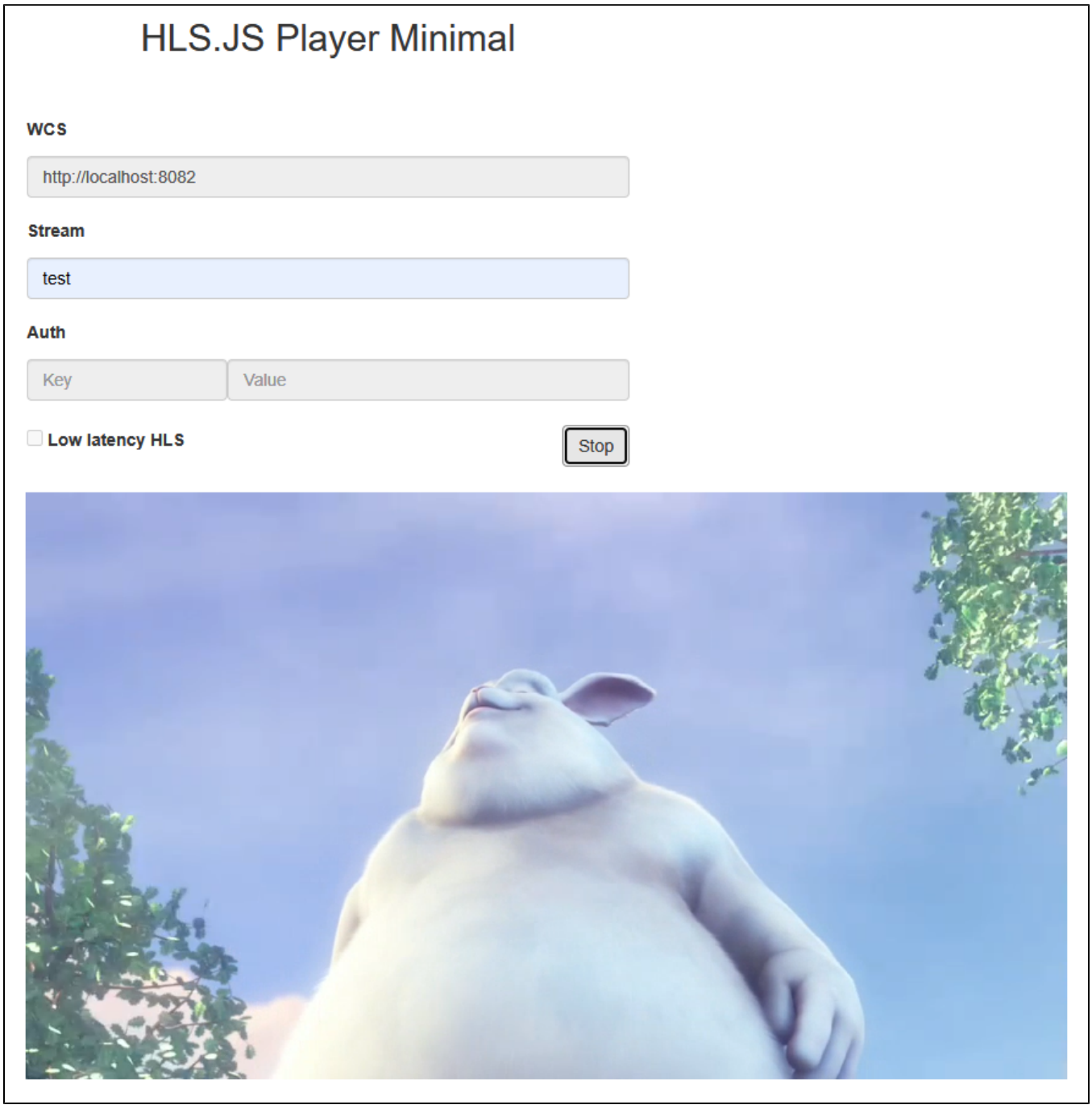
HLS.js Player

Example of stream convertion to HLS and playing it in browser using HLS.js

The player shows how to convert stream published on WCS server to HLS and play it in browser. HLS stream cut starts automatically when strea is requested by HLS URL, for example http://localhost:8082/test/test.m3u8on the screenshot below



