

# Odoo CMS

## performance comparison & optimization

Mantavya Gajjar - Director, Odoo India

- Introduction
  - Products to compare
  - Testing Environments
- Test Cases - Home, Catalog, Product
  - Performance
  - Scalability
  - Maintainability
- Conclusion
- Optimisation in Odoo
  - Performance
  - Scalability



## Products to compare

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### E-Commerce Products



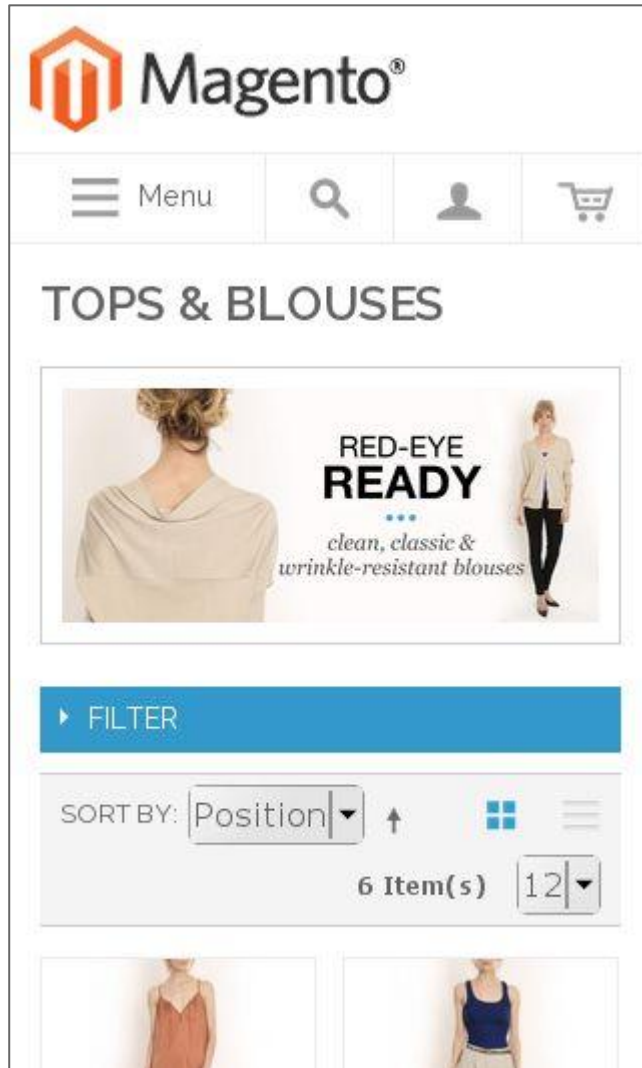
### CMS Products



# E-Commerce products

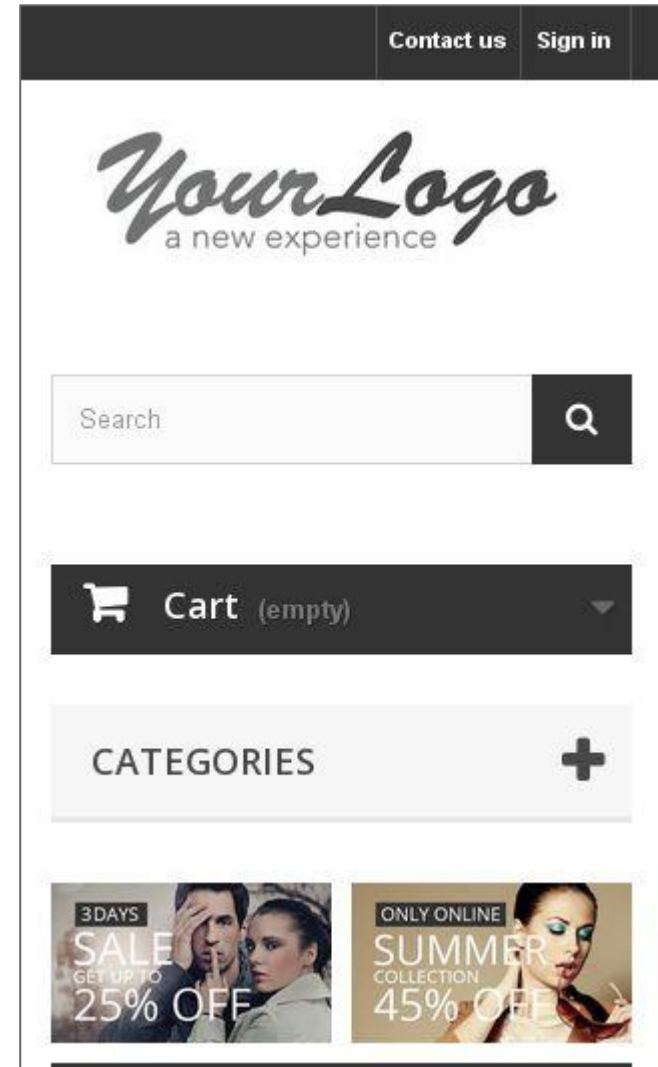
- Installed version
  - current stable for saas, saas~6
- installed data
  - demo data comes with product
- modules installed
  - standard, required to run website and e-commerce, 41 modules
- Try it yourself
  - <http://test.odoo.asia/shop>





- Installed version
  - current stable 1.9.0.1 release
- installed data
  - installed demo data from <http://bit.ly/1AuTJBH>
- modules installed
  - standard installation, 31 modules
- Try it yourself
  - <http://magento.odoo.asia>

- Installed version
  - Prestashop v1.6.0.14 final release
- installed data
  - demo data installed with standard installation
- modules installed
  - standard installation, 69 module installed
- Try it yourself
  - <http://prestashop.odoo.asia>



