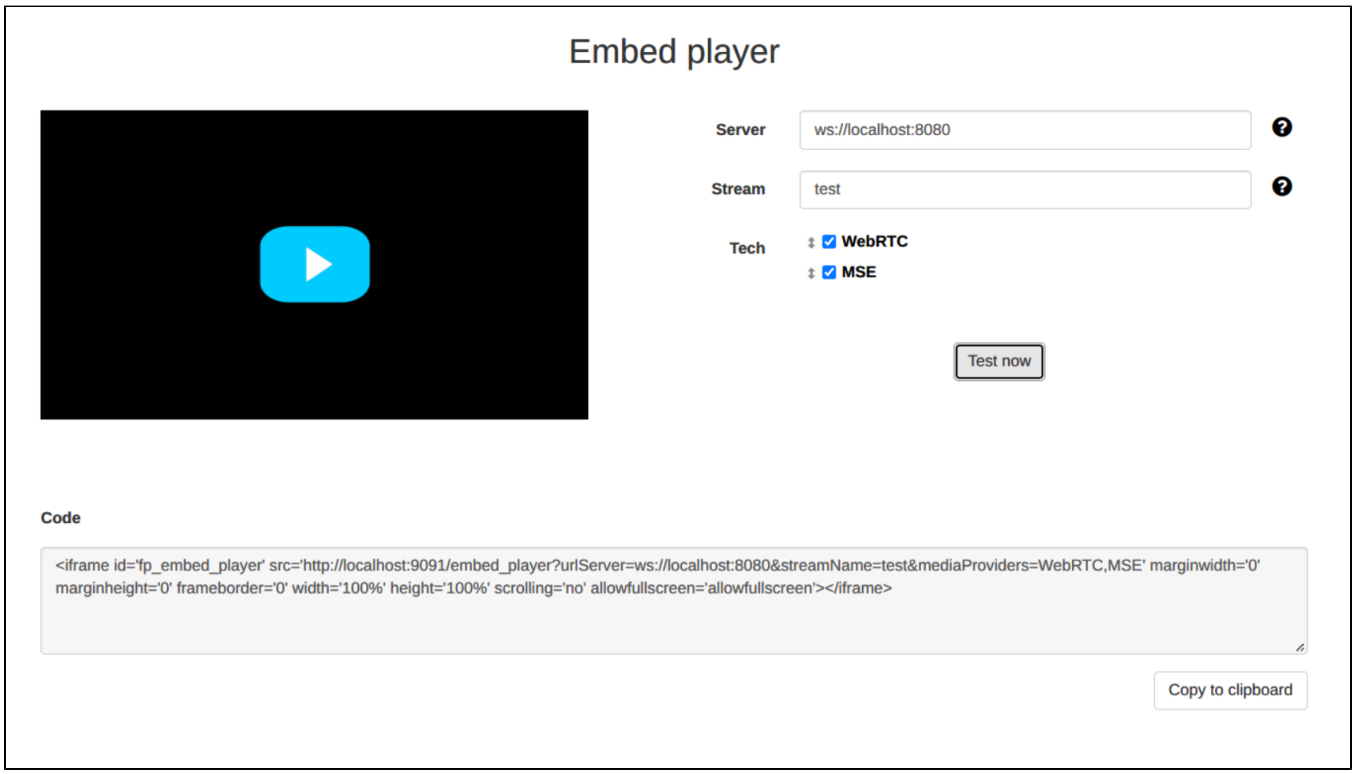
Embed Player

Example of a player that is embedded on a web page

This example may be used to embed player to the web page for live streams from web and IP cameras playback. These technologies are supported^

- WebRTC
- MSE

Embedding page interface:



Code of the example

Source code of the example is on server by this path:

`/usr/local/FlashphonerWebCallServer/client2/examples/demo/streaming/embed_player`

`player.css` - CSS style file
`player.html` - player page
`player.js` - script for player to work
`sample.css` - CSS style file for embedding interface page
`sample.html` - embedding interface page
`sample.js` - script to form embedding code

The example can be tested on this URL:

`https://host:8888/client2/examples/demo/streaming/embed_player/sample.html`

where `host` is your WCS server address

Analyzing the code

To analyze code get `player.js` file version with hash `24a69e1` that can be found here and is avalable to download in build 2.0.225.

