe2c37825ed57f1d43d8e0a316019	f601d1e3-9ed3-4fba-b7aa-e4f0201972fb	localVideoTrack	

12:50 Remote Tracks lost Summary Report ▾

1	participant_sid	track_id	track_type	packets_lost
2				
3	PA8e87016c865305357808edf2fb8178af	ff1c3e47- + Click to expand inline (31 lines)	videoTrack	77
4	PA8e87016c865305357808edf2fb8178af	8186a590-e4cb-452d-b75f-83f4ca906cf4	audioTrack	36
5	PA8e87016c865305357808edf2fb8178af	c154e15c-8889-4ca3-8deb-abaf3e850cbe	audioTrack	35

**Messages**   **About**

 **Roshan Kumar Singh** 12:52 PM  
CAD1ab1168bc0938625826366ab4ebc99b

 **Programmable Video Bot** APP 12:52 PM  
Video Voice signaling summary report ▾

1	Room Name: Avatars   Sid: RMc0076da31213941de205c22641a00cd2   Account Sid: AC0fe10850d5dc75aba106826~
2	Call Sid: CAD1ab1168bc0938625826366ab4ebc99b   Participant Sid: PAa5456d618437d057baa3d78560a1d9c2   *
3	Mixer Session Id: b4b16744-9f60-46b7-a2a7-68e0cd445fb1   Transcode Session Id: ce956730-4627-4833-beec-b227de018ed1
4	Monkey: <a href="https://monkey.twilio.com/calls/CAD1ab1168bc0938625826366ab4ebc99b">https://monkey.twilio.com/calls/CAD1ab1168bc0938625826366ab4ebc99b</a>
5	2024-06-24T16:43:26.259387Z: INITIAL to CREATE_TRANSCODE_SESSION on event connect-voice-participant-event
6	2024-06-24T16:43:26.286323Z: CREATE_TRANSCODE_SESSION to CONNECT_TRANSCODE_SESSION on event transcode-media-function-result
7	2024-06-24T16:43:26.424024Z: CONNECT_TRANSCODE_SESSION_LEG to TRANSCODED_SESSION_LEG_CONNECTED on event transcode-session-connected-event
8	2024-06-24T16:43:26.427808Z: CREATE_ROOM_PARTICIPANT to CREATE_ROOM_PARTICIPANT on event create-room-participant-event
9	2024-06-24T16:43:26.427465Z: TRANSCODED_SESSION_LEG_CONNECTED to CREATE_ROOM_PARTICIPANT on event transcode-media-function-result
10	2024-06-24T16:43:26.460539Z: CREATE_ROOM_PARTICIPANT to CONNECT_ROOM_PARTICIPANT_LEG on event room-info-and-host
11	2024-06-24T16:43:26.461172Z: CONNECT_ROOM_PARTICIPANT_LEG to CREATE_MIXER_OUTPUT_SESSION on event connect-mixer-output-event
12	2024-06-24T16:43:26.467401Z: CREATE_MIXER_OUTPUT_SESSION to VOICE_PARTICIPANT_CONNECTED on event connected-mixer-output-event
13	2024-06-24T16:43:26.485761Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event room-info
14	2024-06-24T16:43:26.486062Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event update-room-participant-event
15	2024-06-24T16:43:26.486487Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event update-mixer-input-event
16	2024-06-24T16:43:26.486722Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event updated-mixer-input-event
17	2024-06-24T16:43:26.48661Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event update-mixer-input-event
18	2024-06-24T16:43:26.507565Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event update-mixer-input-event
19	2024-06-24T16:43:26.507381Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event updated-mixer-input-event
20	2024-06-24T16:43:26.507689Z: VOICE_PARTICIPANT_CONNECTED to VOICE_PARTICIPANT_CONNECTED on event updated-mixer-input-event

Messages About

Video Voice signaling summary report ▶ Today ▾

Roshan Kumar Singh 12:52 PM MTf2677bbe58515ab2446e30156dd05b5c

Programmable Video Bot APP 12:52 PM Information for track MTf2677bbe58515ab2446e30156dd05b5c

