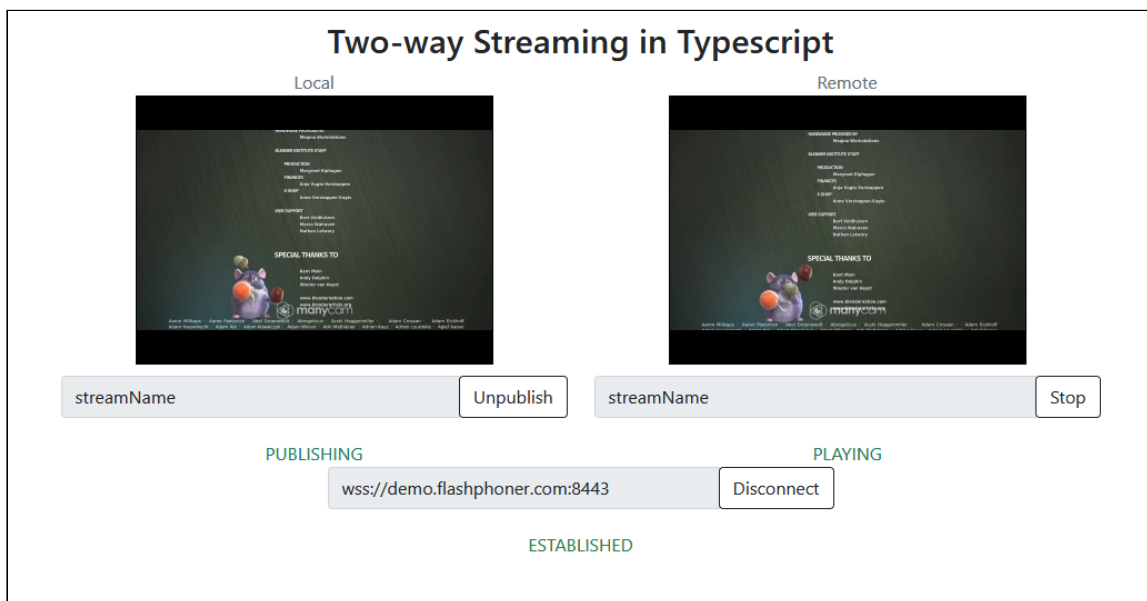


Two Way Streaming in Typescript

Overview

Two Way Streaming in Typescript application shows how to use Web SDK in React application written in Typescript to publish and play WebRTC stream



The project is available on [GitHub](#), and in [Web SDK build archives](#) since build 2.0.203 by the following path `examples/typescript/two-way-streaming-ts`.

Building the project

1. Download WebSDK source code

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

2. Go to the example folder

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

3. Install dependencies

```
npm install
```

4. Build for local testing

```
npm start
```

or to deploy to your web server

```
npm run build
```

Analyzing example code

To analyze the code take version with hash `d9abaca` which is available [here](#)

Application code is in `TwoWayStreamingApp.tsx` file, additional functions are in `fp-utils.ts` file

1. API import

code

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

2. API initialization

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

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

3. Connecting to the server and receiving the event confirming connection is established successfully

`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. Stream publishing

`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. Receiving the event confirming the stream is successfully published

`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. Stream playback with picture resizing to `div` size

`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. Receiving the event confirming successful playback

`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. Playback stopping

`Stream.stop()` code

```

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

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

```

9. Receiving the event confirming playback is stopped

`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. Publishing stopping

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

```

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

```

11. Receiving the event confirming the stream is unpublished

`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. Connection closing

`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. Receiving the event confirming the connection is closed

`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, () => {
        ...
      });
      ...
    }
  }
}

```