1. API initializing.

`Flashphoner.init()` code

```
Flashphoner.init({ preferredMediaProviders: mediaProviders && mediaProviders !== "" ? mediaProviders.split
(','): [] });
```

2. Connection to the server

`Flashphoner.createSession()` code

The following parameters are passed to `createSession()` method:

- `urlServer` - WCS server URL
- `mediaOptions` - parameters to connect through the TURN server

```
let mediaOptions = {"iceServers": [{'url': 'turn:turn.flashphoner.com:443?transport=tcp', 'username':
'flashphoner', 'credential': 'coM77EMrV7Cwhyan'}]};
Flashphoner.createSession({urlServer: urlServer, mediaOptions: mediaOptions}).on(SESSION_STATUS.ESTABLISHED,
function (session) {
    ...
});
```

3.Receiving the event confirming successful connection

`SESSION_STATUS.ESTABLISHED` code

```
Flashphoner.createSession({urlServer: urlServer, mediaOptions: mediaOptions}).on(SESSION_STATUS.ESTABLISHED,
function (session) {
    setStatus(session.status());
    //session connected, start playback
    playStream(session);
}).on(SESSION_STATUS.DISCONNECTED, function () {
    ...
}).on(SESSION_STATUS.FAILED, function () {
    ...
});
```

4. Video stream playback.

`Session.createStream()`, `Stream.play()` code

The following parameters are passed to `createStream()` method:

- `streamName` - name of the stream
- `remoteVideo` - `div` element to display stream on page
- resolution to play the stream (transcoding will be enabled on server)
- `useControls` - enables a standard HTML5 video controls
- `unmutePlayOnStart: false` - disables automatic audio unmuting for autoplay to conform browsers requirements

```
let useVideoControls = true;
...
let options = {
    name: streamName,
    display: remoteVideo,
    useControls: useVideoControls
};
if (resolution) {
    playWidth = resolution.split("x")[0];
    playHeight = resolution.split("x")[1];
    options.constraints = {
        video: {
            width: playWidth,
            height: playHeight
        },
        audio: true
    };
}
if (autoplay) {
    options.unmutePlayOnStart = false;
}
playingStream = session.createStream(options).on(STREAM_STATUS.PENDING, function (stream) {
    ...
});
playingStream.play();
```

5.Receiving the event confirming stream is ready to playback

`STREAM_STATUS.PENDING` code

On this event:

- hide the custom preloader in Chrome browser because there is a standard one when standard controls are enabled
- set up `resize` video event handler
- set up video event handlers separately for Safari and other browsers

```
playingStream = session.createStream(options).on(STREAM_STATUS.PENDING, function (stream) {
    if (Browser.isChrome()) {
        // Hide a custom preloader in Chrome because there is a standard one with standard controls
        hideItem('preloader');
    }
    let video = document.getElementById(stream.id());
    if (!video.hasListeners) {
        video.hasListeners = true;
        setResizeHandler(video, stream, playWidth);
        if (Browser.isSafariWebRTC()) {
            setWebkitEventHandlers(video);
        } else {
            setEventHandlers(video);
        }
    }
}).on(STREAM_STATUS.PLAYING, function (stream) {
    ...
}).on(STREAM_STATUS.STOPPED, function () {
    ...
}).on(STREAM_STATUS.FAILED, function(stream) {
    ...
}).on(STREAM_EVENT, function(streamEvent){
    ...
});
playingStream.play();
```