Track Info

AccountSid	RoomSid
AC0fe10850d5dc75aba1068262c3cc6c8a	RMc0076da31213941de205c22641a00cd
	2

ParticipantSid	ID
PAdaab5b4aacab0f04a7f236c48933061c	5d0b36ae-854a-4228-bf31-a8c916b593b9

Type	Codec
localAudioTrack	opus

Bytes Sent	Packets Sent
278427	11308

Packets Lost	RTT
4	224

Audio Level	Jitter
374	5

Track Events ▾ New

event	enabled	priority	timestamp
connected with track	True	standard	2024-06-24T16:15:51.429Z
removed track			2024-06-24T16:45:02.202Z
added track	True	standard	2024-06-24T16:45:20.309Z
removed track			2024-06-24T16:47:47.193Z

Roshan Kumar Singh 12:55 PM vms --room-sid RMc0076da31213941de205c22641a00cd2

Programmable Video Bot APP 12:55 PM Session for Room: RMc0076da31213941de205c22641a00cd2 ▾

```
1 -----
2 | Account: AC0fe10850d5dc75aba1068262c3cc6c8a
3 | VMS: VM672a66bc9c74b85a7b8bcc74f6976016
4 | Host: H048d96c773875b7bcc263a87306b4ed56
5 | Region: us-east-1
6 -----
7 | 2024-06-24T15:54:54.332005Z - VMS process created | Collapse ↑
8 | 2024-06-24T16:54:16.404240Z - VMS process terminated | Collapse ↑
```

 **Roshan Kumar Singh** 12:57 PM  
vms --participant-sid PA8e87016c865305357808edf2fb8178af

 **Programmable Video Bot** APP 12:57 PM  
Session for Participant: PA8e87016c865305357808edf2fb8178af ▾

1 No data available

 **Roshan Kumar Singh** 12:57 PM  
vms --track-sid 8186a590-e4cb-452d-b75f-83f4ca906cf4

 **Programmable Video Bot** APP 12:57 PM  
Session for Track: 8186a590-e4cb-452d-b75f-83f4ca906cf4 ▾

1 No data available

 **Roshan Kumar Singh** 12:58 PM  
vms --recording-sid RT05db6094771cba40fb4805d7859a77f3

 **Programmable Video Bot** APP 12:58 PM  
Session for Recording: <<https://www.twilio.com/console/video/logs/recording/RT05db6094771cba40fb4805d7859a77f3|RT05db6094771cba40fb4805d7859a77f3>> ▾

1 No data available

 **Roshan Kumar Singh** 1:05 PM  
recordings --recording-sid RT05db6094771cba40fb4805d7859a77f3

 **Programmable Video Bot** APP 1:05 PM  
Recording for Recording: RT05db6094771cba40fb4805d7859a77f3 ▾ New

```
1 -----
2 | Account: AC0fe10850d5dc75aba1068262c3cc6c8a
3 | Room: RM91a2bd16faf4ef4d90339fb1fae6f0b6
4 | Participant: PA2c8232cb7ac74e4fa52304a1024edf03
5 | Track: MTb3464c897481d297b222f19550f3777d
6 | VMS: VM4d76354d4934495fbdd4ef8988b4704b
7 | Host: H0f4499b6711f254d5be39b40e57dd1e19
8 | Region: us-east-1
9 | Codec: audio/opus
10 -----
11 | 2024-06-24T18:25:13.029669Z - Recording started
12 | 2024-06-24T18:25:14.101546Z - Decodable state changed
13 | 2024-06-24T18:25:22.844599Z - Recording stopped - Duration: 8365
```

