

BUILDING A MASSIVELY SCALABLE CLOUD SERVICE FROM THE GROUNDS UP



DEVNEXUS™

the professional developer conference



WHO'S TALKING?

github.com/jbaruch

@jbaruch

linkd.in/jbaruch

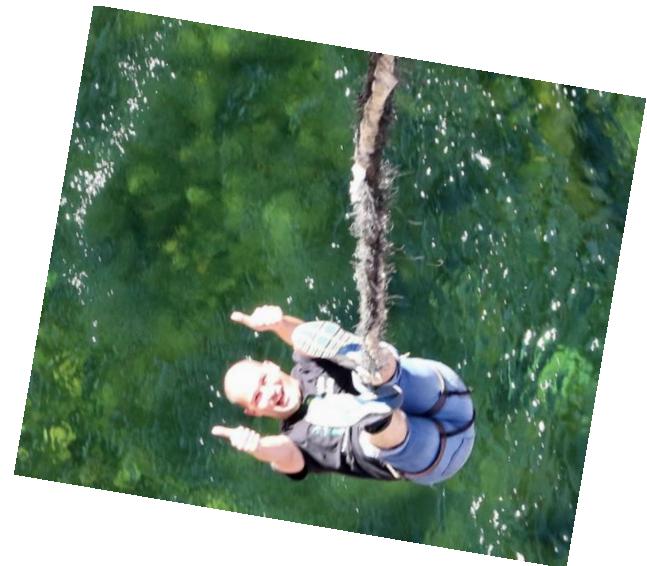


Baruch Sadogursky

J*, G* and Public Speaking Geek with JFrog FTW.
Israel | Computer Software

Current

Developer Advocate at JFrog Ltd



Developer who?

Job Description:

1. Hang out
with DevOps

2. Talk about it

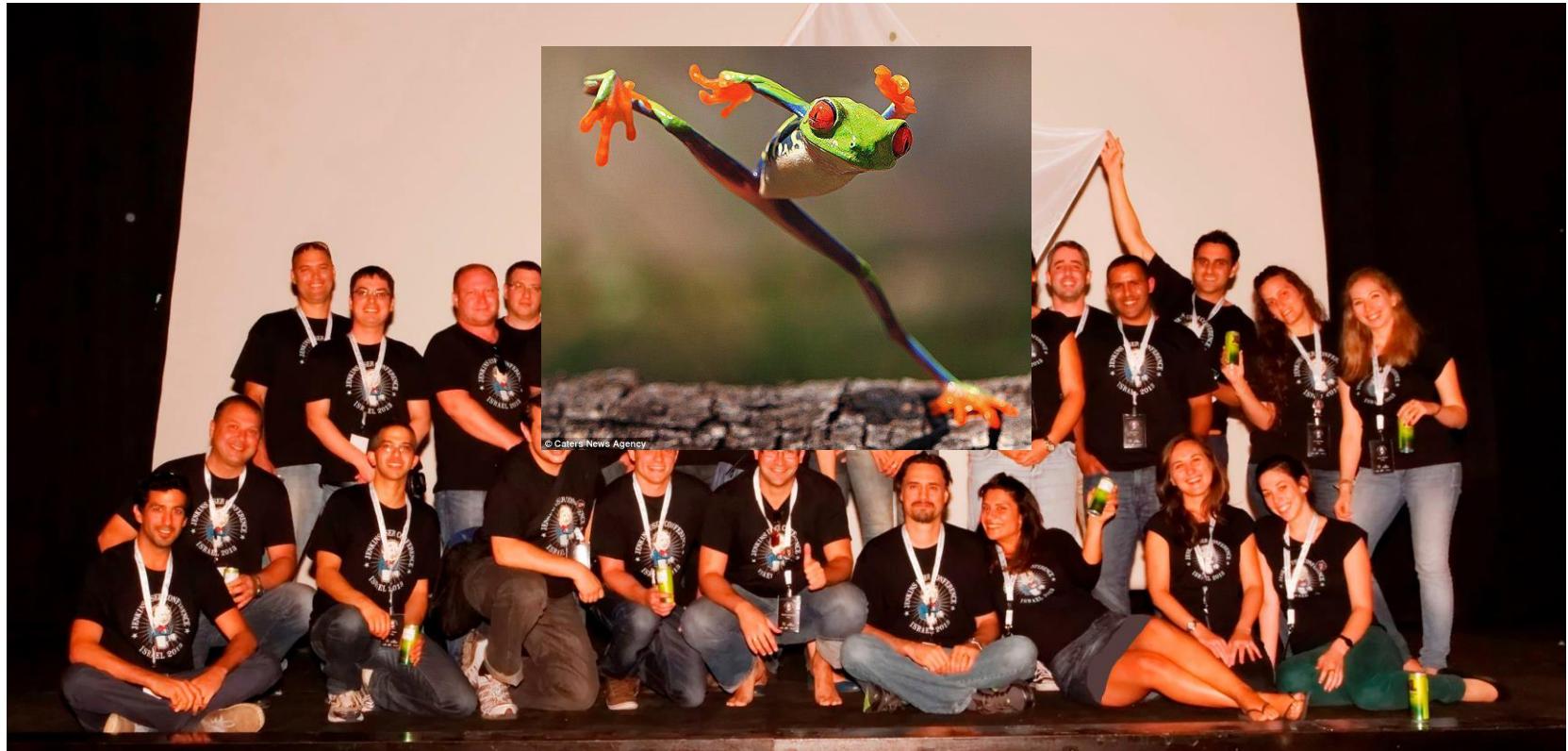
Developer who?



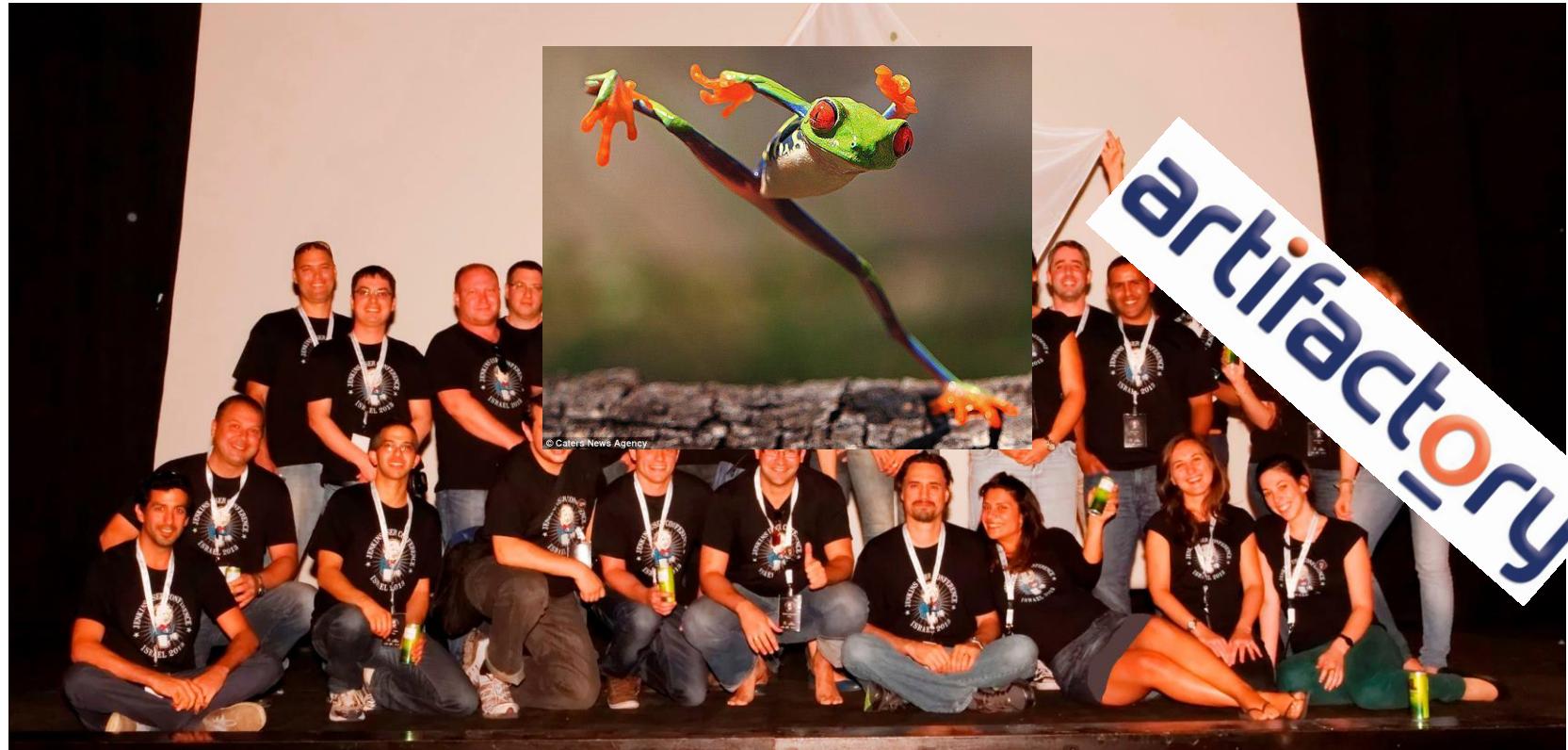
WHAT FROG?