# Performance

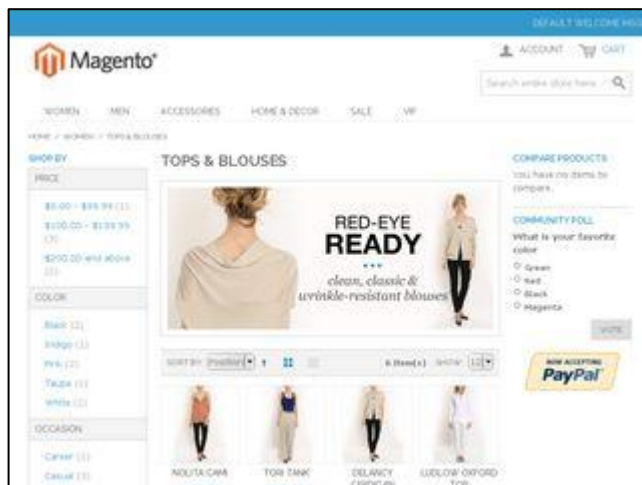
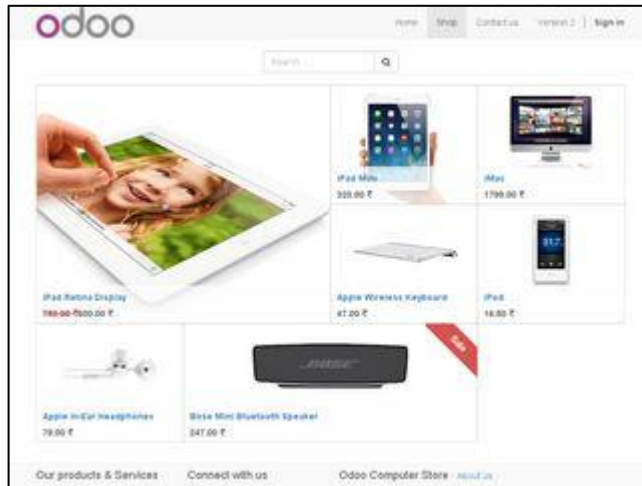
Google PageSpeed Insight & Pingdom

Product catalog





# Product catalog





# Product catalog - desktop

Product Catalog Desktop View	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
Ratings	75	76	67
Render blocking JavaScript	2	29	25
Render blocking CSS	2	3	32
Minify JavaScript	1.5 kb	35.5 kb	18 kb
Minify CSS	1.4 kb	8.5 kb	4.3 kb
Minify HTML	✓	906 bytes	1.6 kb
Leverage browser caching	✓	✓	✗
Avoid landing page redirects ?	✓	✓	✓
Response time	0.61 sec	1.3 sec	0.50 sec

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**



# Product catalog - mobile

Product Catalog Mobile View	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
Ratings	98	98	99
Legible Font Size	✓	✓	✓
Size Tap Target Appropriately	✓	✗	✗
Viewport Configured	✓	✓	✓
Viewport Content Size	✓	✓	✓

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**



# Resource load to render page

Product Catalog	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)																																													
Performance Grade	89	97	58																																													
Number of Requests	16	50	105																																													
Number of JavaScript	3	29	32																																													
Number of CSS	2	3	27																																													
Number of Images	8	13	36																																													
Page Size	747.5 kb	462.3 kb	1 mb																																													
Load Time	2.45s	3.91s	4.73s																																													
	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>53.17%</td><td><div></div></td></tr><tr><td>Receive</td><td>31.09%</td><td><div></div></td></tr><tr><td>Connect</td><td>10.80%</td><td><div></div></td></tr><tr><td>DNS</td><td>4.95%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	53.17%	<div></div>	Receive	31.09%	<div></div>	Connect	10.80%	<div></div>	DNS	4.95%	<div></div>	Send	0.00%	<div></div>	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>53.17%</td><td><div></div></td></tr><tr><td>Receive</td><td>31.09%</td><td><div></div></td></tr><tr><td>Connect</td><td>10.80%</td><td><div></div></td></tr><tr><td>DNS</td><td>4.95%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	53.17%	<div></div>	Receive	31.09%	<div></div>	Connect	10.80%	<div></div>	DNS	4.95%	<div></div>	Send	0.00%	<div></div>	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>53.17%</td><td><div></div></td></tr><tr><td>Receive</td><td>31.09%</td><td><div></div></td></tr><tr><td>Connect</td><td>10.80%</td><td><div></div></td></tr><tr><td>DNS</td><td>4.95%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	53.17%	<div></div>	Receive	31.09%	<div></div>	Connect	10.80%	<div></div>	DNS	4.95%	<div></div>	Send	0.00%	<div></div>
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Let's have a look at video <https://youtu.be/tTHuZrxYBE0> loading page



# Summary

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Odoo Product catalog is

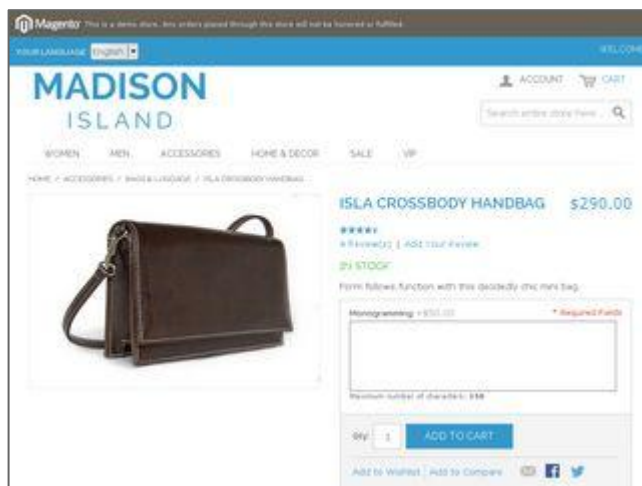
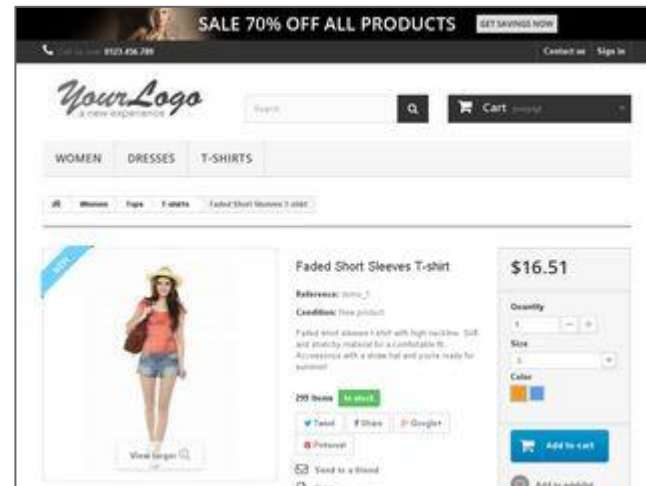
- 59% faster than Magento Product catalog
- 93% faster than Prestashop Product catalog