 **Roshan Kumar Singh** 1:04 PM  
compositions --account-sid AC0fe10850d5dc75aba1068262c3cc6c8a

 **Programmable Video Bot** APP 1:04 PM  
Recent compositions for AC0fe10850d5dc75aba1068262c3cc6c8a metadata report ▾

1 No compositions found

 **Roshan Kumar Singh** 1:07 PM  
billing --account-sid AC0fe10850d5dc75aba1068262c3cc6c8a

 **Programmable Video Bot** APP 1:07 PM  
Please wait...

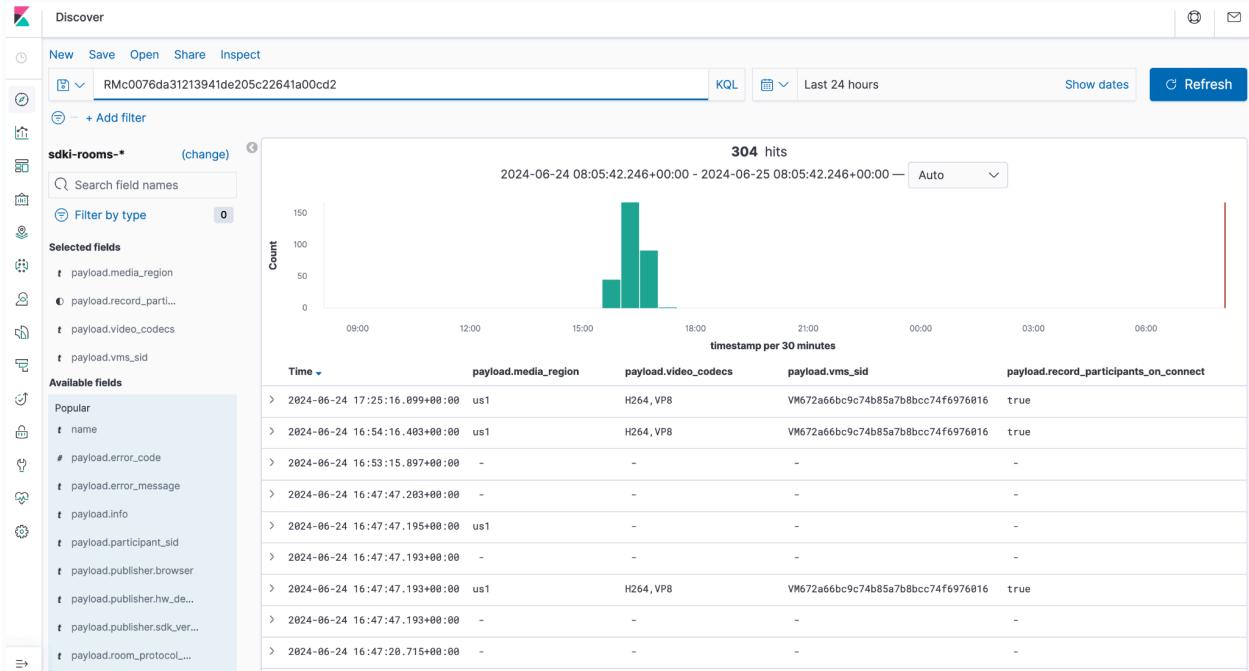
No data available

## Media Recordings Bot (a Slack App)

### Kibana

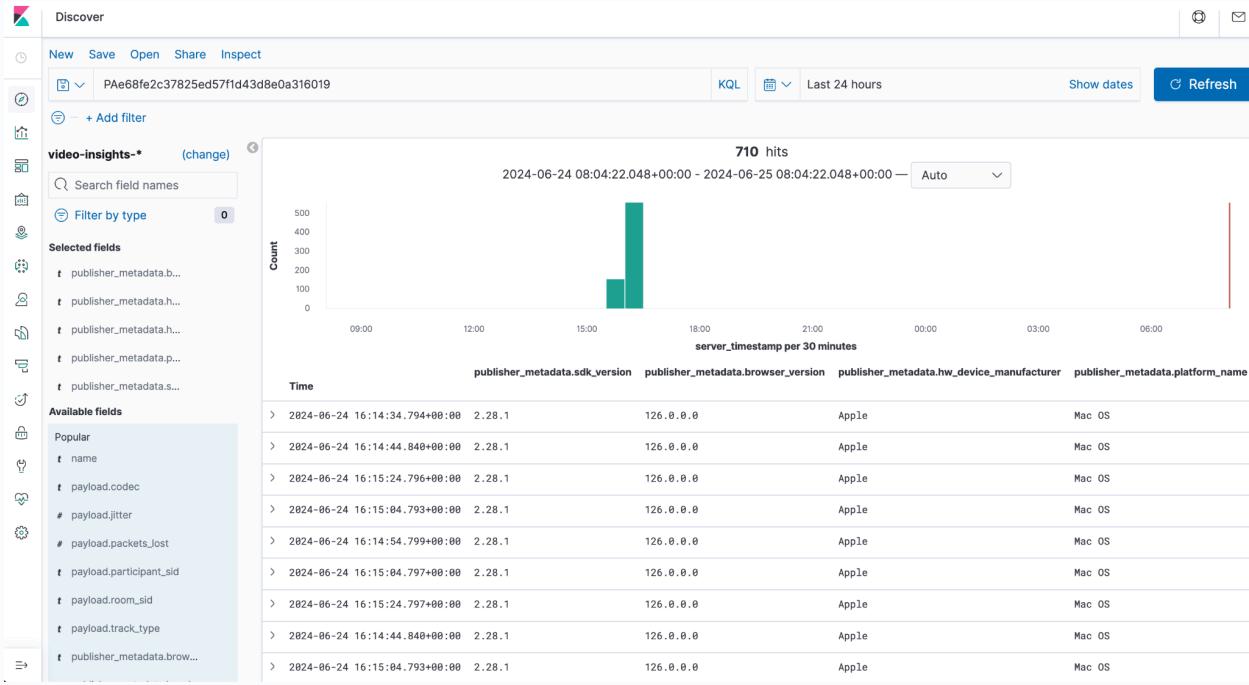
