

Poster (album.me) (whatsup.me)

Testing & Performance Considerations

- Static Files storage and retrieval
- Database transaction speed
- Load balancing and Data Transfer
- Local Improvements & Web Improvements

Tests

Select user to change | Django site admin

Select user to change | Django ...

SQL queries from 1 connection

default
5.02 ms (5 queries)

Query	Timeline	Time (ms)	Action
<code>SELECT ... FROM "django_session" WHERE ("django_session"."session_key" = 'n30kmicaz0e7j1hte50a4x01z5hwtf6c' AND "django_session"."expire_date" > '2013-12-21 03:26:09.232862')</code>		1.71	Sel Expl
<code>SELECT ... FROM "auth_user" WHERE "auth_user"."id" = 1</code>		1.01	Sel Expl
<code>SELECT ... FROM "auth_group"</code>		0.43	Sel Expl
<code>SELECT ... FROM "auth_user"</code>		0.68	Sel Expl
<code>SELECT ... FROM "auth_user" ORDER BY "auth_user"."username" ASC, "auth_user"."id" DESC</code>		1.19	Sel Expl

Hide »

Versions
DJANGO 1.6

Time
CPU: 119.44ms (126.50ms)

Settings

Headers

Request

SQL
5 QUERIES IN 5.02MS

Templates

Static files
10 FILES USED

Response testing
Measure how long the page takes to load and render.

- Django Debug Toolbar (database queries)
- Google PageSpeed (site optimization)
- Browser check (loading time)

Google Developers

Products > PageSpeed Insights

PageSpeed Insights

http://google.com/ ANALYZE

Mobile Desktop

78 / 100 Speed

Should Fix:
Avoid landing page redirects
Show how to fix

Consider Fixing:
Optimize Images
Show how to fix
Minify JavaScript
Show how to fix

3270400427_d67464d5bb.jpg

✓	Method	File	Domain	Type	Size	0 ms	80 ms	160 ms	240 ms	320 ms	400 ms	480 ms	560 ms
200	GET	/	localhost:8000	html	1.50 KB								
304	GET	bootstrap.min.css	netdna.bootstrapcdn.com	css	114.40 KB								
304	GET	3270400427_d67464d5bb.jpg	localhost:8000	jpeg	257.53 KB								

3 requests, 373.45 KB, 0.14 s Clear

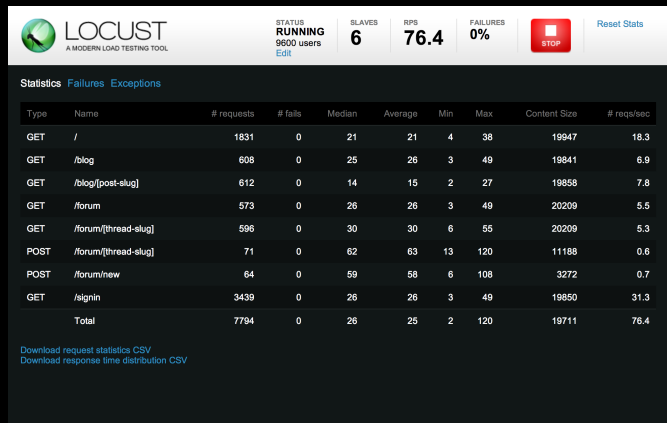
Performance Tests



Munin: Measure and track performance of hardware and software. Tracks difference

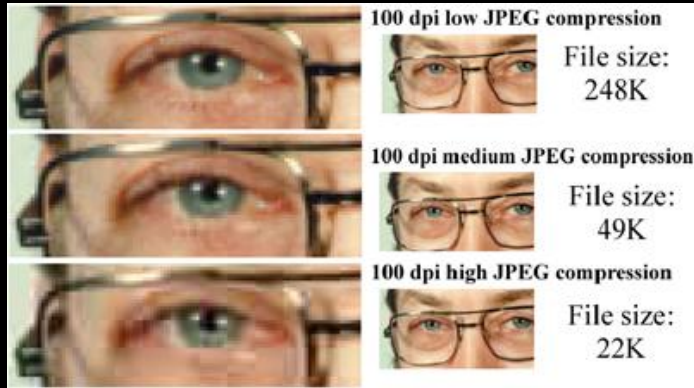


Apache Bench: Stress testing a web server by sending tons of requests and measuring performance



Locust.io: Stress testing a web server through this python API. Allows for user behavior definitions, and up to millions of concurrent user requests.