# Performance

Google PageSpeed Insight & Pingdom

Product page

# Product page





# Product page - desktop

Product Page Desktop View	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
Ratings	82	76	67
Render blocking JavaScript	2	29	25
Render blocking CSS	2	3	32
Minify JavaScript	1.5 kb	35.5 kb	18 kb
Minify CSS	1.4 kb	8.5 kb	4.3 kb
Minify HTML	✓	906 bytes	1.6 kb
Leverage browser caching	✗	✓	no
Avoid landing page redirects ?	✓	✓	✓
Response time	0.88 sec	1.3 sec	0.50 sec

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**





# Product page - mobile

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Product Page Mobile View	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
Ratings	100	98	99
Legible Font Size	✓	yes	yes
Size Tap Target Appropriately	✓	✗	✗
Viewport Configured	✓	✓	✓
Viewport Content Size	✓	✓	✓

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**



# Resource load to render page

Product Page	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)																																													
Performance Grade	87	97	58																																													
Number of Requests	12	46	83																																													
Number of JavaScript	3	32	29																																													
Number of CSS	2	4	34																																													
Number of Images	4	7	17																																													
Page Size	366.8 kb	389.6 kb	416.9 kb																																													
Load Time	3.48 s	2.55 s	5.18 s																																													
	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>52.11%</td><td><div></div></td></tr><tr><td>Receive</td><td>33.48%</td><td><div></div></td></tr><tr><td>Connect</td><td>14.37%</td><td><div></div></td></tr><tr><td>DNS</td><td>0.04%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	52.11%	<div></div>	Receive	33.48%	<div></div>	Connect	14.37%	<div></div>	DNS	0.04%	<div></div>	Send	0.00%	<div></div>	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>75.23%</td><td><div></div></td></tr><tr><td>Connect</td><td>8.54%</td><td><div></div></td></tr><tr><td>DNS</td><td>8.16%</td><td><div></div></td></tr><tr><td>Receive</td><td>8.07%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	75.23%	<div></div>	Connect	8.54%	<div></div>	DNS	8.16%	<div></div>	Receive	8.07%	<div></div>	Send	0.00%	<div></div>	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>85.99%</td><td><div></div></td></tr><tr><td>Receive</td><td>6.67%</td><td><div></div></td></tr><tr><td>Connect</td><td>5.32%</td><td><div></div></td></tr><tr><td>DNS</td><td>2.02%</td><td><div></div></td></tr><tr><td>Send</td><td>0.00%</td><td><div></div></td></tr></table></div>	Wait	85.99%	<div></div>	Receive	6.67%	<div></div>	Connect	5.32%	<div></div>	DNS	2.02%	<div></div>	Send	0.00%	<div></div>
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Wait	85.99%	<div></div>																																														
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Send	0.00%	<div></div>																																														

Let's have a look at video <https://youtu.be/kmwqYwnO-1o> loading page



# Summary

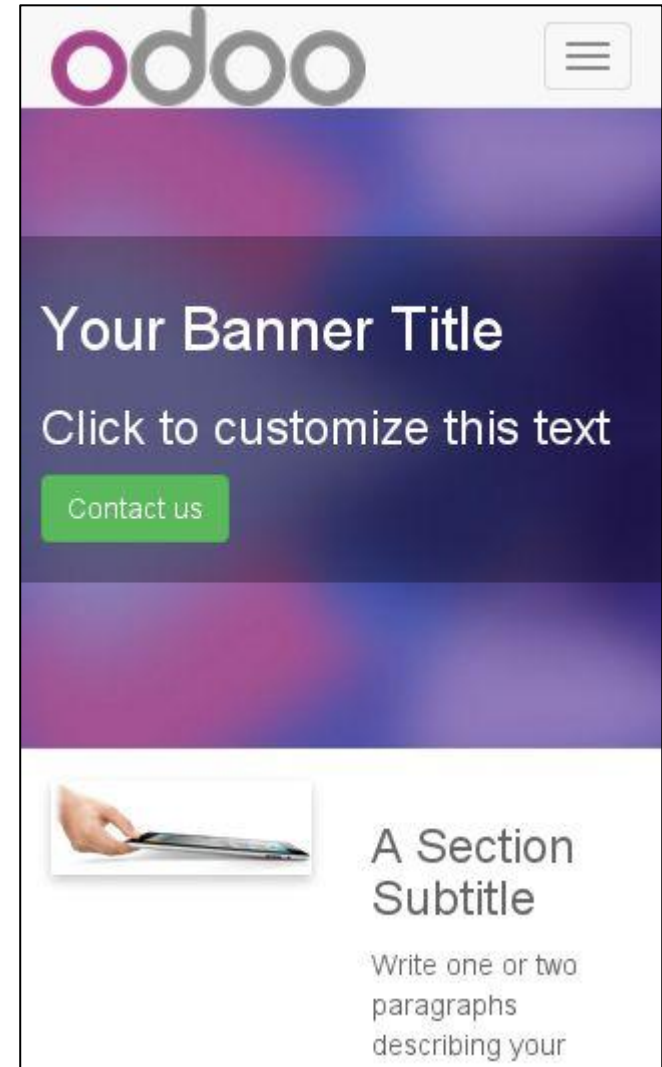
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Odoo Product page is