Change Index to `sdk-rooms*` create a "Discover URL" that displays media region, codecs, vms server sid, whether the participant was "recorded on connect" for all of the participants in one of your group rooms.

<https://kibana.us1.peak.twilio.com/video/goto/2fd49a782c60308244504462226b47b5>



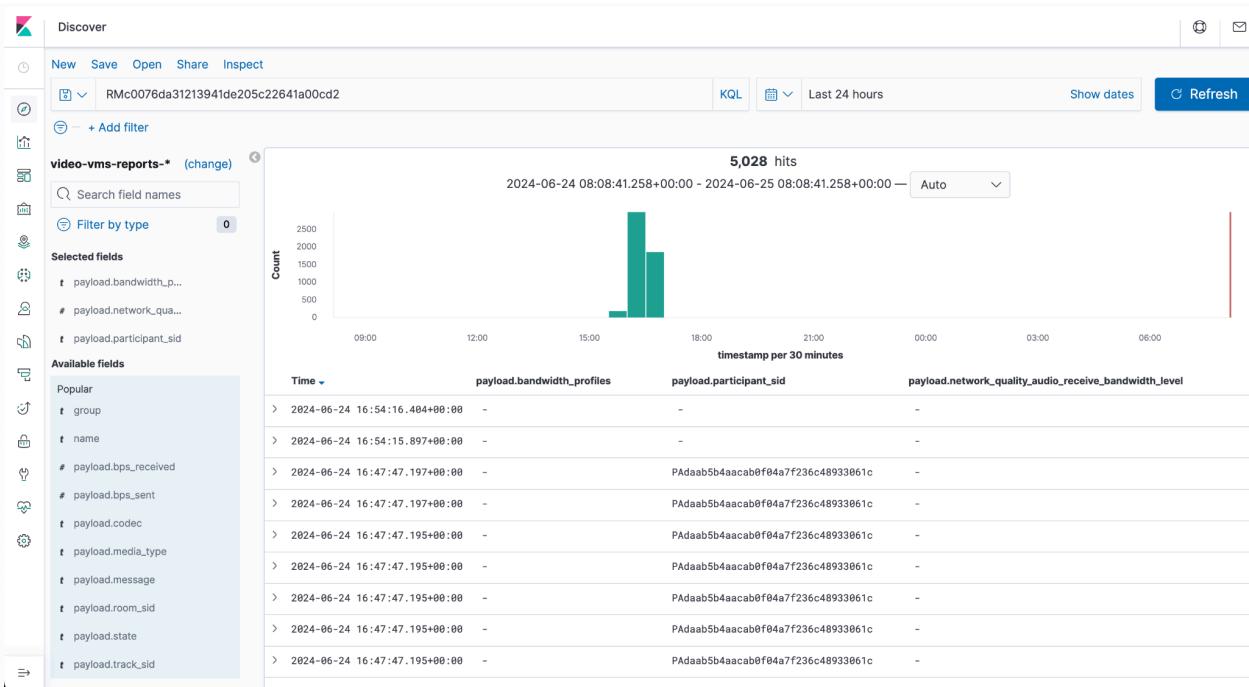
Change Index to video-insights\* create a "Discover URL" that displays all device, manufacture, OS, browser version, SDK version information for the participants.

