# stats.js

`stats.js` module contains the functions to check WebRTC statistics parameters and to detect their leaps above a thresholds defined

## Analyzing the source code

To analyze the source code take the `stats.js` module version available here

### Parameter leaps detection

**1. Parameter initialization**

`Threshold()` code

Where:

- parameter name and a maximum leap threshold value are stored
- Kalman filter is created for the parameter

```
const threshold = {
    parameter: parameter,
    maxLeap: maxLeap,
    filter: SFU.createFilter(),
    previousValue: -1,
    ...
}
```

**2. Receiving WebRTC statistics data array and checking the parameter value**

`Threshold.isReached()` code

Where:

- current parameter value is passed through the Kalman filter
- if the value exeeds the threshold, parameter leap is detected

```
isReached: function(stats) {
    let hasLeap = false;
    if (stats && parameter in stats) {
        let value = threshold.filter.filter(stats[parameter]);
        if (threshold.previousValue > -1) {
            if (Math.round(Math.abs(value - threshold.previousValue)) >
maxLeap) {
```

```
                    hasLeap = true;
                }
            }
            threshold.previousValue = value;
        }
        return hasLeap;
    }
```

## Parameters list handling

### 1. Adding parameter to list

`Thresholds.add()` code

```
add: function(parameter, maxLeap) {
    if (!thresholds.thresholds[parameter]) {
        thresholds.thresholds[parameter] = new Threshold(parameter, maxLeap);
    }
},
```

### 2. Removing parameter from list

`Thresholds.remove()` code

```
remove: function(parameter) {
    if (thresholds.thresholds[parameter]) {
        delete thresholds.thresholds[parameter];
    }
},
```

### 3. Receiving WebRTC statistics data array and checking the values

`Thresholds.isReached()` code

```
isReached: function(stats) {
    let result = false;
    Object.keys(thresholds.thresholds).forEach((key) => {
        result = result || thresholds.thresholds[key].isReached(stats);
    });
    return result;
}
```