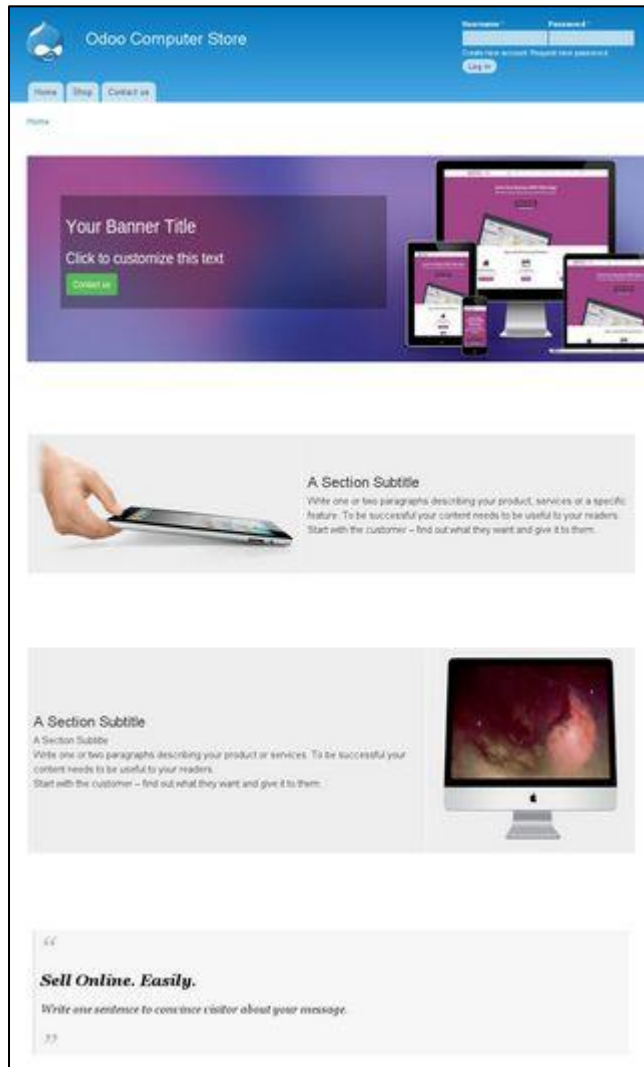
- 36% slower than Magento Product page
- 48% faster than Prestashop Product catalog

CMS products

- Installed version
  - current stable for saas, saas~6
- installed data
  - create a homepage with slider, images and text
- modules installed
  - standard, required to run website and e-commerce, 41 modules
- Try it yourself
  - <http://test.odoo.asia>

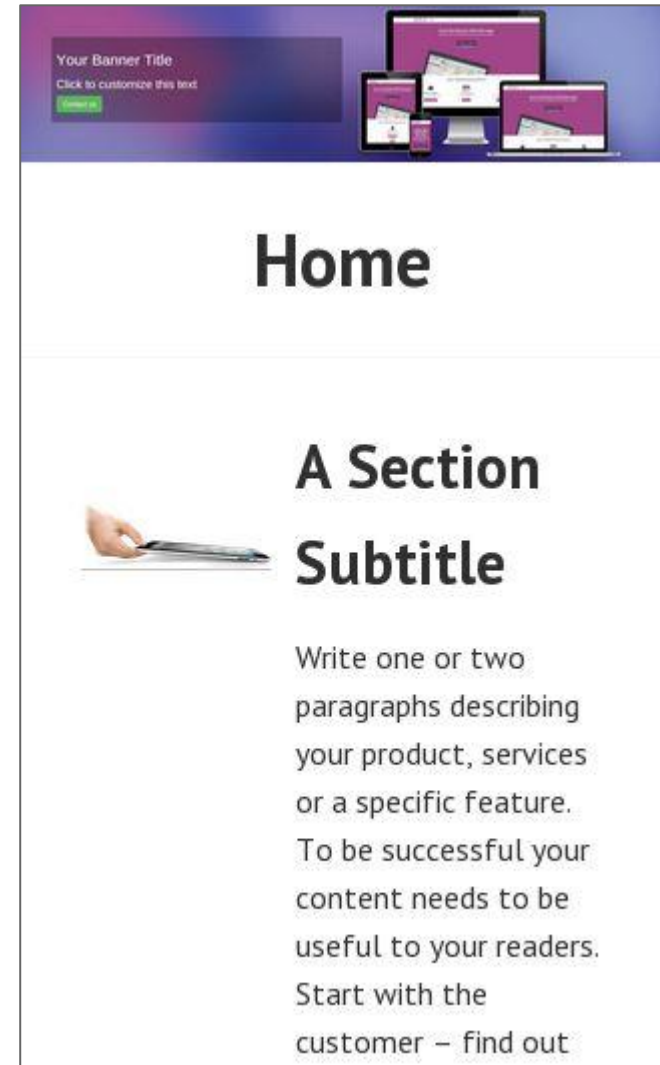


# Drupal as CMS



- Installed version
  - current stable Drupal-7.37 release
- installed data
  - create same page like odoo homepage
- modules installed
  - standard, installed core modules, 31 installed
- Try it yourself
  - <http://drupal.odoo.asia>

- Installed version
  - current stable wordpress-4.2.4 release
- installed data
  - create same page like odoo homepage
- modules installed
  - core installations, not plugins installed
- Try it yourself
  - <http://wordpress.odoo.asia>