<https://kibana.us1.eak.twilio.com/video/goto/1a98e9340c757f5deb643174312a5994>



Change Index to video-vms-reports\* create a "Discover URL" that displays all actual bandwidth for each participant in one room

<https://kibana.us1.eak.twilio.com/video/goto/8f3acacee9deb9d318c6c9caf0778c60>



Change Index to video-voice-signaling\* create a "Discover URL" that displays Participant SID, Call SID, Room SID, Identity, Room Name for the PSTN participant in one room.

<https://kibana.us1.eak.twilio.com/video/goto/957ab1ec137f2180eb2e4627777a6b84>

The screenshot shows the Kibana Discover interface with the following configuration:

- Index:** RMc0076da31213941de205c22641a00cd2
- Time Range:** Last 24 hours
- Selected fields:** payload.call\_sid, payload.identity, payload.participant\_sid, payload.room\_name, payload.room\_sid
- Available fields:** account\_sid, group, level, name, payload.current, payload.event\_json, payload.mixer\_session\_id, payload.previous

The results section displays 14 hits from June 24, 2024, between 08:10:53 and 08:10:53. The chart shows a single event at approximately 16:45:20. The table below lists the event details:

Time	payload.participant_sid	payload.call_sid	payload.room_sid	payload.identity	payload.room_name
2024-06-24 16:45:20.308+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars
2024-06-24 16:45:14.264+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars
2024-06-24 16:45:02.203+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars
2024-06-24 16:43:26.507+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars
2024-06-24 16:43:26.507+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars
2024-06-24 16:43:26.507+00:00	PAA5456d618437d057baa3d78568a	CAd1ab1168bc0938625826366ab	RMc0076da31213941de285c2264	Kuruk	Avatars

Create a "Discover URL" that displays all the Network Quality scores for all participants in one of your group rooms