WHAT FROG?



WHAT FROG?



WHAT FROG?



so...



SOME NUMBERS

LIFTOFF + 12 MONTHS

SOME NUMBERS

LIFTOFF + 12 MONTHS

USERS

7K

SOME NUMBERS

LIFTOFF + 12 MONTHS

USERS

7K

PACKAGES

75K

SOME NUMBERS

LIFTOFF + 12 MONTHS

USERS

7K

PACKAGES

75K

REQUESTS

1.8B/MONTH

**IT LOOKS LIKE AN
ARROGANT TALK...**

IT'S NOT.

**IT LOOKS LIKE AN
ARROGANT TALK...**



IT'S NOT.

REQUIREMENTS

REQUIREMENTS

- DOWNLOAD BINARIES

REQUIREMENTS

- DOWNLOAD BINARIES
- WEB APPLICATION

REQUIREMENTS

- DOWNLOAD BINARIES
- WEB APPLICATION
- REST API

REQUIREMENTS

- DOWNLOAD BINARIES
- WEB APPLICATION
- REST API
- BACKEND SERVICES

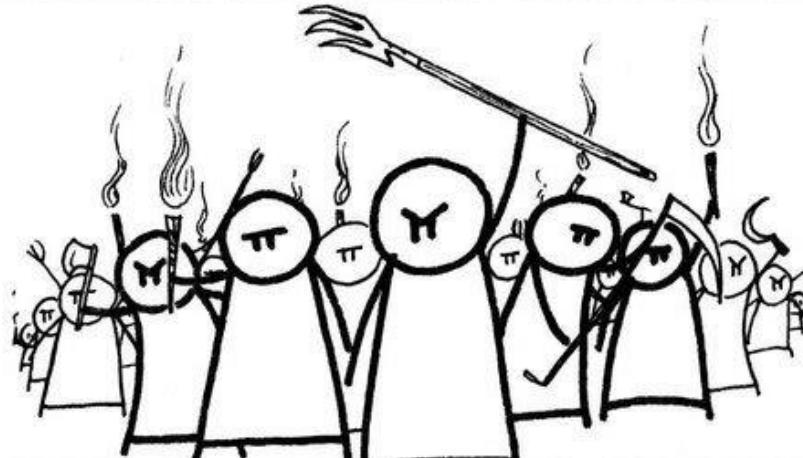
WE KNOW DEVELOPERS

The screenshot shows the Typesafe Artifacts web interface. The top navigation bar includes links for Home, Artifacts, Deploy, and Admin. On the left, a sidebar provides navigation for Browse (Tree Browser, Simple Browser, Search Results, Builds) and Search (Quick Search, Class Search, GAVC Search, Property Search, Checksum Search, Remote Search). The main content area is titled "Repository Browser" and displays a tree view of repository contents under "akka-old-dependencies". The tree view includes items like "fresh-timestamps", "ide-2.10", "ide-2.11", "ide-2.8", "ide-2.9", "ivy-releases", "ivy-snapshots", "maven-releases", "maven-snapshots", "sbt-2.10", "sbt-2.9", "scala-fresh-2.10.x", "scala-pr-validation-snapshots", "scala-sha-bootstrap", "temp-distributed-build-snapshot", "temp-distributed-builds", "test-ivy-releases", "third-party", "windows-releases", "zinc", "akka-releases-cache", "akka-repo-cache", and "akka-snapshots-cache". To the right of the tree view, there are tabs for General and Properties, with the Properties tab selected. The "Info" section contains details: Name: akka-old-dependencies, Description: Old dependencies required by akka, not known to be available via maven central, Created: 30-01-13 14:45:55 UTC, Artifact Count: Show..., Repository Path: akka-old-dependencies, and Repository Layout: maven-2-default. The "Actions" section includes a Refresh button. The "Virtual Repository Associations" section lists repo, internal-releases, and releases. The "Distribution Management" section shows XML code for distribution management:

```
<distributionManagement>
  <repository>
    <id>typesafe</id>
```

%NEW_SEXY_LANG% COMMUNITY

ARTIFACTORY IS DOWN!



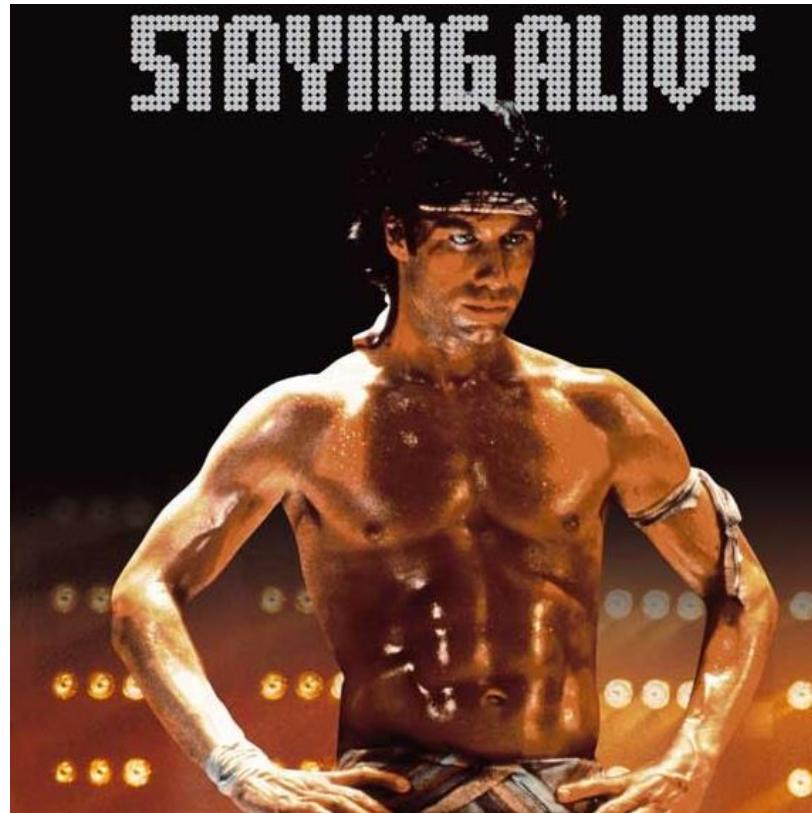
WE CAN'T BUILD!

NOT OUR FAULT!

