

Getting Started With Load Testing

**Let's have a chat about
performance testing**

**Why should I
load test?**

A young child with light brown hair is looking through the eyepiece of a microscope. The child is wearing a white lab coat. The background is a laboratory setting with various pieces of equipment and a blue surface. The text "Four kinds of performance testing" is overlaid in a large, bold, teal font.

Four kinds of performance testing

A close-up photograph of a man with short brown hair, eyes closed, and a serene expression, meditating in the rain. He is wearing a white t-shirt. The background is dark, with vertical streaks of rain falling. The text "Stress testing" is overlaid in a large, bold, teal font across the center of the image.

Stress testing



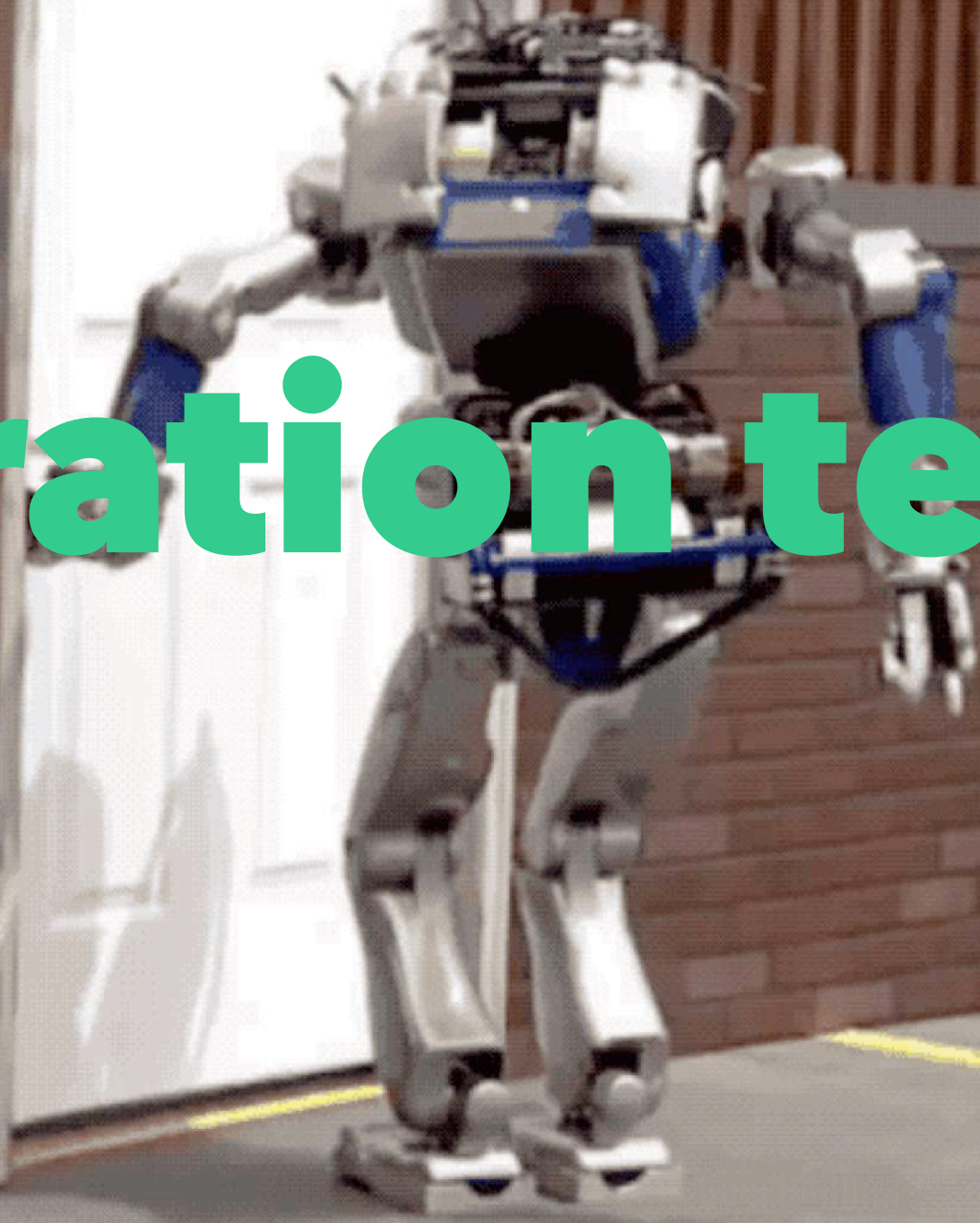
Spike testing

Endurance testing

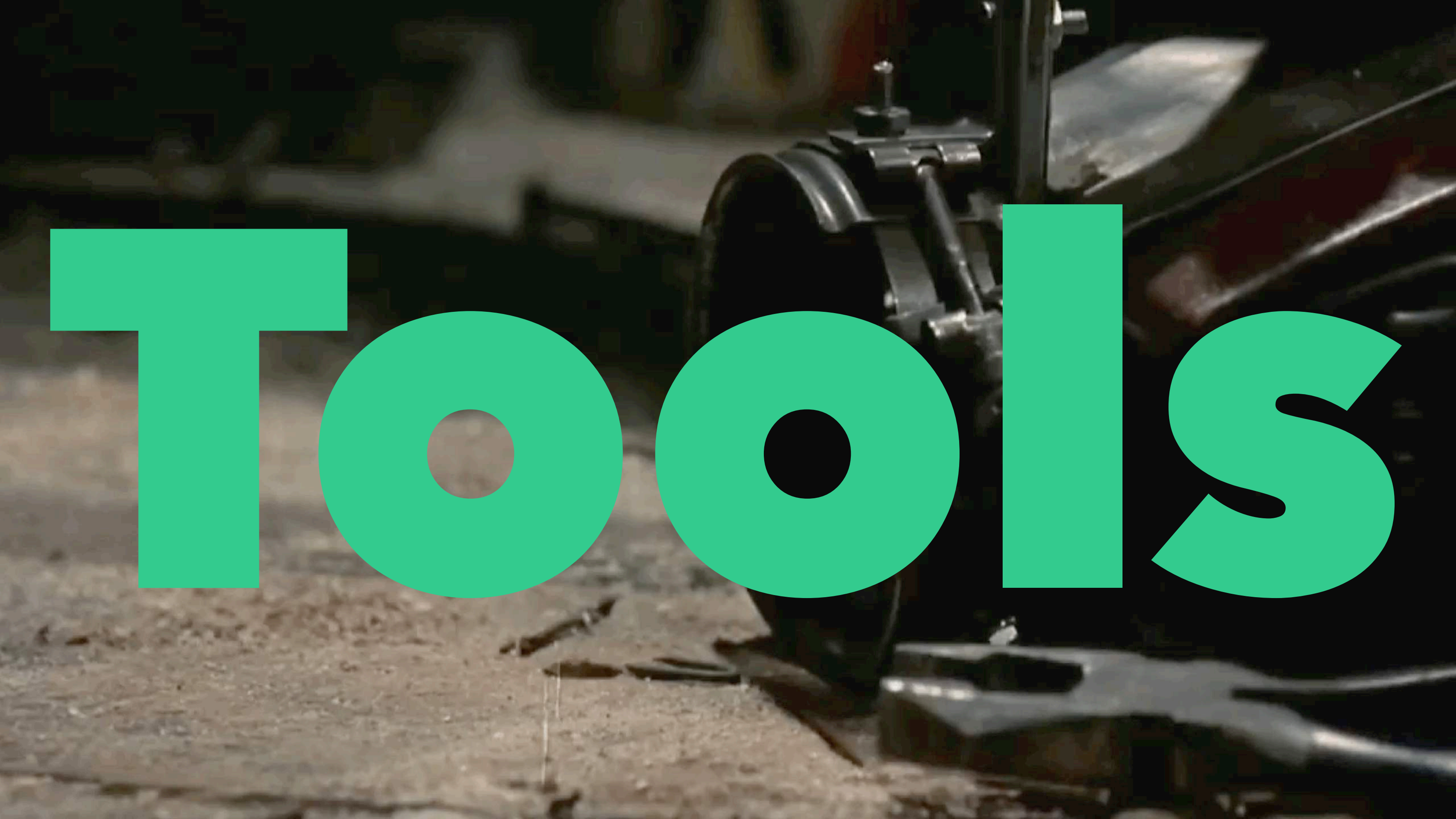
A scene from the movie 'Batman Returns' showing Batman and Robin walking down a city street. Batman is on the right, wearing his iconic black and grey suit with a yellow bat emblem on the chest. Robin is on the left, wearing his red and yellow suit. The background shows a city street with buildings and cars.

DANGER
CONSTRUCTION AREA
KEEP OUT

Configuration testing



YMMMV



Tools

ApacheBench

ApacheBench Gotchas

- Single threaded.
- Not good for benchmarking high capacity servers.
- Works best when run from the same server as your site.
- Can only hit one URL at a time.
- Not much actionable data.
- Not a real browser test.
- No HTTP/2 support.

Using ApacheBench

```
ab -n 100 -c 10 https://jasoncosper.com/
```

Translation: Have ApacheBench send 100 requests to my site. There should be no more than 10 requests running concurrently.

**If you have macOS
you have ApacheBench**

Installing ApacheBench

If you're using Ubuntu to do your development work:

```
apt install apache2-utils
```

h2load

h2load > ApacheBench

- HTTP/2 *and* HTTP/1.1 support out-of-the-box!
- It's multithreaded!
- Support for more than one URL!

h2load Gotchas

- Limited actionable data.
- Not a real browser test.
- Best run from the same server as your site.