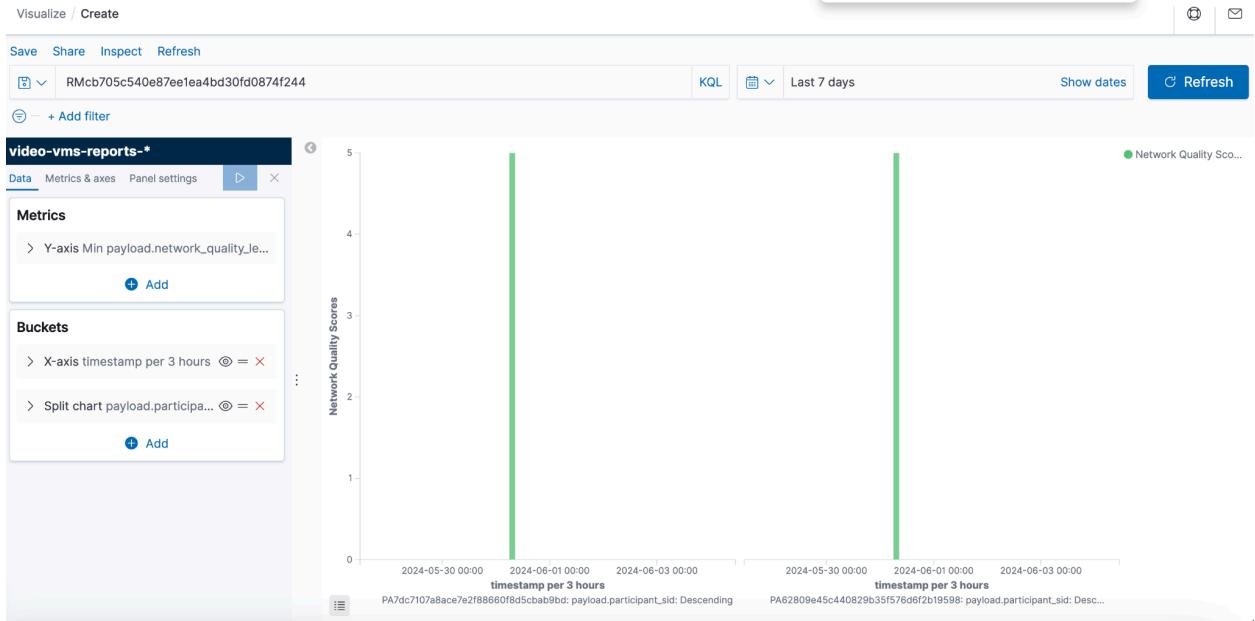
<https://kibana.us1.eak.twilio.com/video/goto/95220a39e86554da63ddf35ee8b1d98c>

The screenshot shows the Kibana Discover interface with the following configuration:

- Index:** RMc0076da31213941de205c22641a00cd2
- Time Range:** Last 24 hours
- Selected fields:** payload.networkQuali..., payload.participant\_sid
- Available fields:** name, payload.codec, payload.jitter, payload.packets\_lost

The results section displays 5,571 hits from June 24, 2024, between 08:16:53 and 08:16:53. The chart shows two events at approximately 16:47:21 and 16:47:41. The table below lists the event details:

Time	payload.participant_sid	payload.networkQualityConfiguration.local	payload.networkQualityConfiguration.remote
2024-06-24 16:47:21.703+00:00	PAdaab5b4aacab0f04a7f236c48933061c	-	-
2024-06-24 16:47:41.693+00:00	PAdaab5b4aacab0f04a7f236c48933061c	-	-
2024-06-24 16:47:31.700+00:00	PAdaab5b4aacab0f04a7f236c48933061c	-	-
2024-06-24 16:47:41.693+00:00	PAdaab5b4aacab0f04a7f236c48933061c	-	-
2024-06-24 16:47:21.703+00:00	PAdaab5b4aacab0f04a7f236c48933061c	-	-



## Quantico

Untitled query \*Untitled query +

RUN SAVE DOWNLOAD SHARE SCHEDULE MORE Query completed

```
1 select * from `qtco-customer-support.prod.app_api_access_last_14_days`
2 where (account_sid = 'AC0fe10850d5dc75aba1068262c3cc6c8a' or parent_account_sid = 'AC0fe10850d5dc75aba1068262c3cc6c8a')
3 and uri="/Compositions" order by timestamp desc
```