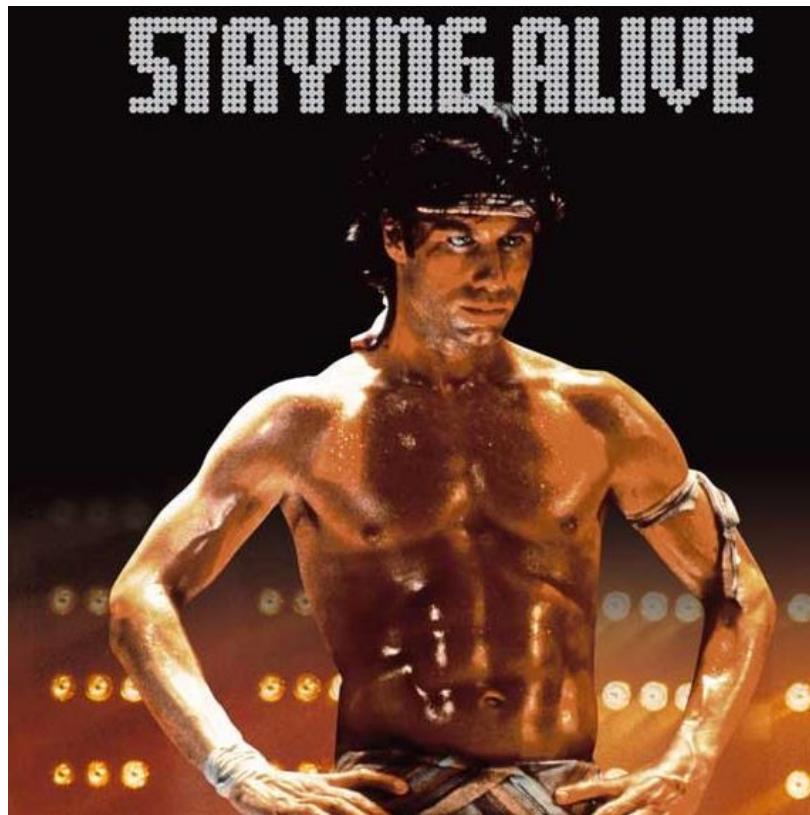


AWS WERE DOWN AGAIN!

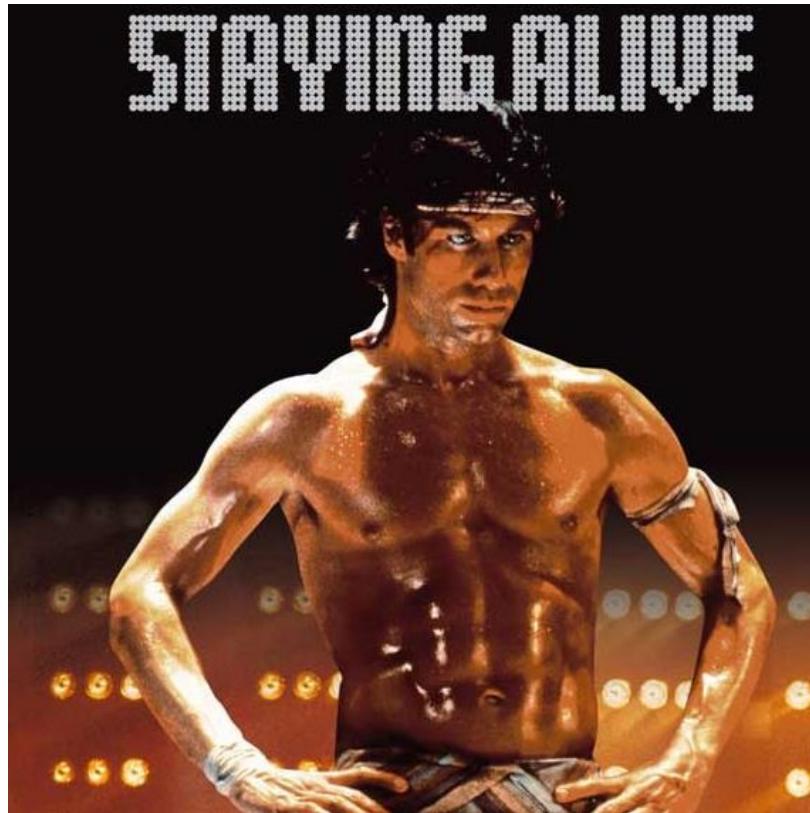
DOWNLOADS MUST...

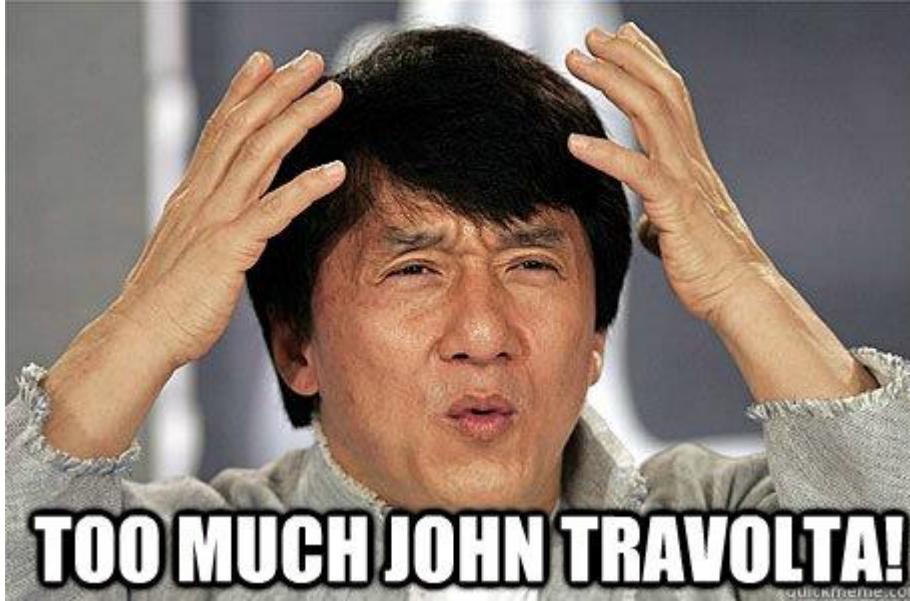


WEB APPLICATION MUST...



BACKEND SERVICES MUST...





TOO MUCH JOHN TRAVOLTA!

quickmeme.com

CHOOSE YOUR BATTLES

NON-FUNC. REQUIREMENTS

NON-FUNC. REQUIREMENTS

REQUIREMENT RPS AVAILABILITY

NON-FUNC. REQUIREMENTS

REQUIREMENT	RPS	AVAILABILITY
DOWNLOAD	10K	ALWAYS

NON-FUNC. REQUIREMENTS

REQUIREMENT	RPS	AVAILABILITY
DOWNLOAD	10K	ALWAYS
INTERACTION	100	ALMOST ALWAYS

NON-FUNC. REQUIREMENTS

REQUIREMENT	RPS	AVAILABILITY
DOWNLOAD	10K	ALWAYS
INTERACTION	100	ALMOST ALWAYS
SERVICES	1	MOST OF THE TIME

DOWNLOAD SERVER

BRACE YOURSELVES,

**FIRST OUT
OF MANY...**



I AM COMING



**ONE DOES NOT SIMPLY
CREATE LIGHTWEIGHT SCALABLE
FAST DOWNLOAD SERVICE**

quickmeme.com

LIGHTWEIGHT AND SCALABLE



Project Grizzly

NIO Event Development Simplified

Writing scalable server applications in the Java™ programming language has always been difficult. Before the advent of the Java New I/O API (NIO), thread management issues made it impossible for a server to scale to thousands of users. The Grizzly NIO framework has been designed to help developers to take advantage of the Java™ NIO API. Grizzlys goal is to **help developers to build scalable and robust servers** using NIO as well as offering extended framework components: Web Framework (HTTP/S).



RESTful Web Services in Java.