# Performance

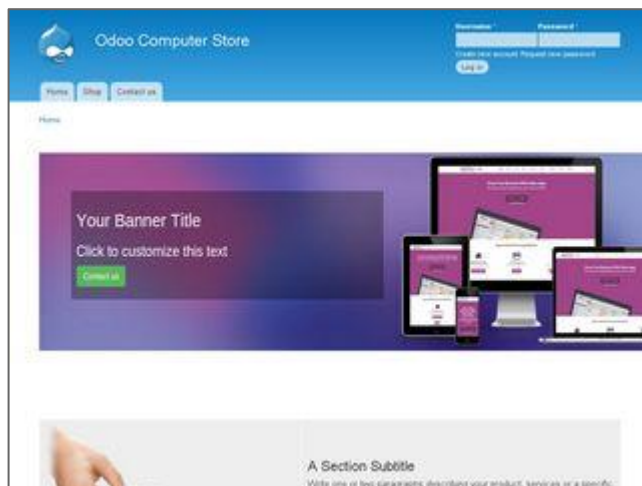
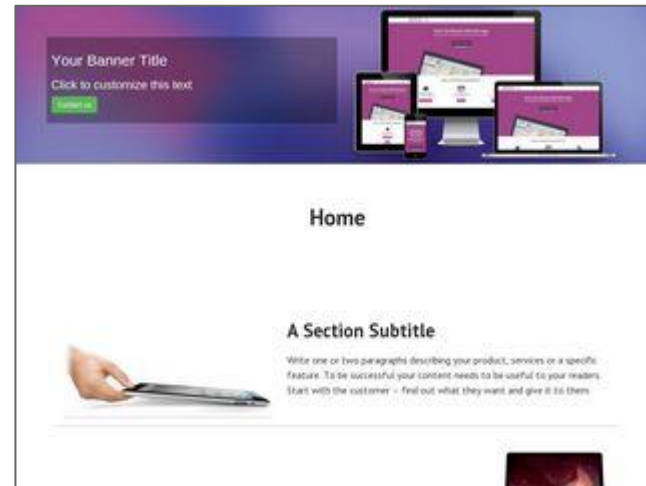
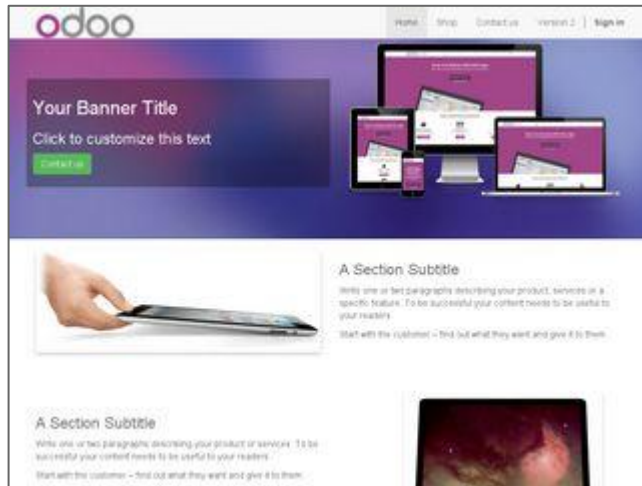
Google PageSpeed Insight & Pingdom

Homepage





# Homepage





# Homepage - desktop

Homepage Desktop View	Odoo (v saas~6)	Drupal (v 7.37)	Wordpress (v 4.2.2)
Ratings	87	88	79
Render blocking JavaScript	2	3	2
Render blocking CSS	2	13	6
Minify JavaScript	1.5 kb	3.9 kb	✓
Minify CSS	1.4 kb	1.6 kb	2 kb
Minify HTML	✓	✓	✓
Leverage browser caching	✓	✗	✗
Avoid landing page redirects ?	✓	✓	✓
Response time	✓	✓	✓

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**



# Homepage - mobile

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Homepage Mobile View	Odoo (v saas~6)	Drupal (v 7.37)	Wordpress (v 4.2.2)
Ratings	100	75	98
Legible Font Size	✓	✓	✓
Size Tap Target Appropriately	✓	✗	✗
Viewport Configured	✓	✓	✓
Viewport Content Size	✓	✓	✓

Computed by Google Page Speed Insight : <https://developers.google.com/speed/pagespeed/insights/>

**Rating is out of 100**



# Resource load to render page

Homepage	Odoo (v saas~6)	Drupal (v 7.37)	Wordpress (v 4.2.2)																																													
Performance Grade	89	88	88																																													
Number of Requests	16	24	24																																													
Number of JavaScript	3	13	6																																													
Number of CSS	2	3	6																																													
Number of Images	8	7	6																																													
Page Size	600.5 kb	573.7 kb	864.5 kb																																													
Load Time	3.0s	2.7 s	4.0s																																													
	<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>48.60%</td><td></td></tr><tr><td>Receive</td><td>36.49%</td><td></td></tr><tr><td>Connect</td><td>11.09%</td><td></td></tr><tr><td>DNS</td><td>3.82%</td><td></td></tr><tr><td>Send</td><td>0.00%</td><td></td></tr></table></div>	Wait	48.60%		Receive	36.49%		Connect	11.09%		DNS	3.82%		Send	0.00%		<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>49.80%</td><td></td></tr><tr><td>Receive</td><td>25.00%</td><td></td></tr><tr><td>Connect</td><td>24.98%</td><td></td></tr><tr><td>DNS</td><td>0.23%</td><td></td></tr><tr><td>Send</td><td>0.00%</td><td></td></tr></table></div>	Wait	49.80%		Receive	25.00%		Connect	24.98%		DNS	0.23%		Send	0.00%		<div><p>Time Spent per State</p><table><tr><td>Wait</td><td>43.00%</td><td></td></tr><tr><td>Receive</td><td>40.90%</td><td></td></tr><tr><td>Connect</td><td>15.70%</td><td></td></tr><tr><td>DNS</td><td>0.40%</td><td></td></tr><tr><td>Send</td><td>0.00%</td><td></td></tr></table></div>	Wait	43.00%		Receive	40.90%		Connect	15.70%		DNS	0.40%		Send	0.00%	
Wait	48.60%																																															
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Let's have a look at video [https://youtu.be/7UNflsLt\\_Yw](https://youtu.be/7UNflsLt_Yw) loading page



# Summary

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## Odoo Homepage

- 33% faster than wordpress homepage
- 11% slower than the drupal homepage

# Loadtest

Load test using, Apache Benchmark



# Apache Benchmarking

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We use **Apache Benchmark** tool from apache to compute the load capacity of any webpage

We run the test case which simulate 1000 requests, 100 parallel requests

The objective is to check the **lowest and highest load time** to load the page, **amount of data transferred** and **time taken by the test**.