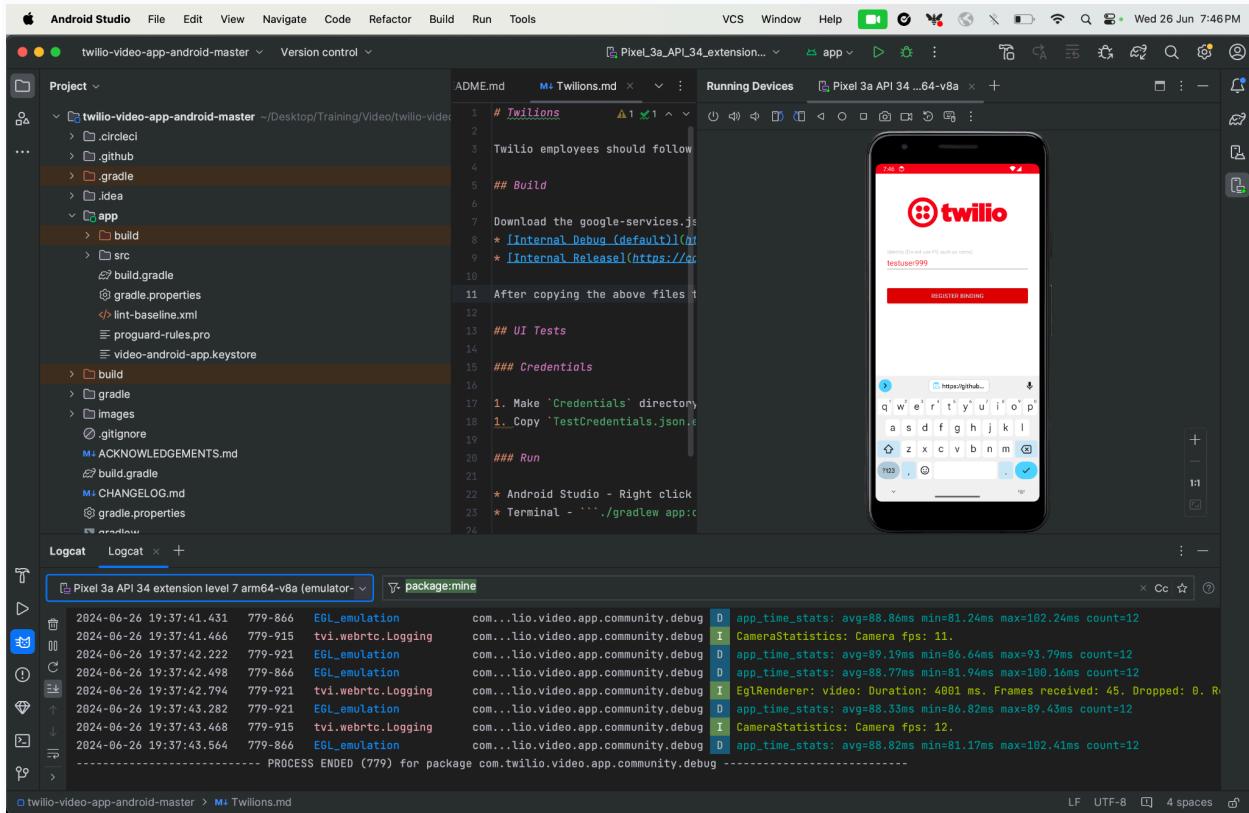
Press Option+F1 for Accessibility Option

Query results

SAVE RESULTS EXPLORE DATA

JOB INFORMATION		RESULTS	CHART	JSON	EXECUTION DETAILS	EXECUTION GRAPH
Row	PARTITIONTIME	PARTITIONDATE	timestamp	request_sid	status	account_sid
1	2024-06-25 00:00:00 UTC	2024-06-25	2024-06-25 13:33:35.466702 U...	RQ65933e5e4b99d5a9ced3eb...	201	AC0fe10850d5dc75aba106826...
2	2024-06-25 00:00:00 UTC	2024-06-25	2024-06-25 13:13:28.317463 U...	RQbec2e547d1462818e7c542...	201	AC0fe10850d5dc75aba106826...