Developing RESTful Web services that seamlessly support exposing your data in a variety of representation media types and abstract away the low-level details of the client-server communication is not an easy task without a good toolkit. In order to simplify development of RESTful Web services and their clients in Java, a standard and portable JAX-RS API has been designed. Jersey RESTful Web Services framework is open source production quality framework for developing RESTful Web Services in Java that

Goals of Jersey project can be summarized in the following points:

- Track the JAX-RS API and provide regular releases of production quality Reference Implementations that ships with GlassFish;
- Provide APIs to extend Jersey & Build a community of users and developers; and finally
- Make it easy to build RESTful Web services utilising Java and the Java Virtual Machine.



nginx [engine x] is an HTTP and reverse proxy server, as well as a mail proxy server, written by [Igor Sysoev](#). For a long time, it has been running on many **heavily loaded** Russian sites including [Yandex](#), [Mail.Ru](#), [VKontakte](#), and [Rambler](#). According to Netcraft nginx served or proxied [14.89% busiest sites in August 2013](#). Here are some of the success stories: [Netflix](#), [Wordpress.com](#), [FastMail.FM](#).

WHY DON'T YOU

JUST USE APACHE?



GIVIN FREE STORAGE?

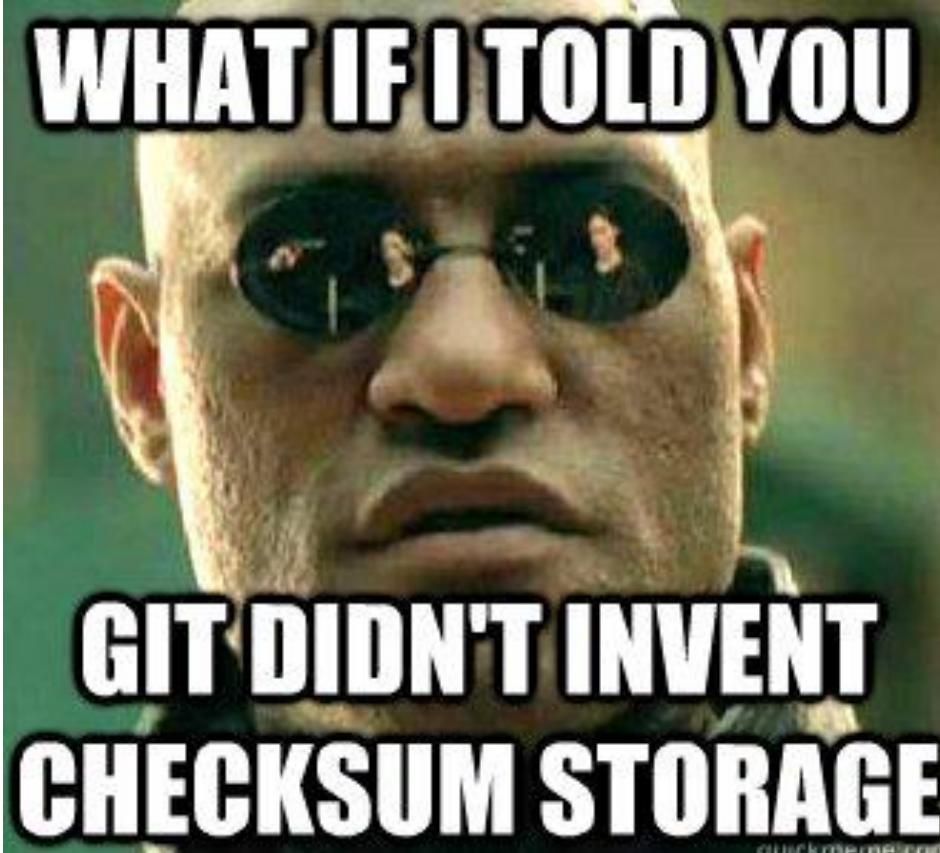
WHAT ARE YOU, NUTS?!

quickmeme.com

I DON'T ALWAYS CREATE
A BINARIES STORAGE



BUT WHEN I DO,
IT'S A SMART ONE.

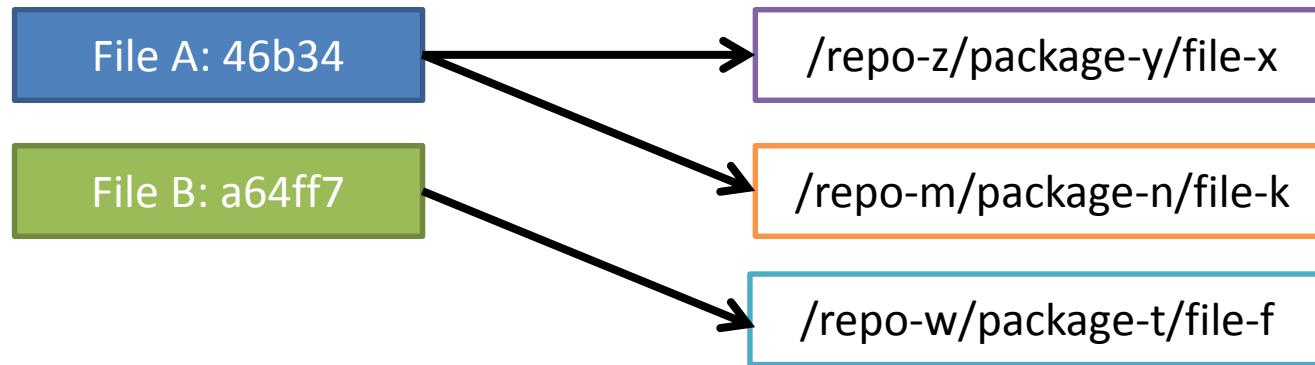


WHAT IF I TOLD YOU

**GIT DIDN'T INVENT
CHECKSUM STORAGE**

quickmeme.com

DEDUPLICATION BY CHECKSUM



FLAT BLOBS STORAGE

File A: 46b34

File B: a64ff7





OpenStack Object Storage (Swift)

openstack

Overview

Code

Bugs

Blueprints

Translations

Answers

Registered 2010-07-08 by  Monty Taylor

Swift is a highly available, distributed, eventually consistent object/blob store.

Type to filter Clear

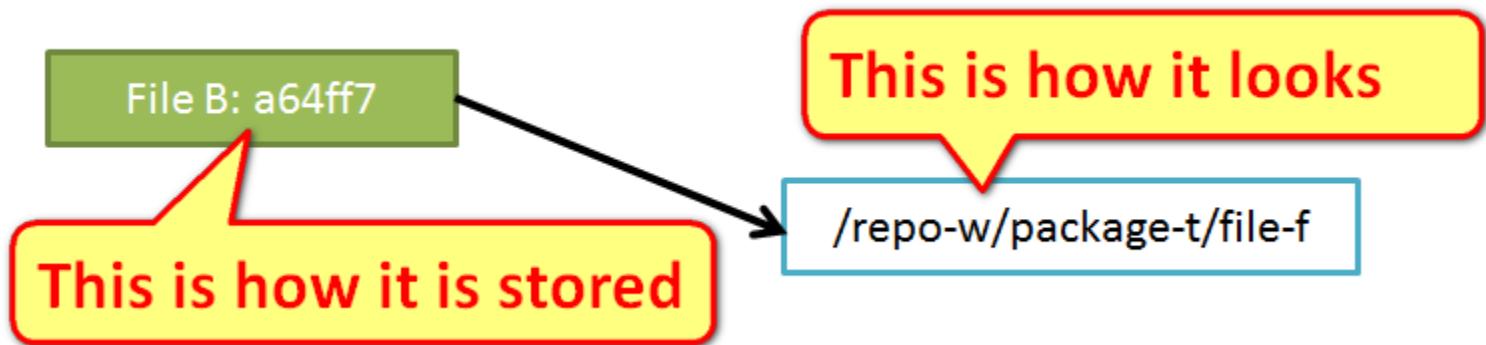
Add File Add Folder

Displaying 25 per page Page 1

<input type="checkbox"/>	000008e5f5b95fc49499...	0.31 KB	2013-06-03 05:00 AM
<input type="checkbox"/>	00000f37b2402525bc64...	4.6 MB	2013-04-19 05:20 AM
<input type="checkbox"/>	00001f02f9302b6da3f2...	12.51 KB	2013-03-01 05:01 AM
<input type="checkbox"/>	000023f3f1fcca5840438...	0.48 KB	2013-06-26 05:07 AM
<input type="checkbox"/>	00002587d25b7888112...	0.86 KB	2013-06-02 05:04 AM
<input type="checkbox"/>	00002e639b14b499ee8...	629.88 KB	2012-11-26 12:27 PM
<input type="checkbox"/>	00003ca9329f3f2ffc4f93...	166.63 KB	2013-04-02 05:02 AM
<input type="checkbox"/>	00004220bab3d755d9b...	18.97 KB	2012-12-13 12:12 PM
<input type="checkbox"/>	000043f435fad27bb5e6...	212.43 KB	2012-11-27 05:37 PM
<input type="checkbox"/>	0000483a68f47a55c86f...	6.78 KB	2013-04-13 05:25 AM
<input type="checkbox"/>	00005993fb43b699f57a...	0.49 KB	2013-06-14 04:57 AM