6.Receiving the event confirming successful stream playback

`STREAM_STATUS.PLAYING` code

On this event, MSE stream playback is unpaused in Android Firefox browser

```
playingStream = session.createStream(options).on(STREAM_STATUS.PENDING, function (stream) {
    ...
}).on(STREAM_STATUS.PLAYING, function (stream) {
    // Android Firefox may pause stream playback via MSE even if video element is muted
    if (Flashphoner.getMediaProviders()[0] == "MSE" && autoplay && Browser.isAndroidFirefox()) {
        let video = document.getElementById(stream.id());
        if (video && video.paused) {
            video.play();
        }
    }
    setStatus(STREAM_STATUS.PLAYING);
    onStarted();
}).on(STREAM_STATUS.STOPPED, function () {
    ...
}).on(STREAM_STATUS.FAILED, function(stream) {
    ...
}).on(STREAM_EVENT, function(streamEvent){
    ...
});
playingStream.play();
```

7. Stream playback stop

`Stream.stop()` code

```
playingStream.stop();
```

8.Receiving the event confirming successful playback stop

`STREAM_STATUS.STOPPED` code

```
playingStream = session.createStream(options).on(STREAM_STATUS.PENDING, function (stream) {
    ...
}).on(STREAM_STATUS.PLAYING, function (stream) {
    ...
}).on(STREAM_STATUS.STOPPED, function () {
    setStatus(STREAM_STATUS.STOPPED);
    onStopped();
}).on(STREAM_STATUS.FAILED, function(stream) {
    ...
}).on(STREAM_EVENT, function(streamEvent){
    ...
});
playingStream.play();
```

9. Automatic playback starting if required

code

```
if (autoplay) {
    centralButton.click();
}
```

10. Setting up `resize` event handler

code

On this event, the container size for `video` element is changed

```
function setResizeHandler(video, stream, playWidth) {
    video.addEventListener('resize', function (event) {
        let streamResolution = stream.videoResolution();
        if (Object.keys(streamResolution).length === 0) {
            resizeVideo(event.target);
        } else {
            // Change aspect ratio to prevent video stretching
            let ratio = streamResolution.width / streamResolution.height;
            let newHeight = Math.floor(playWidth / ratio);
            resizeVideo(event.target, playWidth, newHeight);
        }
    });
}
```

11. Setting up event handlers for Safari browser

code

The following events are handled:

- `playing` - hide the custom preloader when stream is playing
- `webkitbeginfullscreen` , `webkitendfullscreen` - detect full screen mode to unpause stream playback when exiting this mode in iOS Safari
- `pause` - unpause stream playback when exiting full screen mode; stop playback by clicking the standard pause control in windowed mode

```
function setWebkitEventHandlers(video) {
    let needRestart = false;
    let isFullscreen = false;
    // Hide custom preloader
    video.addEventListener('playing', function () {
        hideItem('preloader');
    });
    // Use webkitbeginfullscreen event to detect full screen mode in iOS Safari
    video.addEventListener("webkitbeginfullscreen", function () {
        isFullscreen = true;
    });
    video.addEventListener("pause", function () {
        if (needRestart) {
            console.log("Video paused after fullscreen, continue...");
            video.play();
            needRestart = false;
        } else if (!(isFullscreen || document.webkitFullscreenElement)) {
            // Stop stream by standard play/pause control
            playingStream.stop();
        }
    });
    video.addEventListener("webkitendfullscreen", function () {
        video.play();
        needRestart = true;
        isFullscreen = false;
    });
}
```

12. Setting up event handlers in other browsers

code

The following events are handled:

- `playing` - hide the custom preloader when stream is playing
- `pause` - stop playback by clicking the standard pause control in windowed mode

```
function setEventHandlers(video) {
    // Hide custom preloader
    video.addEventListener('playing', function () {
        hideItem('preloader');
    });
    // Use standard pause control to stop playback
    video.addEventListener("pause", function () {
        if (!(document.fullscreenElement || document.mozFullscreenElement)) {
            // Stop stream by standard play/pause control if we're not in fullscreen
            playingStream.stop();
        }
    });
}
```