## Android Studio



Android Studio Version control Running Devices Pixel\_3a API 34 ...64-v8a

Project twilio-video-app-android-master

ADMЕ.md Twillions.md

```
1 # Twillions
2
3 Twilio employees should follow
4
5 ## Build
6
7 Download the google-services.json
8 * [Internal_Debug (default)](https://)
9 * [Internal_Release](https://)
10
11 After copying the above files to
12
13 ## UI Tests
14
15 ### Credentials
16
17 1. Make 'Credentials' directory
18 1. Copy 'TestCredentials.json' to
19
20 ### Run
21
22 * Android Studio - Right click
23 * Terminal - `./gradlew app:run`
```

Running Device: Pixel 3a API 34 ...64-v8a

Logcat

```
Pixel 3a API 34 extension level 7 arm64-v8a (emulator-)
2024-06-26 19:37:41.431 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.86ms min=81.24ms max=102.24ms count=12
2024-06-26 19:37:41.466 779-915 tvi.webrtc.Logging com...lio.video.app.community.debug D CameraStatistics: Camera fps: 11.
2024-06-26 19:37:42.222 779-921 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=89.19ms min=86.64ms max=93.79ms count=12
2024-06-26 19:37:42.498 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.77ms min=81.94ms max=100.16ms count=12
2024-06-26 19:37:42.794 779-921 tvi.webrtc.Logging com...lio.video.app.community.debug I EGLRenderer: video: Duration: 4001 ms. Frames received: 45. Dropped: 0. Rendered: 45
2024-06-26 19:37:43.282 779-921 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.33ms min=86.82ms max=89.43ms count=12
2024-06-26 19:37:43.468 779-915 tvi.webrtc.Logging com...lio.video.app.community.debug I CameraStatistics: Camera fps: 12.
2024-06-26 19:37:43.564 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.82ms min=81.17ms max=102.41ms count=12
----- PROCESS ENDED (779) for package com.twilio.video.app.community.debug -----
```

twilio-video-app-android-master > Twillions.md

Android Studio Version control Running Devices Pixel 3a API 34 ...64-v8a

Project twilio-video-app-android-master

ADMЕ.md Twillions.md

```
1 # Twillions
2
3 Twilio employees should follow
4
5 ## Build
6
7 Download the google-services.json
8 * [Internal_Debug (default)](https://)
9 * [Internal_Release](https://)
10
11 After copying the above files to
12
13 ## UI Tests
14
15 ### Credentials
16
17 1. Make 'Credentials' directory
18 1. Copy 'TestCredentials.json' to
19
20 ### Run
21
22 * Android Studio - Right click
23 * Terminal - `./gradlew app:run`
```

Running Device: Pixel 3a API 34 ...64-v8a

Logcat

```
Pixel 3a API 34 extension level 7 arm64-v8a (emulator-)
2024-06-26 19:36:40.581 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=89.90ms min=78.76ms max=102.10ms count=12
2024-06-26 19:36:41.372 779-921 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=89.74ms min=85.57ms max=95.94ms count=12
2024-06-26 19:36:41.418 779-915 tvi.webrtc.Logging com...lio.video.app.community.debug I CameraStatistics: Camera fps: 11.
2024-06-26 19:36:41.647 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.86ms min=80.63ms max=102.18ms count=12
2024-06-26 19:36:42.437 779-921 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=88.67ms min=82.99ms max=93.21ms count=12
2024-06-26 19:36:42.733 779-866 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=90.41ms min=81.30ms max=102.13ms count=12
2024-06-26 19:36:42.756 779-921 tvi.webrtc.Logging com...lio.video.app.community.debug I EGLRenderer: video: Duration: 4005 ms. Frames received: 45. Dropped: 0. Rendered: 45
2024-06-26 19:36:43.419 779-915 tvi.webrtc.Logging com...lio.video.app.community.debug I CameraStatistics: Camera fps: 12.
2024-06-26 19:36:43.512 779-921 EGL_emulation com...lio.video.app.community.debug D app_time_stats: avg=89.55ms min=85.17ms max=97.41ms count=12
```

twilio-video-app-android-master > Twillions.md