data-produce
application/ce
Objects:
Size:
CDN
 Enable CDN
TTL:
HTTP URL:
[Add CNAME](#)

MAPPING



[About](#)[Docs](#)[Contribute](#)[Mailing List](#)[Download](#)[Quick Links](#)

CouchDB comes with a suite of features, such as on-the-fly document transformation and real-time change notifications, that makes web app development a breeze. It even comes with an easy to use web administration console. You guessed it, served up directly out of CouchDB! We care a lot about distributed scaling. CouchDB is highly available and partition tolerant, but is also eventually consistent. And we care *a lot* about your data. CouchDB has a fault-tolerant storage engine that puts the safety of your data *first*.

Overview > storage

"linked/linked/1961903916370412698563383868773573.tmp"	{rev: "1-e709edf1c43d0f9d01ad961dfe2f5767"}
ID: linked/linked/1961903916370412698563383868773573.tmp	
"linked/linked/196837050226596207906023696900425.tmp"	{rev: "1-221a5f85fe5f440e0b0d7cc3ac30df88"}
ID: linked/linked/196837050226596207906023696900425.tmp	
"linked/linked/1972083994642178057008191085192647.tmp"	{rev: "1-0bd897d204e0bbd46514285f63a4b448"}
ID: linked/linked/1972083994642178057008191085192647.tmp	
"linked/linked/1975787281483927505631085125375485.tmp"	{rev: "1-195bcd711303f851d005de50c33a407e"}
ID: linked/linked/1975787281483927505631085125375485.tmp	
"linked/linked/198070371123945353911742526426129.tmp"	{rev: "1-986bda9f8e5c3c6e1d2dac631b13b353"}
ID: linked/linked/198070371123945353911742526426129.tmp	
"linked/linked/2006059920455408305096243438224865.tmp"	{rev: "1-c9283f655fb6b504ff3f148056669968"}
ID: linked/linked/2006059920455408305096243438224865.tmp	
"linked/linked/2029156254331225622046064183469473.tmp"	{rev: "1-05c3e91fce3459b23765accabcd7a872"}
ID: linked/linked/2029156254331225622046064183469473.tmp	
"linked/linked/2040322120647553375997107445114460.tmp"	{rev: "1-6640faf792e7aebd0d1c706616c639cb"}
ID: linked/linked/2040322120647553375997107445114460.tmp	
"linked/linked/2069077388200533873515960715854085.tmp"	{rev: "1-d7486987e18a3b6e5803f6dbaab68ef0"}
ID: linked/linked/2069077388200533873515960715854085.tmp	
"linked/linked/2123597348376886529694475010273383.tmp"	{rev: "1-d8c87ad2cde33995a32c0fcf8bda585f"}
ID: linked/linked/2123597348376886529694475010273383.tmp	
"linked/linked/837059501213568415889045108086098.tmp"	{rev: "1-8a4bb963eebb347147031ab739cdcefd"}
ID: linked/linked/837059501213568415889045108086098.tmp	
"linked/linked/bob.rpm"	{rev: "1-4750c31c341dbe5844b85ed9b13a6ee9"}
ID: linked/linked/bob.rpm	
"linkedorg/linked/path/bart"	{rev: "1-dfea85ad4a21f47e620a43c35d2c7910"}
ID: linkedorg/linked/path/bart	
"linking/linking-repo/path/to/leeroy-artifact-1.2.jar"	{rev: "1-5c2f3cafab58439c9c137345513586ea"}
ID: linking/linking-repo/path/to/leeroy-artifact-1.2.jar	
"linking/linkings-repo/path/to/testartifact"	{rev: "1-842bb31b4378996df11c83747a4f475a"}
ID: linking/linkings-repo/path/to/testartifact	
"maven-user/maven-repo"	{rev: "1-baa9951112ac07ba7b7488f83653df2c"}
ID: maven-user/maven-repo	



Tools

- [Overview](#)
- [Configuration](#)
- [Replicator](#)
- [Status](#)
- [Verify Installation](#)

For Developers:
[Test Suite](#)

Recent Databases

storage



WEB APPLICATION

Bintray Entities



User/org

Repo

Package

Owned by
The Netty Pro... (10)

Un-watch Contact Link Report

http://dl.bintray.com/netty/downloads

Tarball downloads for the Netty project sources and binaries

trustin | tarball | netty |

Set me up!

General Readme Release Notes Reviews (0) Statistics

About This Package

Website http://netty.io/

Issue Tracker https://github.com/netty/netty/issues

VCS https://github.com/netty/netty.git

Licenses Apache-2.0

Downloads (v 4.0.8.Final)

netty-4.0.8.Final.tar.bz2
sha1: a3b2a4f18bdb11c349b3a02e8dd7a6f851c9ca1

Versions

4.0.8.Final

4.0.7.Final

4.0.6.Final

4.0.4.Final

4.0.3.Final

View All

Watchers (10)

User/org

Repo

Package

Multiple references

Versions

Files

Watchers (10)

Search Bintray

jbaruch Get Help | Sign out

Owned by The Netty Pro... ★★★★★ (10) Un-watch Contact Link Report

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trustin | tarball | netty |

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Versions

4.0.8.Final

4.0.7.Final

4.0.6.Final

4.0.4.Final

4.0.3.Final

View All

Watchers (10)

The screenshot shows a package page on Bintray for the project `netty / downloads / netty`. The page includes sections for **User/org**, **Repo**, **Package**, **Ratings, comments, tags**, **Muliple references**, **Versions**, **Files**, and **Watchers**.

User/org: netty / downloads / netty

Repo: netty

Package: netty

Ratings, comments, tags: (10)

Muliple references: trustin | tarball | netty | netty-4.0.8.Final.tar.bz2

Versions:

- 4.0.8.Final
- 4.0.7.Final
- 4.0.6.Final
- 4.0.4.Final
- 4.0.3.Final

Files: netty-4.0.8.Final.tar.bz2
sha1: a3b2a4f18bdb11c349b3a02e@dd7a6f851c9ca1

Watchers (10):

The screenshot shows a Bintray package page for 'netty' with several features highlighted by yellow callout boxes with red outlines:

- User/org**: Points to the top navigation bar where 'User/org' is selected.
- Repo**: Points to the URL path 'netty / downloads / netty'.
- Package**: Points to the main package name 'netty'.
- Ratings, comments, tags**: Points to the rating section with 5 stars (10 reviews) and the 'Reviews (0)' tab.
- Muliple references**: Points to the 'tarball' download section.
- Versions**: Points to the 'Versions' tab and the list of versions: 4.0.8.Final, 4.0.7.Final, 4.0.6.Final, 4.0.4.Final, 4.0.3.Final.
- Metadata**: Points to the 'Downloads (v 4.0.8.Final)' section.
- Files**: Points to the file listing for 'netty-4.0.8.Final.tar.bz2'.

