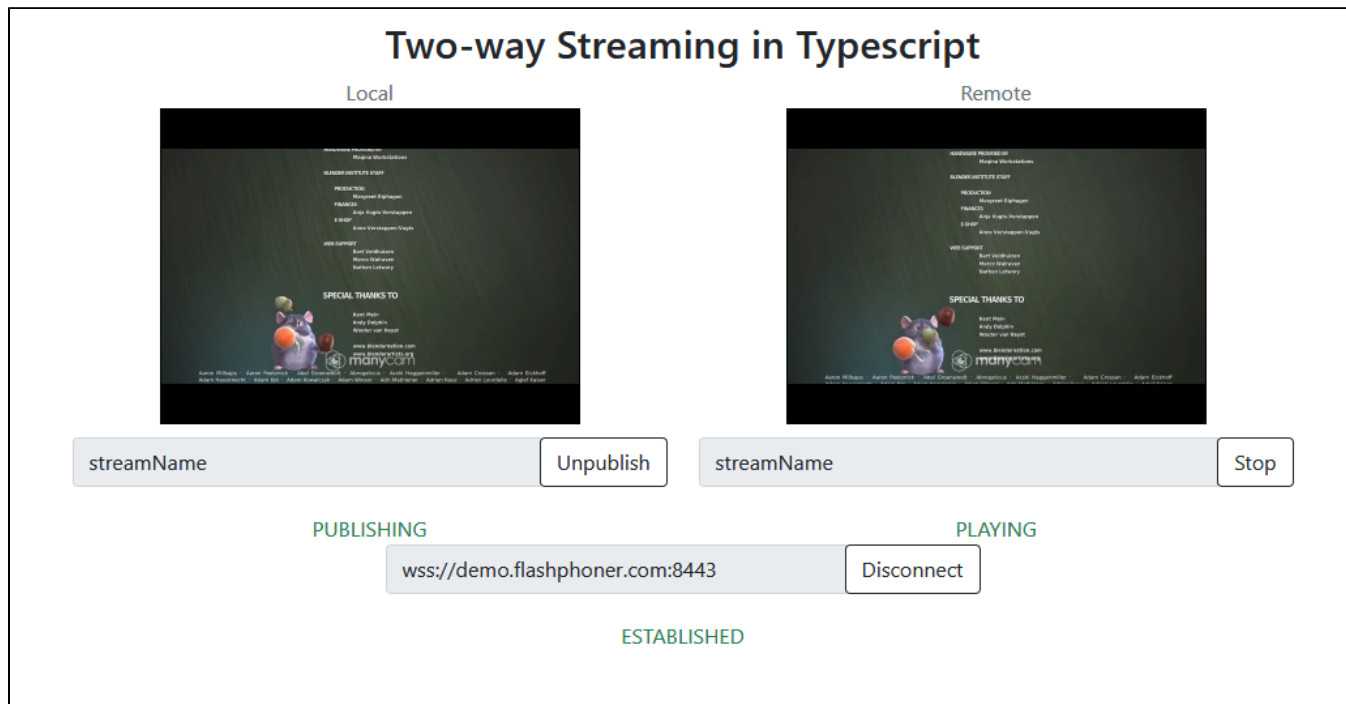


# Two Way Streaming in Typescript

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## Описание

Приложение Two Way Streaming in Typescript показывает пример использования Web SDK в React приложении на языке Typescript для публикации и проигрывания WebRTC потока



Проект доступен на [GitHub](#), а также в [архивах сборок Web SDK](#) по следующему пути examples/typescript/two-way-streaming-ts, начиная со сборки 2.0.203.

## Сборка проекта

1. Загрузите исходные тексты WebSDK

```
git clone https://github.com/flashphoner/flashphoner_client.git
```

2. Перейдите в каталог примера

```
cd flashphoner_client/examples/typescript/two-way-streaming-ts
```

3. Установите зависимости

```
npm install
```

4. Запустите сборку для локального тестирования

```
npm start
```

или для выгрузки на свой веб-сервер

```
npm run build
```

## Работа с кодом примера

Для разбора исходного кода примера возьмем версию с хэшем d9abaca, которая доступна [здесь](#), а также в сборке Web SDK 2.0.203

Код приложения расположен в файле [TwoWayStreamingApp.tsx](#), дополнительные функции в файле [fp-utils.ts](#)

### 1. Импорт API

[code](#)

```
import * as FPUtils from './fp-utils';
import * as Flashphoner from '@flashphoner/websdk';
```

### 2. Инициализация API

`Flashphoner.init()` [code](#)

```
componentDidMount() {
  try {
    Flashphoner.init({});
    ...
  }
  catch(e) {
    console.log(e);
    ...
  }
}
```