Improvement



```
styles_min.css - Notepad
File Edit Format View Help
@charset "utf-8";html{margin:0;padding:0}body{font:75% georgia,sans-serif;line-height:1.88889;color:#555553;background:#fff url(blossoms.jpg) no-repeat bottom right;margin:0;padding:0}p{margin-top:0;text-align:justify}h3{font:italic normal 1.4em georgia,sans-serif;letter-spacing:1px;margin-bottom:0;color:#7d75c1a;link{font-weight:bold;text-decoration:none;color:#b7a5df}a:visited{font-weight:bold;text-decoration:none;color:#d4cddc}a:hoover,a:focus,a:active{text-decoration:underline;color:#9685ba}abbr{border-bottom:0}p{background:url(zen-bg.jpg) no-repeat top left;padding:0 175px 0 110px;margin:0;position:relative}.Intro{min-width:470px;width:100%;header h1{background:transparent url(h1.gif) no-repeat top left;margin-top:10px;display:block;width:219px;height:87px;float:left;text-indent:100%;white-space:nowrap;overflow:hidden}header h2{background:transparent url(h2.gif) no-repeat top left;margin-top:58px;margin-bottom:40px;width:200px;height:18px;float:right;text-indent:100%;white-space:nowrap;overflow:hidden}header {padding-top:20px;height:87px}.summary{clear:both;margin:20px 20px 20px 10px;width:160px;float:left}.summary p{font:italic 1.1em/2.2 georgia;text-align:center}.preamble{clear:right;padding:0 10px 0 10px}.supporting{padding-left:10px;margin-bottom:40px}footer{text-align:center}footer a:link,footer a:visited{margin-right:20px}.sidebar {margin-left:600px;position:absolute;top:0;right:0}.sidebar .wrapper{font:10px verdana,sans-serif;background:transparent url(paper-bg.jpg) top left repeat-y;padding:10px;margin-top:150px;width:130px}.sidebar h3.select{background:transparent url(h3.gif) no-repeat top left;margin:10px 0 5px 0;width:97px;height:16px;text-indent:100%;white-space:nowrap;overflow:hidden}.sidebar h3.archives{background:transparent url(h5.gif) no-repeat top left;margin:25px 0 5px 0;width:63px;height:10px;text-indent:100%;white-space:nowrap;overflow:hidden}.sidebar h3.resources{background:transparent url(h6.gif) no-repeat top left;margin:25px 0 5px 0;width:63px;height:10px;text-indent:100%;white-space:nowrap;overflow:hidden}.sidebar ul{margin:0;padding:0}.sidebar li{line-height:1.3em;background:transparent url(cr1.gif) no-repeat top center;display:block;padding-top:5px;margin-bottom:5px;list-style-type:none}.sidebar li a:link{color:#988f5e}.sidebar li a:visited{color:#b3a994}.extra{background:transparent url(cr2.gif) top left no-repeat;position:absolute;top:40px;right:0;width:148px;height:110px}
```

Images:

- Compression (django imagekit)
- Serve off CDN
- Optimize for web (resize and use jpg/png)
- Use Sprites (reduce network requests)

Files:

- Minimize CSS/JS files
- Reduce file size (GZip)
- Load JS near end of body

Django:

- Reduce abstraction (operate on db level)

Off Load



Off load resources to other companies.

- S3 to service static files (fast and cheap)
- Amazon Web Service to run the server (scalable and reliable)
- Cloudflare for DNS managing and caching, and website optimization



Caching

Johnny-Cache Package

- Django Caching

Framework Package

- Uses Memcached API
- Increase response time

Template Caching

- Cached.Loader to reduce recompiling of templates