Other visible elements include a search bar, user profile 'jbaruch', help links, and a sign-out button at the top right. The page also shows tabs for General, Readme, Release Notes, Reviews (0), and Statistics.

User/org

Repo

Package

Multiple references

Ratings, comments, tags

Versions

Metadata

More social

Files

netty / downloads / netty

Owned by
The Netty Pro... ★★★★★ (10)

Un-watch Contact Link Report

Tarball downloads for the Netty project sources and binaries

trustin | tarball | netty |

General Readme Release Notes Reviews (0) Statistics

About This Package

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Versions

4.0.8.Final

4.0.7.Final

4.0.6.Final

4.0.4.Final

4.0.3.Final

[View All](#)

Watchers (10)

WEB APPLICATION

WEB FRAMEWORK



REFACTORING

EVENTUALLY, IT WILL BE BETTER THAN BEFORE



**ONE DOES NOT SIMPLY
RAPIDLY ADJUST TO CHANGES**

REQUIREMENTS

REQUIREMENTS

-RAPID APPLICATION
DEVELOPMENT

REQUIREMENTS

- RAPID APPLICATION DEVELOPMENT
- FLEXIBLE SCHEMATA

REQUIREMENTS

- RAPID APPLICATION DEVELOPMENT
- FLEXIBLE SCHEMATA
- JAVA BACKGROUND

REQUIREMENTS

- RAPID APPLICATION DEVELOPMENT
- FLEXIBLE SCHEMATA
- JAVA BACKGROUND
- STATELESS

WHY DON'T YOU

JUST USE ...?

WHY DON'T YOU JUST USE...?

FRAMEWORK

WHY NOT?

WHY DON'T YOU JUST USE...?

FRAMEWORK

ANGULAR.JS, *JS, Maturity

WHY NOT?

WHY DON'T YOU JUST USE...?

FRAMEWORK

ANGULAR.JS EMBER.JS, *JS

WICKET

WHY NOT?

MATURITY

STATE

WHY DON'T YOU JUST USE...?

FRAMEWORK

ANGULAR.JS EMBER.JS, *JS

WICKET

JSF

WHY NOT?

MATURITY

STATE

NO COMMENT

WHY DON'T YOU JUST USE...?

FRAMEWORK

ANGULAR.JS EMBER.JS, *JS

WICKET

JSF

NON-JAVA

WHY NOT?

MATURITY

STATE

NO COMMENT

NOT JAVA BG



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Grails Framework **Full stack**

Build modern, sophisticated and robust Groovy web applications in record time! **Grails brings back the enjoyment of Java web development.**

[Download Grails](#)[Start using Grails!](#)

A light gray circle with a thin gray border, containing the word "rapid".

A light gray circle with a thin gray border, containing the word "dynamic".

A light gray circle with a thin gray border, containing the word "robust".



by Pivotal

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Grails Framework **Full stack**

Build modern, sophisticated and robust Groovy web applications in record time! **Grails brings back the enjoyment of Java web development.**

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Grails Framework **Full stack**