### 3. Подключение к серверу и получение события, подтверждающего установку соединения

`Flashphoner.createSession()`, `SESSION_STATUS.ESTABLISHED` [code](#)

```
onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    console.log("Create new session with url " + url);
    app.setState({connectButtonDisabled: true, serverUrlDisabled: true});
    Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED, (session) => {
      app.setState({sessionStatus: SESSION_STATUS.ESTABLISHED, sessionStatusClass: 'text-success'});
      app.onConnected(session);
    }).on(SESSION_STATUS.DISCONNECTED, () => {
      ...
    }).on(SESSION_STATUS.FAILED, () => {
      ...
    });
  }
  ...
}
```

### 4. Публикация потока

`Session.createStream()`, `Stream.publish()` [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      name: streamName,
      display: localVideo,
      cacheLocalResources: true,
      receiveVideo: false,
      receiveAudio: false
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      ...
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

##### 5. Получение события, подтверждающего публикацию

STREAM\_STATUS.PUBLISHING [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      ...
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      app.setState({publishStatus: STREAM_STATUS.PUBLISHING, publishStatusClass: 'text-success'});
      app.onPublishing(stream);
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

##### 6. Воспроизведение потока, изменение размера отображаемой картинки

Session.createStream(), Stream.play(), STREAM\_STATUS.PENDING, FPUtills.resizeVideo() [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      let video = document.getElementById(stream.id());
      if (!video.hasListeners) {
        video.hasListeners = true;
        video.addEventListener('resize', (event) => {
          FPUtills.resizeVideo(event.target);
        });
      }
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

## 7. Получение события, подтверждающего воспроизведение

STREAM\_STATUS.PLAYING [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      ...
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      app.setState({playStatus: STREAM_STATUS.PLAYING, playStatusClass: 'text-success'});
      app.onPlaying(stream);
    }).on(STREAM_STATUS.STOPPED, () => {
      ...
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

## 8. Остановка воспроизведения

Stream.stop() [code](#)

```

onPlayClick = () => {
  let app = this;
  let stream = this.state.playStream;
  ...

  if (!stream) {
    ...
    app.playStream();
  } else {
    app.setState({playButtonDisabled: true});
    stream.stop();
  }
}

```

#### 9. Получение события, подтверждающего остановку воспроизведения

`STREAM_STATUS.STOPPED` [code](#)

```

playStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.playStreamName;
  let remoteVideo = this.state.remoteVideo;

  if(session && remoteVideo) {
    session.createStream({
      name: streamName,
      display: remoteVideo
    }).on(STREAM_STATUS.PENDING, (stream) => {
      ...
    }).on(STREAM_STATUS.PLAYING, (stream) => {
      ...
    }).on(STREAM_STATUS.STOPPED, () => {
      app.setState({playStatus: STREAM_STATUS.STOPPED, playStatusClass: 'text-success'});
      app.onStopped();
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).play();
  }
}

```

#### 10. Остановка публикации

`Stream.stop()` [code](#)

```

onPublishClick = () => {
  let app = this;
  let stream = this.state.publishStream;
  ...
  if (!stream) {
    ...
    app.publishStream();
  } else {
    app.setState({publishButtonDisabled: true});
    stream.stop();
  }
}

```

#### 11. Получение события, подтверждающего остановку публикации

`STREAM_STATUS.UNPUBLISHED` [code](#)

```

publishStream = () => {
  let app = this;
  let session = this.state.session;
  let streamName = this.state.publishStreamName;
  let localVideo = this.state.localVideo;

  if(session && localVideo) {
    session.createStream({
      ...
    }).on(STREAM_STATUS.PUBLISHING, (stream) => {
      ...
    }).on(STREAM_STATUS.UNPUBLISHED, () => {
      app.setState({publishStatus: STREAM_STATUS.UNPUBLISHED, publishStatusClass: 'text-success'});
      app.onUnpublished();
    }).on(STREAM_STATUS.FAILED, () => {
      ...
    }).publish();
  }
}

```

## 12. Закрытие соединения с сервером

Session.disconnect() [code](#)

```

onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    ...
  } else {
    app.setState({connectButtonDisabled: true});
    session.disconnect();
  }
}

```

## 13. Получение события, подтверждающего закрытие соединения

SESSION\_STATUS.DISCONNECTED [code](#)

```

onConnectClick = () => {
  let app = this;
  let url = this.state.serverUrl;
  let session = this.state.session;

  if (!session) {
    ...
    Flashphoner.createSession({urlServer: url}).on(SESSION_STATUS.ESTABLISHED, (session) => {
      ...
    }).on(SESSION_STATUS.DISCONNECTED, () => {
      app.setState({sessionStatus: SESSION_STATUS.DISCONNECTED, sessionStatusClass: 'text-success'});
      app.onDisconnected();
    }).on(SESSION_STATUS.FAILED, () => {
      ...
    });
    ...
  }
}

```