The code of the example

The source code can be accessed on server by the following path:

/usr/local/FlashphonerWebCallServer/client2/examples/demo/streaming/hls-js-player

hls-js-player.css -player page styles file
hls-js-player.html - player page
hls.js -player script (https://github.com/video-dev/hls.js/, Apache License Version 2.0)
hls-js-player.js - player launch script
hls.min.js - player script (minimized)

The example can be tested using the fiollowing URL:

https://host:8888/client2/examples/demo/streaming/hls-js-player/hls-js-player.html

Where host is WCS server address

Analyzing the code

To analize the code get hls-js-player.js file version with hash ecbadc3 which is available here and can be downloaded in build 2.0.212.

1.A server HLS URL detection

getHLSUrl() code

```
function initPage() {
    $("#header").text("HLS.JS Player Minimal");
    $("#urlServer").val(getHLSUrl());
    ...
}
```

2. div element set up to pass to the player

code

A div element for stream playback is passed to player

```
function initPage() {
    ...
    remoteVideo = document.getElementById('remoteVideo');
    remoteVideo.style ="background-color: lightgrey;";
}
```

3.Stream name detection (the stream should be published to server)

encodeURIComponent() code

```
function playBtnClick() {
    if (validateForm()) {
        var streamName = $('#playStream').val();
        streamName = encodeURIComponent(streamName);
        ...
    }
}
```

4.HLS stream URL forming

code

If authentication key and token are set, they will be inclueded to stream URL

```
function playBtnClick() {
    if (validateForm()) {
        ...
        var videoSrc = $("#urlServer").val() + '/' + streamName + '/' + streamName + '.m3u8';
        var key = $('#key').val();
        var token = $("#token").val();
        if (key.length > 0 && token.length > 0) {
            videoSrc += "?" + key + "=" + token;
        }
        ...
    }
}
```

5. Player starting

code

If browser does not support MSE, player will not be started and a warning will be displayed

```
function playBtnClick() {
    if (validateForm()) {
        ...
        if (Hls.isSupported()) {
            console.log("Low Latency HLS: "+llHlsEnabled)
            hlsPlayer = new Hls(getHlsConfig(llHlsEnabled));
            hlsPlayer.loadSource(videoSrc);
            hlsPlayer.attachMedia(remoteVideo);
            hlsPlayer.on(Hls.Events.MANIFEST_PARSED, function() {
                console.log("Play with HLS.js");
                remoteVideo.play();
                onStarted();
            });
        }
        else {
            $("#notifyFlash").text("Your browser doesn't support MSE technology required to play video");
        }
    }
}
```

6. Playback stopping

code

```
function stopBtnClick() {
    if (hlsPlayer != null) {
        console.log("Stop HLS segments loading");
        hlsPlayer.stopLoad();
        hlsPlayer = null;
    }
    if (remoteVideo != null) {
        console.log("Stop HTML5 player");
        remoteVideo.pause();
        remoteVideo.currentTime = 0;
        remoteVideo.removeAttribute('src');
        remoteVideo.load();
    }
    onStopped();
}
```

7. HLS.js player configuration

code

```
function getHlsConfig(llHlsEnabled) {
    var config = {
        lowLatencyMode: false,
        enableWorker: true,
        backBufferLength: 90
    };
    if(llHlsEnabled) {
        // Here we configure HLS.JS for lower latency
        config = {
           lowLatencyMode: llHlsEnabled,
           enableWorker: true,
           backBufferLength: 90,
           liveBackBufferLength: 0,
           liveSyncDuration: 0.5,
           liveMaxLatencyDuration: 5,
           liveDurationInfinity: true,
           highBufferWatchdogPeriod: 1,
        };
    }
    return config;
}
```