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```
76  def packageBrowse() {
77      //coming from publish
78      setPackageBrowsingFlashScope()
79      Repo repo = request[REPO_REQUEST_PARAM]
80      def searchParams = [:]
81      setPackagesSearchParams(searchParams, repo)
82      List<RepoElement> packages
83      int totalPackages
84      String sortBy = (searchParams.sortBy == 'score') ? 'score.avg' : searchParams.sortBy
85      if (params.filterByPkgName) {
86          def query = (params.filterByPkgName as String).trim()
87          packages = packageService.findRepoPackages(query, repo, maxResultsPerPage, searchParams.offset, sortBy, searchParams)
88          totalPackages = packageService.countRepoPackages(query, repo)
89      } else {
90          packages = packageService.findRepoPackages(repo, maxResultsPerPage, searchParams.offset, sortBy, searchParams)
91          totalPackages = packageService.countRepoPackages(repo)
92      }
93      def index = SORT_BY.findIndexOf { it == searchParams.sortBy }
94      def model = [repo: repo, packages: packages, maxPerPage: maxResultsPerPage,
95                  totalPackages: totalPackages, sortBy: SORT_BY[index], filterByPkgName: params.filterByPkgName, repoContains: true]
96      if (request.method == "GET") {
97          if (request[UserController.LOGGED_IN_USER_REQUEST_PARAM] && securityService.hasPermissions(SecurityUtils.subject))
98              model['numPending'] = contentUploadService.numOfPendingElementsInRepo(repo)
99              if (model['numPending'] > 0) {
100                  model['unpublishedItems'] = contentUploadService.repoUnpublishedPackages(repo)
101              }
102          }
103          render view: "/repo/package/browse", model: model
104      } else {
105          render template: "/repo/package/packages", model: model
106      }
107 }
```

JUST UPDATED GRAILS

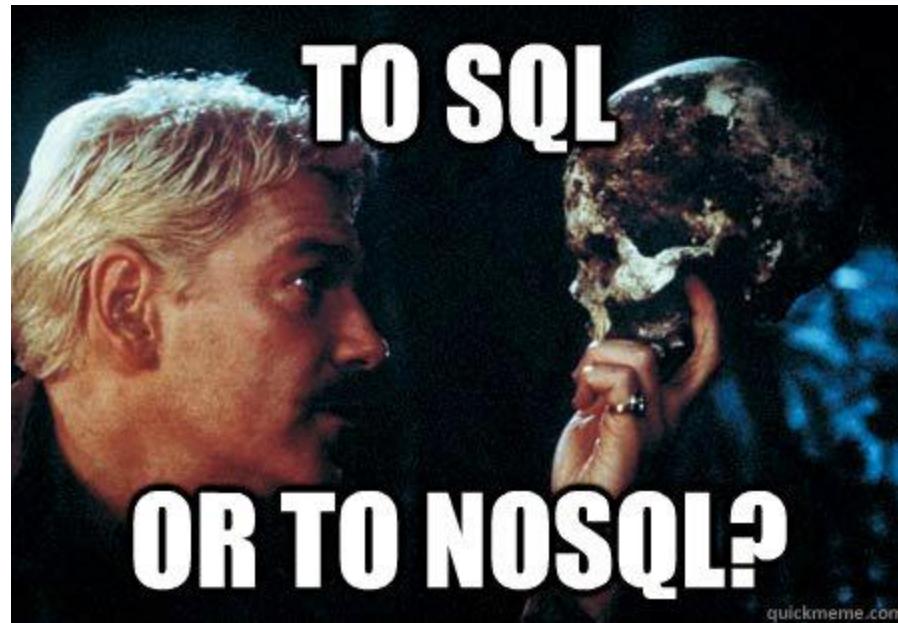
TO NEWER MINOR VERSION



We want Gradle build in Grails!

WEB APPLICATION

DATA MODEL



quickmeme.com

REMEMBER?



REFACTORING

EVENTUALLY, IT WILL BE BETTER THAN BEFORE

**ONE DOES NOT SIMPLY
CHANGE SQL SCHEMA**



mongoDB

{name: "mongo", type:"DB"}



MONGO DOCS

[MongoDB Documentation »](#)



TRY IT OUT

[Try The Online Shell »](#)



DOWN

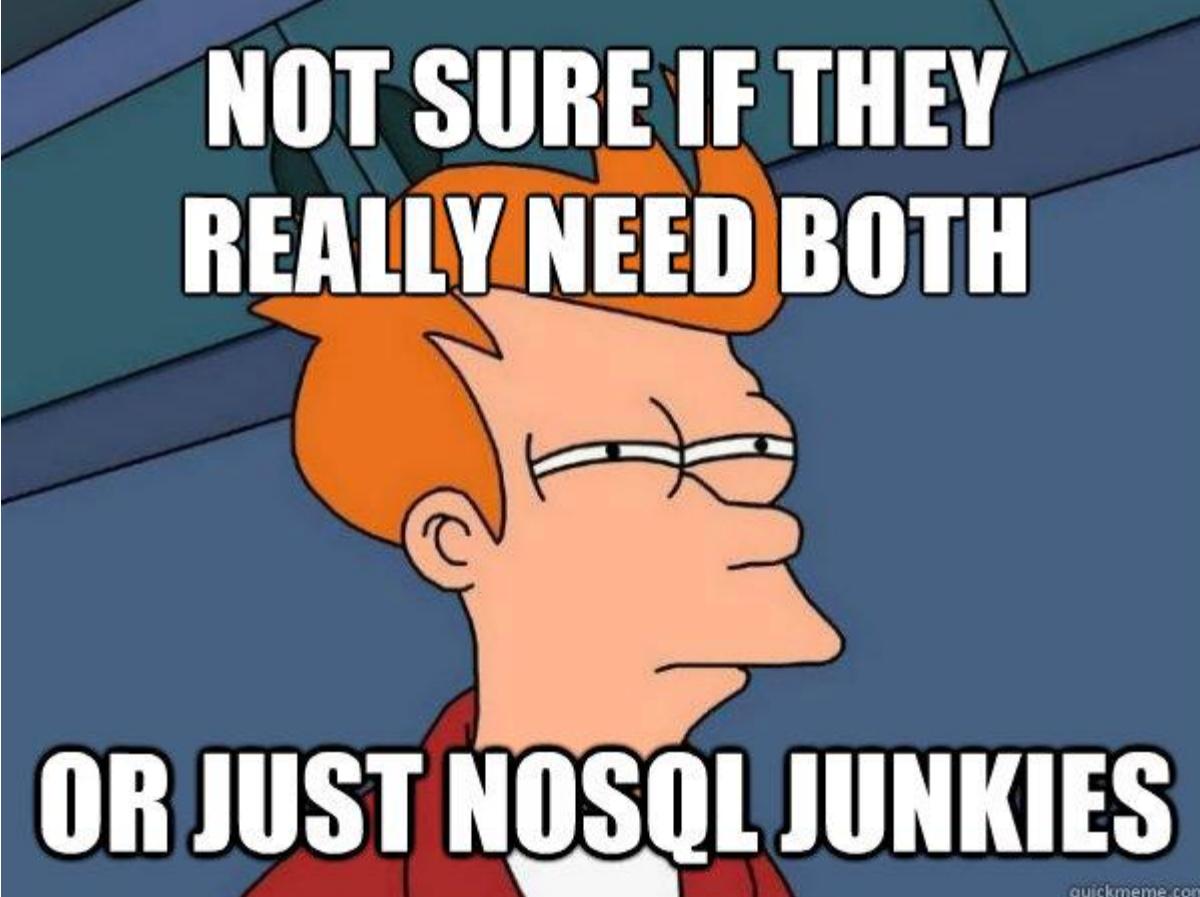
[Download »](#)

Agile and Scalable

MongoDB (from "humongous") is an open-source document database, and the leading NoSQL database. Written in C++, MongoDB features:

- **Document-Oriented Storage »**

JSON-style documents with dynamic schemas offer simplicity and power.

A profile view of Fry from the TV show Futurama, looking thoughtful with his hand on his chin. He has his signature orange hair and is wearing a red jacket over a white shirt.

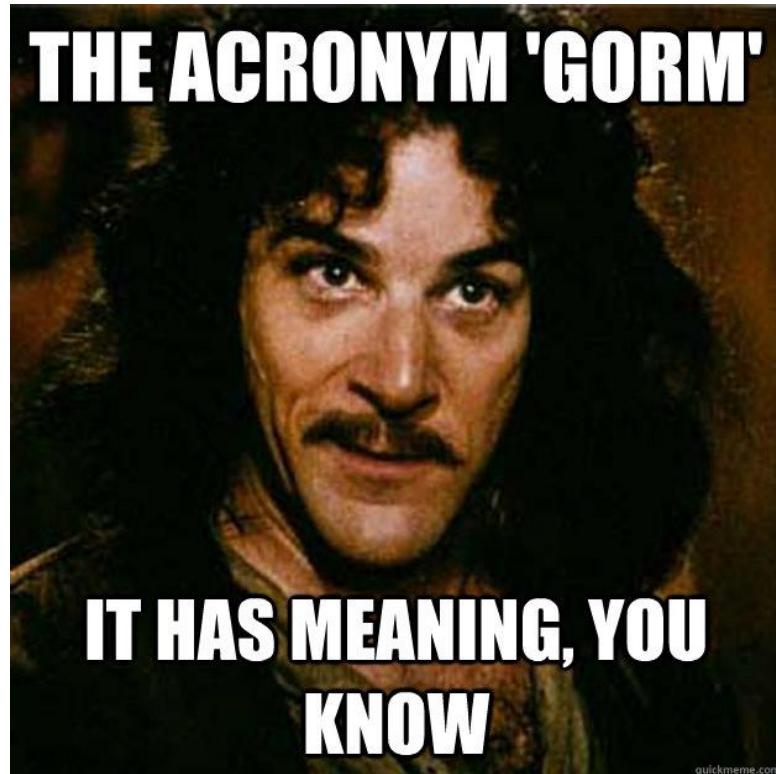
**NOT SURE IF THEY
REALLY NEED BOTH**

OR JUST NOSQL JUNKIES

```
1  [
2    {
3      _class: "Package",
4      _id: "51c28724ed5060cca2ae420d",
5      advanceStatOpt: false,
6      avatar: {
7        "$dbref": {
8          namespace: "binaryObject",
9          oid: "51c8b5ffed508b8d8b8d46d7"
10         }
11       },
12       dateCreated: ISODate("2013-06-20T04:37:56.641Z"),
13       description: null,
14       gitHubLink: "mitchellh/packer",
15       githubRepo: null,
16       inDeleteProcess: false,
17       issues: "https://github.com/mitchellh/packer/issues",
18       lastUpdated: ISODate("2013-07-26T16:57:44.705Z"),
19       licenses: [
20         {
21           "$dbref": {
22             namespace: "license",
23             oid: "51c94115e231fb4769a37674"
24           }
25         }
26       ],
27       lowerCaseName: "packer",
28       name: "packer",
29       names: [
30         "packer"
31       ]
32     }
33   ]
```

GrailS meahS Gorm!

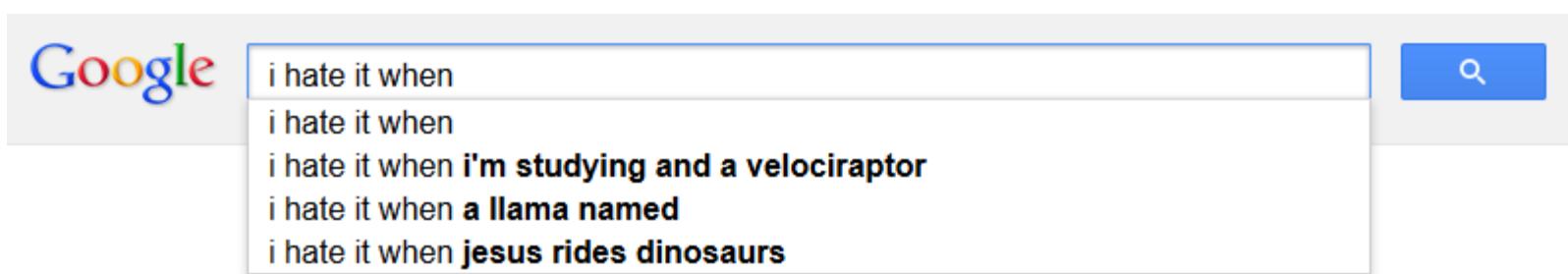
Gorm MongoDB plugin



WEB APPLICATION

SEARCH

SEARCH



10 TYPES OF SEARCH

Full Text Search



Structured Search

A screenshot of a structured search interface, likely from a software development tool like SonarQube or similar. The interface has a white background with rounded corners and a thin gray border. At the top, there are four tabs: 'Quick Search' (highlighted in green), 'Class Search', 'GAVC Search', and 'Property'. Below the tabs are four input fields with question marks: 'Group ID', 'Artifact ID', 'Version', and 'Classifier'. There is also a checkbox labeled 'Limit Search to Specific Repositories'. A large green 'Search' button is positioned below these fields. At the bottom, there are two dropdown menus: 'Artifact' and 'Group ID', both with question marks. The status message 'No Records Found' is displayed in a light gray box at the very bottom.

10 TYPES OF SEARCH

Full Text Search



Structured Search

A screenshot of a structured search interface, likely from a software application. At the top, there are four green buttons labeled 'Quick Search', 'Class Search', 'GAVC Search', and 'Property'. Below these buttons is a search form with four input fields: 'Group ID', 'Artifact ID', 'Version', and 'Classifier'. There is also a checkbox labeled 'Limit Search to Specific Repositories'. A large red arrow points from a yellow callout box containing the text 'Covered by MongoDB' towards the 'Artifact ID' field. At the bottom of the interface, there is a search button and a message indicating '0 Records Found'.

Covered by
MongoDB





**ONE DOES NOT SIMPLY
ADDS FULL TEXT SEARCH TO
GRAILS WITH MONGODB**

quickmeme.com

**WHY DON'T YOU JUST
STICK WITH LUCENE?**

**HOW DO YOU CALL
A QUESTION**



**THAT YOU HAVE
A SESSION FOR?**

MEME@quickmeme.com