We checked the load test from, server having dedicated bandwidth of ~15 MBPS



# Configurations

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## Software configuration

- Ubuntu 14.04 LTS with all updates
- Nginx 1.4
- PHP 5.5
- Python 2.7
- MySQL 5.x
- PostgreSQL 9.3

## Hardware configuration

- IBM Server Series X3500 M4, 15 MB L3 Cache
- 300 GB GSAS Drive 10K RPMs
- Intel(R) Xeon(R) CPU E5-2620 0 @ 2.00GHz, 12 cores 8 GB Physical RAM
- 15 MBPS Dedicated Internet connection line





# Nginx settings - global

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gzip on;

gzip\_types

application/javascript

text/plain

text/css

application/json

application/x-javascript

text/xml

application/x-font-ttf

font/opentype

application/xml

image/x-icon

image/svg+xml

application/xml+rss

text/javascript;

# Loadtest

Let's begin the load test



# Product catalog

Product Catalog	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
URL	/shop	/accessories/bags-luggage.htm 	/index.php
Time taken for tests	29.08 sec	56.946 sec	29.607 sec
Complete requests	1000	1000	1000
Failed requests	0	10	0
Total transferred	18 MB	54 MB	111 MB
Requests per second	34.39 sec	17.56 sec	33.78 sec
Time per request	29.08 ms	56.946 / sec	29.607 / sec
Transfer rate	619.82 kb / sec	933.79 kb / sec	3682.93 kb / sec
Connections Times			
Min	356 ms	270 ms	141 ms
Max	4011 ms	6171 ms	3174 ms
Median	2881 ms	5659 ms	2927 ms



# Product page

Product Page	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)
URL	/shop/product/apple-in-ear-headphones-8	/accessories/bags-luggage/leather-tablet-sleeve.html	/index.php?id_product=1&controller=product
Time taken for tests	23.146 sec	75.155 sec	30.091 sec
Complete requests	1000	1000	1000
Failed requests	0	10	0
Total transferred	13 MB	35 MB	111 MB
Requests per second	43.20 sec	13.31 sec	33.23 sec
Time per request	23.146 ms	75.155 / sec	30.091 / sec
Transfer rate	589.24 kb / sec	462.04 kb / sec	3624.16 kb / sec
Connections Times			
Min	330 ms	373 ms	139 ms
Max	2625 ms	8036 ms	3184 ms
Median	2279 ms	7491 ms	2981 ms



# Homepage

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Homepage	Odoo (v saas~6)	Drupal (v 7.37)	Wordpress (v 4.2.2)
URL	test.odoo.asia	drupal.odoo.asia	wordpress.odoo.asia
Time taken for tests	4.129 sec	5.562 sec	7.383 sec
Complete requests	1000	1000	1000
Failed requests	0	10	0
Total transferred	13.90 MB	14.05 MB	12.41 MB
Requests per second	242.19 sec	179.78 sec	135.44 sec
Time per request	4.129 ms	5.562 / sec	7.383 / sec
Transfer rate	3289.59 kb / sec	2466.94 kb / sec	1641.66 kb / sec
Connections Times			
Min	44 ms	35 ms	53 ms
Max	1329 ms	790 ms	1192 ms
Median	339 ms	521 ms	674 ms

## Odoo as E-commerce can handle request

- 149% more request than Magento / second
- 30% more request faster than Prestashop / second

## Odoo as CMS can handle request

- 35% more request than Drupal / second
- 79% more request than Wordpress / second

Homepage	Odoo (v saas~6)	Drupal (v 7.37)	Wordpress (v 4.2.2)
50% Requests server in	339 ms	521 ms	674 ms
Longest Request time	1329 ms	790 ms	1192 ms

# Maintainability

lines of codes to maintain, community members



# Source code - openhub.net

## Lines of code

Code by Language	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)	Drupal (v 7.37)	Wordpress (v 4.2.2)
Lines of Code	~2 M	~8 M	~ 0.3 M	~0.7 M	~ 0.3 M
JavaScript	25%	8 %	-	-	31 %
XML	42%	16 %	14 %	-	-
Python / PHP	27% (545 K)	71 % (5711 K)	57 % (178 K)	94% (663 K)	56 % (196 K)
Others	11%	5 %	27 %	6%	13 %

## Active contributors per project

Contributors	Odoo (v saas~6)	Magento (v 1.9.0.1)	Prestashop (v 1.6.0.14)	Drupal (v 7.37)	Wordpress (v 4.2.2)
Active Contributors	1272	218	402	149	58



# Conclusion



# Summary - performance

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Odoo Product catalog is

- 59% faster than Magento Product catalog
- 93% faster than Prestashop Product catalog

Odoo Product page is

- 36% slower than Magento Product page
- 48% faster than Prestashop Product catalog

Odoo Homepage

- 33% faster than wordpress homepage
- 11% slower than the drupal homepage



## Summary - scalability

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Odoo as E-commerce can handle request

- 149% more request than Magento / second
- 30% more request faster than Prestashop / second

Odoo as CMS can handle request

- 35% more request than Drupal / second
- 79% more request than Wordpress / second



# Summary - maintainability

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Odoo as E-Commerce is

- 947% smaller than Magento
- 206% bigger than Prestashop

Odoo as CMS is

- 21% smaller than Drupal
- 178 bigger than Wordpress

Odoo can be optimised ?

Yes, the results, we saw was, a standard  
installation only !



# Optimisation

---

What has been done already in terms of **Performance**  
Optimisation

- Qweb - a new type of view (templates)
- Asset Bundles
- E-tags for images

What has been done already in terms of **scalability**

- ORM Prefetch
- Workers

A new kind of views / templates, used to defines the website views

```
<template id="website_list">
  <t t-call="website.layout">
    <section>
      <div class="oe_structure"/>
    </section>
    <section style="background-color: #fafafa;padding-top: 20px;padding-bottom: 20px;">
      <div class="container mt16 mb16">
        <div class="row">
          <div id="owl-demo" style="overflow: hidden;">
            <div t-foreach="related" t-as="odoo_website" class="item">
              <a t-attf-href="/websites/view/#{odoo_website.id}">
                
              </a>
            </div>
          </div>
        </div>
      </div>
    </section>
    <section>
      <div class="container mt16 mb16">
```



