

utils.js

- [Analyzing the source code](#)
 - 1. Exclude a video codecs from SDP
 - 2. Exclude all the video codecs from SDP but a certain codec
 - 3. Construct a server websocket URL
 - 4. Get a parameter from URL
 - 5. Generate an UUID
 - 6. Browser detection object
 - 7. Workaround to play an audio in Safari 12 using a preloader
 - 8. Get a short meeting room participant Id

`util.js` module contains a various helper functions

Analyzing the source code

To analyze the source code take the `util.js` module version available [here](#)

1. Exclude a video codecs from SDP

`stripCodecs()` [code](#)

```

const stripCodecs = function(sdp, codecs) {
  if (!codecs.length) return sdp;
  var sdpArray = sdp.split("\n");
  var codecsArray = codecs.split(",");

  //search and delete codecs line
  var pt = [];
  var i;
  for (var p = 0; p < codecsArray.length; p++) {
    console.log("Searching for codec " + codecsArray[p]);
    for (i = 0; i < sdpArray.length; i++) {
      if (sdpArray[i].search(new RegExp(codecsArray[p], 'i')) !== -1 && sdpArray[i].indexOf("a=rtpmap")
=== 0) {
        console.log(codecsArray[p] + " detected");
        pt.push(sdpArray[i].match(/[0-9]+/)[0]);
        sdpArray[i] = "";
      }
    }
  }
  if (pt.length) {
    //searching for fmp
    for (p = 0; p < pt.length; p++) {
      for (i = 0; i < sdpArray.length; i++) {
        if (sdpArray[i].search("a=fmp:" + pt[p]) !== -1 || sdpArray[i].search("a=rtp-fb:" + pt[p]) !
== -1) {
          sdpArray[i] = "";
        }
      }
    }
  }

  //delete entries from m= line
  for (i = 0; i < sdpArray.length; i++) {
    if (sdpArray[i].search("m=audio") !== -1 || sdpArray[i].search("m=video") !== -1) {
      var mLineSplitted = sdpArray[i].split(" ");
      var newMLine = "";
      for (var m = 0; m < mLineSplitted.length; m++) {
        if (pt.indexOf(mLineSplitted[m].trim()) === -1 || m <= 2) {
          newMLine += mLineSplitted[m];
          if (m < mLineSplitted.length - 1) {
            newMLine = newMLine + " ";
          }
        }
      }
      sdpArray[i] = newMLine;
    }
  }
}

//normalize sdp after modifications
var result = "";
for (i = 0; i < sdpArray.length; i++) {
  if (sdpArray[i] !== "") {
    result += sdpArray[i] + "\n";
  }
}
return result;
}

```

2. Exclude all the video codecs from SDP but a certain codec

stripVideoCodecsExcept() [code](#)

```
const stripVideoCodecsExcept = function (sdp, codec) {
  let actualStripCodec = "rtx";
  if (codec === "VP8") {
    actualStripCodec += ",H264";
  } else if (codec === "H264") {
    actualStripCodec += ",VP8";
  } else {
    return sdp;
  }
  return stripCodecs(sdp, actualStripCodec);
}
```

3. Construct a server websocket URL

setURL() [code](#)

```
const setURL = function () {
  var proto;
  var url;
  var port;
  if (window.location.protocol == "http:") {
    proto = "ws://";
    port = "8080";
  } else {
    proto = "wss://";
    port = "8443";
  }

  url = proto + window.location.hostname + ":" + port;
  return url;
}
```

4. Get a parameter from URL

getUrlParam() [code](#)

```
const getUrlParam = function (name) {
  var url = window.location.href;
  name = name.replace(/[\\[\]]/g, "\\$&");
  var regex = new RegExp("[?&]" + name + "([^\&#]*)|&|#|$)",
    results = regex.exec(url);
  if (!results) return null;
  if (!results[2]) return '';
  return decodeURIComponent(results[2].replace(/\+/g, " "));
}
```

5. Generate an UUID

createUUID() [code](#)

```
const createUUID = function (length) {  
  var s = [];  
  var hexDigits = "0123456789abcdef";  
  for (var i = 0; i < 36; i++) {  
    s[i] = hexDigits.substr(Math.floor(Math.random() * 0x10), 1);  
  }  
  s[14] = "4";  
  s[19] = hexDigits.substr((s[19] & 0x3) | 0x8, 1);  
  s[8] = s[13] = s[18] = s[23] = "-";  
  
  var uuid = s.join("");  
  
  return uuid.substring(0, length);  
}
```

6. Browser detection object

Browser() [code](#)

```

const Browser = function() {
  const isIE = function () {
    return /*@cc_on!@*/false || !!document.documentMode;
  }

  const isFirefox = function () {
    return typeof InstallTrigger !== 'undefined';
  }

  const isChrome = function () {
    return !!window.chrome && /Chrome/.test(navigator.userAgent) && /Google Inc/.test(navigator.vendor) && !
/OPR/.test(navigator.userAgent);
  }

  const isEdge = function () {
    return !this.isIE() && !!window.StyleMedia;
  }

  const isOpera = function () {
    return (!!window.opr && !!opr.addons) || !!window.opera || navigator.userAgent.indexOf(' OPR/') >= 0;
  }

  const isiOS = function () {
    return /iPad|iPhone|iPod/.test(navigator.userAgent) && !window.MSStream;
  }

  const isSafari = function () {
    let userAgent = navigator.userAgent.toLowerCase();
    return /(safari|applewebkit)/i.test(userAgent) && !userAgent.includes("chrome") && !userAgent.includes
("android");
  }

  const isAndroid = function () {
    return navigator.userAgent.toLowerCase().indexOf("android") > -1;
  }

  const isSafariWebRTC = function () {
    return navigator.mediaDevices && this.isSafari();
  }

  const isSamsungBrowser = function () {
    return /SamsungBrowser/i.test(navigator.userAgent);
  }

  const isAndroidFirefox = function () {
    return this.isAndroid() && /Firefox/i.test(navigator.userAgent);
  }

  const isMobile = function () {
    return this.isAndroid() || this.isiOS();
  }

  return {
    isIE: isIE,
    isFirefox: isFirefox,
    isChrome: isChrome,
    isEdge: isEdge,
    isOpera: isOpera,
    isSafari: isSafari,
    isSafariWebRTC: isSafariWebRTC,
    isSamsungBrowser: isSamsungBrowser,
    isAndroid: isAndroid,
    isiOS: isiOS,
    isAndroidFirefox: isAndroidFirefox,
    isMobile: isMobile
  }
}

```

7. Workaround to play an audio in Safari 12 using a preloader

playFirstSound() [code](#)

```
const playFirstSound = function (parent, preloader) {
  return new Promise(function (resolve, reject) {
    let audio = document.createElement("audio");
    audio.controls = "controls";
    audio.muted = true;
    audio.hidden = true;
    audio.preload = "auto";
    audio.type="audio/mpeg";
    if (preloader) {
      audio.src = preloader;
      parent.appendChild(audio);
      audio.play().then(function() {
        audio.remove();
        resolve();
      }).catch(function (e) {
        console.error("Can't play preloader: " + e);
        reject();
      });
    }
    return;
  })
  .then(resolve());
};
```

8. Get a short meeting room participant Id

getShortUserId() [code](#)

```
const getShortUserId = function (userId) {
  return userId.substring(0, 4);
}
```