Using h2load

```
h2load -n1000 -c100 -m10 https://jasoncosper.com/ https://jasoncosper.com/podcasts/
```

Translation: Have h2load send 1000 requests to two URLs with 100 concurrent clients. And please don't go over 10 concurrent streams.

h2load Output

finished in 7.43s, 134.60 req/s, 3.48MB/s

requests: 1000 total, 1000 started, 1000 done, 1000 succeeded, 0 failed, 0 errored, 0 timeout

status codes: 1000 2xx, 0 3xx, 0 4xx, 0 5xx

traffic: 25.85MB (27110684) total, 484.65KB (496284) headers (space savings 21.07%), 25.33MB (26555500) data

	min	max	mean	sd	+/- sd
time for request:	273.54ms	6.27s	1.90s	1.13s	67.70%
time for connect:	1.09s	4.21s	1.98s	723.85ms	63.00%
time to 1st byte:	1.49s	4.84s	2.53s	792.93ms	66.00%
req/s :	1.35	4.30	2.11	0.56	80.00%

Installing h2load
<https://goo.gl/a6Bs22>

JMeter



00:00:00 0

Test Plan
WorkBench

Test Plan

Name: Test Plan

Comments:

User Defined Variables

Name:	Value

Detail Add Add from Clipboard Delete Up Down

- Run Thread Groups consecutively (i.e. run groups one at a time)
- Run tearDown Thread Groups after shutdown of main threads
- Functional Test Mode (i.e. save Response Data and Sampler Data)

Selecting Functional Test Mode may adversely affect performance.

Add directory or jar to classpath

Library

Apache JMeter

- Created to test production web apps.
- Ridiculously configurable and extendable.
- Cross-platform (Mac, Windows, Linux)
- Fully multithreaded.
- GUI *and* CLI.
- Distributed remote testing support.

Installing JMeter
<https://goo.gl/FnSVCY>

**Creating test plans
is easyish**

**Don't test production environments
from your laptop**

A cartoon illustration of a character with yellow skin, wearing a blue cap and a pink shirt, standing in a room. The room has a wooden desk with a lamp, a calendar, and a sign that says "WRLIS THE KNOW SH". The character is looking to the right. The background is a mix of blue, green, and brown tones.

Flood.io

<https://flood.io/>

BlazeMeter

<https://www.blazemeter.com/>

There is another...



Load Impact

<https://loadimpact.com/>

Real world scenarios

**Google Analytics
is your friend**

Primary Dimension: **Page** Page Title Other ▾

Plot Rows

Secondary dimension ▾

Sort Type:

Default ▾

<input type="checkbox"/>	Page ?	Pageviews ? ↓	Unique Pageviews ?	Avg. Time on Page ?
		2,729 % of Total: 100.00% (2,729)	2,595 % of Total: 100.00% (2,595)	00:03:38 Avg for View: 00:03:38 (0.00%)
<input type="checkbox"/>	1. /coconut-oil-hair-mask-results-show/	723 (26.49%)	698 (26.90%)	00:10:16
<input type="checkbox"/>	2. /2-crazy-2-b-4gotten/	427 (15.65%)	417 (16.07%)	00:05:05
<input type="checkbox"/>	3. /	272 (9.97%)	245 (9.44%)	00:01:41
<input type="checkbox"/>	4. /trader-joes-coconut-body-butter/	97 (3.55%)	92 (3.55%)	00:05:41
<input type="checkbox"/>	5. /wet-brush-review/	90 (3.30%)	82 (3.16%)	00:04:19
<input type="checkbox"/>	6. /origins-clear-improvements-active-charcoal-mask/	88 (3.22%)	82 (3.16%)	00:02:43
<input type="checkbox"/>	7. /lush-lust-perfume/	78 (2.86%)	75 (2.89%)	00:06:55
<input type="checkbox"/>	8. /glamglow-tingling-exfoliating-mud-mask-review/	72 (2.64%)	70 (2.70%)	00:16:32
<input type="checkbox"/>	9. /sephora-precision-pore-cleansing-pad/	60 (2.20%)	55 (2.12%)	00:07:31
<input type="checkbox"/>	10. /about/	56 (2.05%)	52 (2.00%)	00:00:24

Useful Filters

- `?s`
- `product`
- `category`
- `tag`

A close-up photograph of a hand pouring orange juice from a clear plastic pitcher into a clear glass. The juice is bright orange and is captured mid-pour, creating a dynamic sense of movement. The background is a solid, dark red color. Overlaid on the image is large, bold, teal-colored text.

**Bringing it
all together**

WooCommerce Test Plans

- Browse site.
- Browse site, perform multiple searches.
- Add products to cart, check out.
- Log in, browse site.
- Log in, visit "My Account" page.
- Log in, add products to cart, check out.

YMMMV



**Okay, but
how many users?**

A woman with dark hair, wearing a white top with a red and white patterned sash, is speaking at a podium. A microphone is positioned in front of her. The background is dark and out of focus.

Push it

real good

My limit

seems kinda low



That's my time.
Thanks!!

@boogah

<https://jasoncospers.com/>

<https://hipsum.co/>