# Asset bundle - performance

Here's what we find in the document > body > head of any cms's default setups

▼ <head>

```
<meta http-equiv="Content-Type" content="text/html; charset=utf-8">
<title>Madison Island</title>
<meta name="description" content="Default Description">
<meta name="keywords" content="Magento, Varien, E-commerce">
<meta name="robots" content="INDEX,FOLLOW">
<link rel="icon" href="http://magento.odoo.asia/skin/frontend/base/default/favicon.ico" type="image/x-icon">
<link rel="shortcut icon" href="http://magento.odoo.asia/skin/frontend/base/default/favicon.ico" type="image/x-icon">
<script type="text/javascript" src="http://magento.odoo.asia/js/prototype/prototype.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/lib/jquery/jquery-1.10.2.min.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/lib/jquery/noconflict.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/lib/ccard.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/prototype/validation.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/scriptaculous/builder.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/scriptaculous/effects.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/scriptaculous/dragdrop.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/scriptaculous/controls.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/scriptaculous/slider.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/varien/js.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/varien/form.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/mage/translate.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/js/mage/cookies.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/modernizr.custom.min.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/selectivizr.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/matchMedia.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/matchMedia.addListener.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/enquire.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/app.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/jquery.cycle2.min.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/jquery.cycle2.swipe.min.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/slideshow.js"></script>
<script type="text/javascript" src="http://magento.odoo.asia/skin/frontend/rwd/default/js/lib/imagesloaded.js"></script>
```



# Problem is

---

The problem is

Browser	Max concurrent connections per domain
Firefox 3+	6
Opera 12+	6
Safari 5+	6
IE 10	8
Chrome	6

Lack of @aync or @defer makes javascript loading synchronously

# Asset bundle - performance

Solved by Asset bundles

```

1  <openerp>
2  <data>
3
4      <!-- frontend assets -->
5      <template id="assets_frontend" inherit_id="website.assets_frontend" name="Groupme">
6          <xpath expr="." position="inside">
7              <link href="/web/static/src/img/favicon.ico" type="image/x-icon" rel="shortcut icon"/>
8              <link type="text/less" href="/groupme/static/src/less/groupme.less" rel="stylesheet" t-ignore="true"/>
9              <link rel="stylesheet" href="/web/static/lib/select2/select2.css"/>
10             <link rel="stylesheet" href="/website/static/lib/select2-bootstrap-css/select2-bootstrap.css"/>
11
12             <script type="text/javascript" src="/web/static/lib/select2/select2.js"></script>
13             <script type="text/javascript" src="/groupme/static/src/js/groupme_network.js"></script>
14             <script type="text/javascript" src="/groupme/static/src/js/groupme_network_new.js"></script>
15             <title>Group me</title>
16          </xpath>
17      </template>

```

On the webpage it looks like

```

▼ <head>
  <meta charset="utf-8">
  <meta name="viewport" content="initial-scale=1">
  <meta name="description">
  <meta name="keywords">
  <meta name="generator" content="Odoo">
  <meta property="og:title" content="Homepage">
  <title>Homepage | localhost</title>
  <link href="/web/css/web.assets_common/a8888c9" rel="stylesheet">
  <link href="/web/css/website.assets_frontend/248475d" rel="stylesheet">
  <script type="text/javascript" src="/web/js/web.assets_common/a8888c9"></script>
  <script type="text/javascript" src="/web/js/website.assets_frontend/248475d"></script>
  <link href="/web/css/website.assets_editor/2d3983c" rel="stylesheet">
  <script type="text/javascript" src="/web/js/website.assets_editor/2d3983c"></script>
</head>

```

Odoo has equal or less than 6 resource  
per page to load



## E-tags - performance

---

Most of the times high quality images take more time to load and decreased the performance

Odoo has built in image processor to increase or decrease the size of image

```
  
  

```

Apply max\_height and max\_width could save lots of data to be transfer and helps to increase the speed



# ORM prefetch - scalability

---

```
# res.partner
companies = self.search([('is_company','=',True)])
for company in companies:
    for contact in company.child_ids:
        if contact.country_id:
            print u"%s : %s" %(contact.name, contact.country_id.name
```



# ORM prefetch - scalability

---

```
-- 1 query - N results  
SELECT ... FROM res_partner  
  
-- N queries - M results  
SELECT ... FROM res_partner WHERE parent_id = <id>  
  
-- N*M queries  
SELECT ... FROM res_country WHERE id = <id>
```

On 200 companies with ~2 linked partners each would cause those nested loops to make 601 SQL queries.

In Odoo, the chains of browse record lists allows the ORM to efficiently plan the same operations in 5 SQL queries.



