

Custom Sauce Labs WebDriver Extensions for Network and Log Commands

To enable networking capabilities for tests and generate custom log files, use these Sauce Labs options for the Selenium [JavaScript Executor](#) and our [extended debugging features](#). You can find more examples of this feature written in Node.js, Python, and Java [on GitHub](#).

You must have Extended Debugging enabled to use these commands.



Chrome Only

This feature is available only for testing web applications with the Google Chrome browser.

See the following sections for more information:

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Test Environment Tools

Test Environment Tools simulate network conditions and manipulate network requests to analyze and improve test performance.

Intercept Network Requests

Allows modification of requests made by the browser. You can alter these as your tests require:

- Blacklist requests to 3rd party vendors
- Modify requests to REST API (Mock REST API response)
- Redirect certain parts of the app
- Insert or change headers

JavaScript Executor Command	Request Parameters	Sample Code
<pre>sauce: intercept + redirect</pre>	<p>url: a string that matches an outgoing request URL. Wildcards are supported, for example <code>https://saucelabs.com/rest/v1/*</code> would match all v1 rest API requests.</p> <p>redirect is a string representing an absolute URL where the original request is redirected. In the example, this is <code>https://google.com</code></p>	<pre>driver.execute_script('sauce: intercept', { "url": "https://saucelabs.com", "redirect": "https://google.com" })</pre>
<pre>sauce: intercept + response</pre>	<p>url: a string that matches an outgoing request URL. Wildcards are supported, for example <code>https://saucelabs.com/rest/v1/*</code> would match all v1 rest API requests.</p> <p>response: an object that represents the response to send when the requested URL is intercepted. There are three options:</p> <ul style="list-style-type: none"> • statusCode: number representing the request status (200) • headers: list of key/value pairs that is set as header variables, for example <code>Cookie: "foo=bar"</code> • rawResponse: actual response payload as a string 	<pre>driver.execute_script("sauce: intercept", { "url": "http://sampleapp. appspot.com/api/todos", "response": { "headers": { "x-custom-header": "foobar" }, "body": [{ "title": "Hello", "order": 1, "completed": false, "url": "http://todo- backend-express.herokuapp.com/15727" }] } })</pre>
<pre>sauce: intercept+ error</pre>	<p>url: a string that matches an outgoing request URL. Wildcards are supported, for example <code>https://saucelabs.com/rest/v1/*</code> would match all v1 rest API requests.</p> <p>error: error values are:</p> <ul style="list-style-type: none"> • 'Failed' • 'Aborted' • 'TimedOut' • 'AccessDenied' • 'ConnectionClosed' • 'ConnectionReset' • 'ConnectionRefused' • 'ConnectionAborted' • 'ConnectionFailed' • 'NameNotResolved' • 'InternetDisconnected' • 'AddressUnreachable' 	<pre>driver.execute_script("sauce: intercept", { "url": "https://saucedon.com /wp-content/uploads/2017/07/SauceCon- hero-img-100-2.jpg", error: "Failed" })</pre>

Network Intercept Example

Python example

```

driver.execute_script('sauce:intercept', {
  "url": "https://saucelabs.com",
  "redirect": "https://google.com"
})
# or
driver.execute_script('sauce:intercept', {
  "url": "https://saucelabs.com/res7/v1/build/32hmv4j32v4j2j3v4j24v232vj4j",
  "response": {
    "statusCode": 200,
    "headers": {
      "etag": "3244224432",
      "Cookie": "foo=bar",
      ...
    },
    "rawResponse": "{\"username\": \"...\""}
  }
})

```

Throttle CPU Capabilities

Mobile devices have less CPU power than most desktops and laptops (or a VM's default configuration). You can use CPU Throttling to simulate how your app will run on slower systems, helping you identify possible performance issues.

JavaScript Executor Command	Request Parameters	Example
sauce: throttleCPU	rate: a number defining the amount of slowdown (e.g. 2 ~ 2x slowdown, your CPU will be 2 times slower than usual)	<pre> driver.execute_script ('sauce:throttleCPU', { "rate": 4 }) </pre>

Throttle Network Capabilities

With network conditioning you can test your site on a variety of network connections, including Edge, 3G, and even offline. You can throttle the data throughput, including the maximum download and upload throughput, and use latency manipulation to enforce a minimum delay in connection round-trip time (RTT).

JavaScript Executor Command	Request Parameters	Example
sauce:throttleNetwork	condition: a string or object representing browser network conditions.	<pre> driver.execute_script('sauce: throttleNetwork', { "condition": "GPRS" }) # or driver.execute_script('sauce: throttleNetwork', { "condition": { "download": 1000, "upload": 500, "latency": 40 } }) </pre>

Strings

Profile Name	Download Speed (kb/s)	Upload Speed (kb/s)	Round Trip Time (ms)
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offline	0	0	0
GPRS	50	20	500
Regular 2G	250	50	300
Good 2G	450	150	150
Regular 3G	750	250	100
Good 3G	1Mb/s	750	40
Regular 4G	4Mb/s	3Mb/s	20ms
DSL	2Mb/s	1Mb/s	5ms
WiFi	30Mb/s	15Mb/s	2ms
online	No Restrictions	No Restrictions	No Restrictions

Custom objects

You can create custom network conditions with objects. You must define the download speed (in bytes/second), upload speed (in bytes/second), and latency (in milliseconds) for the custom condition, as shown in the example.

Extended Debugging Tools

Extended Debugging Tools provide additional logs to analyze test performance.

Network Log

The Sauce Labs `network` log records all network requests being made by the page currently open in the browser.

Log Type	Response
saucenetwork	<p>Sample response</p> <pre>[{ "url": "http://saucelabs.com/beta/dashboard", "statusCode": 200, "method": "GET", "requestHeaders": { ... }, "responseHeaders": { ... }, "timing": { "blocked": -1, "connect": -1, "dns": -1, "receive": 0, "send": 0, "ssl": -1, "wait": 0 } }, { ... }]</pre>

Performance Log

The Sauce Labs `performance` log contains performance-related metrics.

Log Type	Response
saucenetwork	<p>Sample response</p> <pre>{ "load": 1083, "speedIndex": 905, "firstInteractive": 1073, "firstVisualChange": 576, "lastVisualChange": 1243, "firstMeaningfulPaint": 1239, "firstCPUIdle": 1239, "timeToFirstByte": 69, "firstPaint": 559, "estimatedInputLatency": 16, "firstContentfulPaint": 630, "score": 0.9947067807295903, "domContentLoaded": 1073 }</pre>