## Caching - scalability

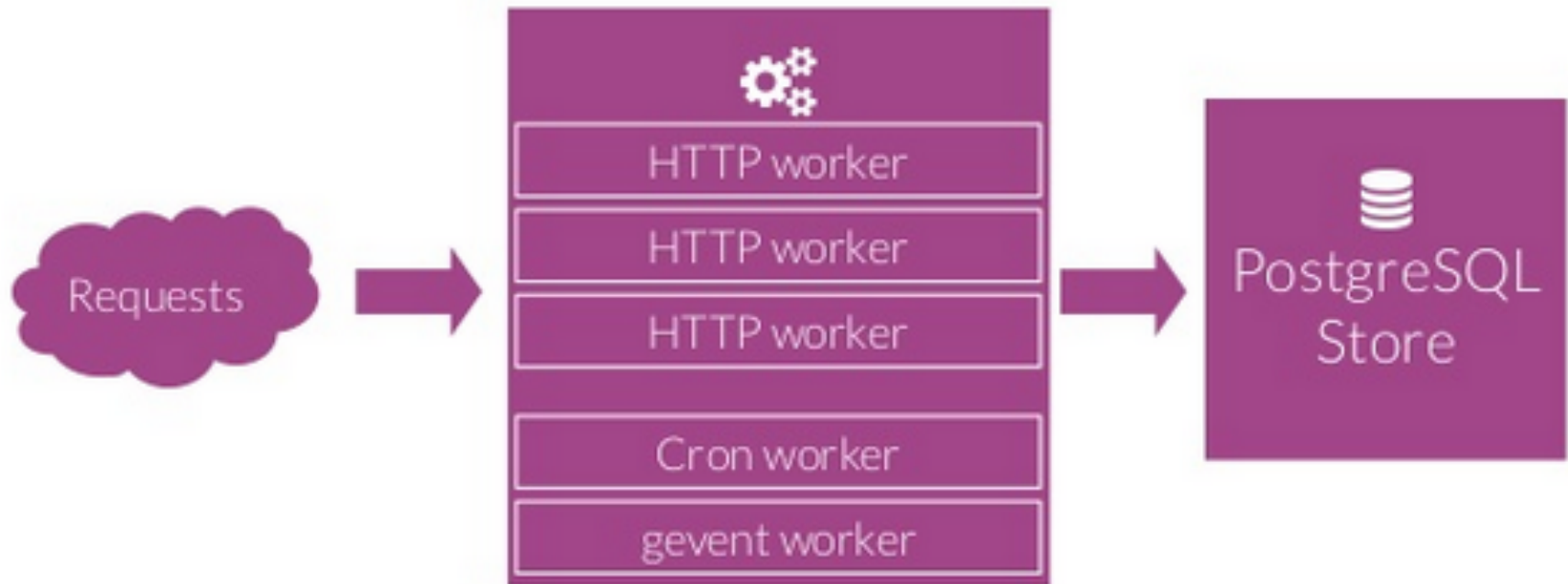
---

It does automatic caching for almost all queries, when you access as a public user

So, If you access Product catalog once as a public users...

## Workers - scalability

### Single server, multi-process

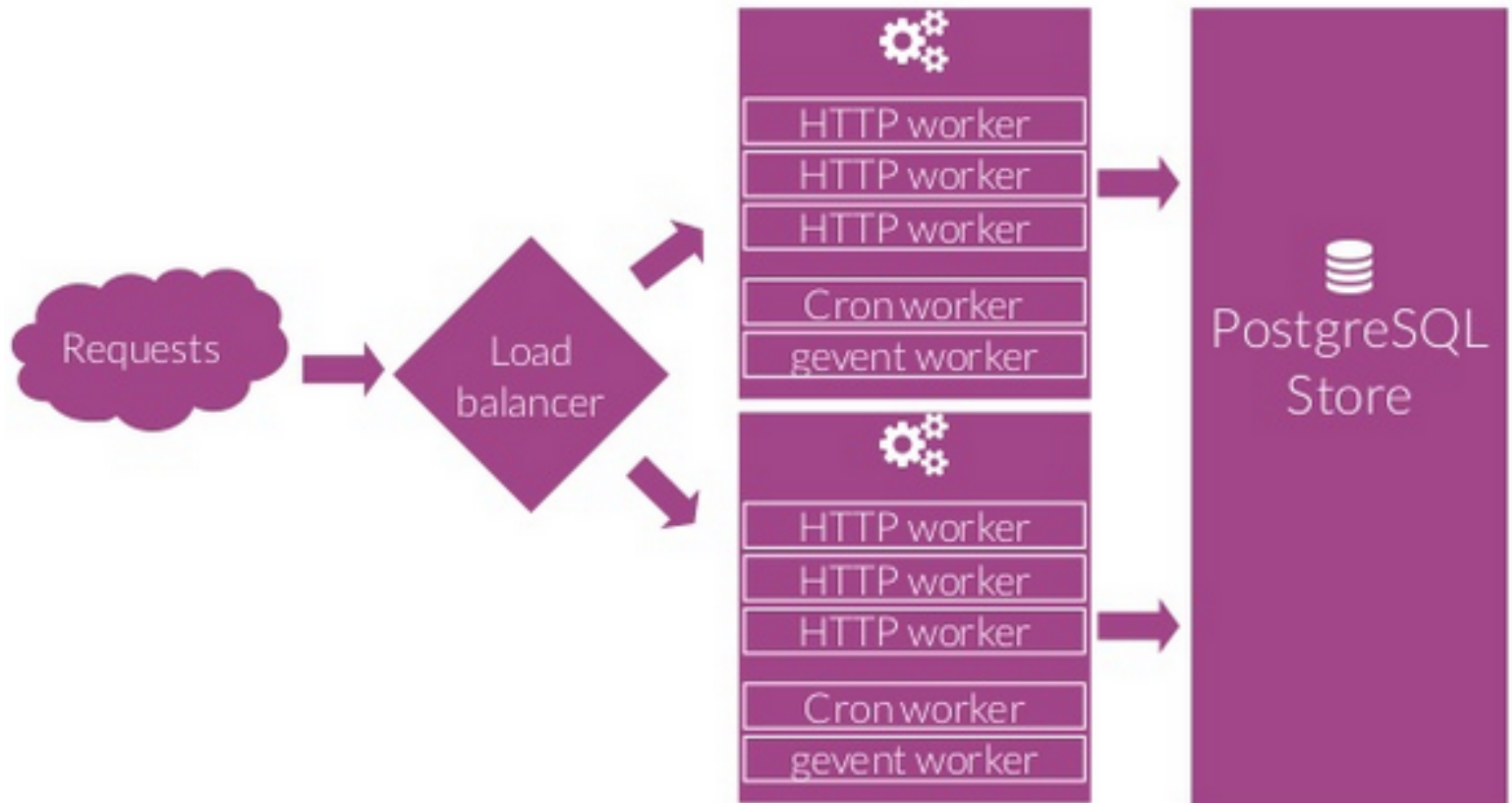


Rule of thumb: `--workers=$[1+$CORES*2]`



# Workers - scalability

## Multi-server, multi-process





## Tools used

---

Google Pagespeed Insight

<https://developers.google.com/speed/pagespeed/insights/>

Pingdom Website Speed Test

<http://tools.pingdom.com/fpt/>

Website Performance and Optimization Test

<http://www.webpagetest.org/>

Apache Benchmark

<http://httpd.apache.org/docs/2.2/programs/ab.html>



# Want to try it yourself ?

---

## E-Commerce Applications

- Odoo - <http://test.odoo.asia/shop>
- Magento - <http://magento.odoo.asia>
- Prestashop - <http://prestashop.odoo.asia>

## CMS Applications

- Odoo - <http://test.odoo.asia>
- Drupal - <http://drupal.odoo.asia>
- Wordpress - <http://wordpress.odoo.asia>

*All application will be alive till 31st August 2015*

# Thank you

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