```
// Feed your brain  
gr8.technologies.each{  
    yourBrain << it  
}
```

Welcome Evaluation Agenda Speakers Press

Searching for the Grail

Grails is awesome! agreed? Good!

Now, search facilities have become such a basic commodity

But bundled with a framework such as Grails, you the dev

EXECUTIVE SUMMARY

FRAMEWORK

WHY NOT?

EXECUTIVE SUMMARY

FRAMEWORK

LUCENE/COMPASS

WHY NOT?

ONLY EMBEDDED,
RESOURCE GUZZLER

EXECUTIVE SUMMARY

FRAMEWORK

LUCENE/COMPASS

SOLR

WHY NOT?

ONLY EMBEDDED,
RESOURCE GUZZLER

BAD GRAILS INTEGRATION

EXECUTIVE SUMMARY

FRAMEWORK

LUCENE/COMPASS

SOLR

SPHYNX

WHY NOT?

ONLY EMBEDDED,
RESOURCE GUZZLER

BAD GRAILS INTEGRATION
NO INCREMENTAL INDEX

elasticsearch

flexible and powerful open source, distributed real-time search and analytics engine for the cloud

cool. bonsai cool





elasticsearch

flexible and powerful open source, distributed real-time search and analytics engine for the cloud

cool. bonsai cool



ElasticSearch Plugin

Tags : [search](#), [searchable](#)  | Latest : [0.17.8.1](#) | Last Updated : [25 October 2011](#) | Grails version:

Authors : [Manuarii Stein](#) | License : [Apache License 2.0](#) | Organization : [doc4web](#)

works only with Hibernate

Compile Version: 0.17.8.1

Custom repositories :

ElasticSearch Plugin

Tags : [search](#), [searchable](#)  | Latest : [0.17.8.1](#) | Last Updated : [25 October 2011](#) | Grails version:

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Custom repositories :

VS.



ElasticSearch Plugin

Tags : [search](#), [searchable](#)  | Latest : [0.17.8.1](#) | Last Updated : [25 October 2011](#) | Grails version:

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works only with Hibernate

Custom repositories :

VS.



This screenshot shows the JFrog Artifactory interface. At the top, there's a navigation bar with a user icon, a search bar labeled "Search or type a command", and tabs for "Explore" and "Gis". Below the navigation, a repository card is displayed for "noamt / elasticsearch-gorm-plugin", which is described as being "forked from mstein/elasticsearch-grails-plugin". The repository name is highlighted with a red box containing the text "Works with any GORM". To the right of the repository card, the JFrog logo is visible.

You ask

```
1  {
2      "from": 0, "size": 50, "query": {
3          "query_string": {
4              "query": "name:netty",
5              "default_operator": "and"
6          }
7      }
8  }
```

ElasticSearch answers

```
1  [
2    "took" : 23,
3    "timed_out" : false,
4    "_shards" : {
5      "total" : 5,
6      "successful" : 5,
7      "failed" : 0
8    },
9    "hits" : {
10      "total" : 4817,
11      "max_score" : 4.573353,
12      "hits" : [ {
13        "_index" : "com.jfrog.bintray.interaction.domain",
14        "_type" : "profile",
15        "_id" : "51bacfbaed50c1b4e156f59e",
16        "_score" : 4.573353, "_source" : {"username":"netty","bio":null,"company":null,"name":"The Netty Project"}
17      }, {
18        "_index" : "com.jfrog.bintray.interaction.domain",
19        "_type" : "artifact",
20        "_id" : "50c8d9b2e4b085758aebeef9b",
21        "_score" : 3.6669817, "_source" : {"id":"50c8d9b2e4b085758aebeef9b","status":"PUBLISHED","repo":{"id":"50c75
22      }, {
23        "_index" : "com.jfrog.bintray.interaction.domain",
24        "_type" : "artifact",
25        "_id" : "50c8d9b2e4b085758aebefab",
26        "_score" : 3.6669817, "_source" : {"id":"50c8d9b2e4b085758aebefab","status":"PUBLISHED","repo":{"id":"50c75
```

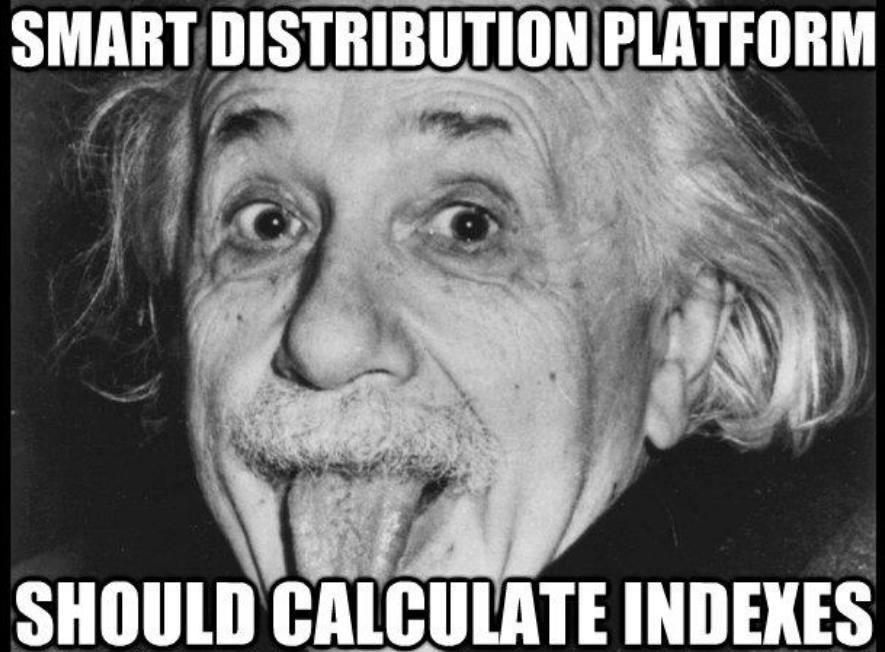


ADDITIONAL SERVICES

ADDITIONAL SERVICES

INDEXES, STATISTICS, LOGS

SMART DISTRIBUTION PLATFORM

A black and white close-up photograph of Albert Einstein's face. He has his characteristic wild, grey hair and a full, bushy beard. His eyes are wide open, looking directly at the camera with a look of surprise or intense realization. The background is dark and out of focus.

SHOULD CALCULATE INDEXES

quickmeme.com

**ONE DOES NOT SIMPLY
CALCULATE REAL-TIME STATS**

**THE DATA LOAD
IS TOO DAMN HIGH!**

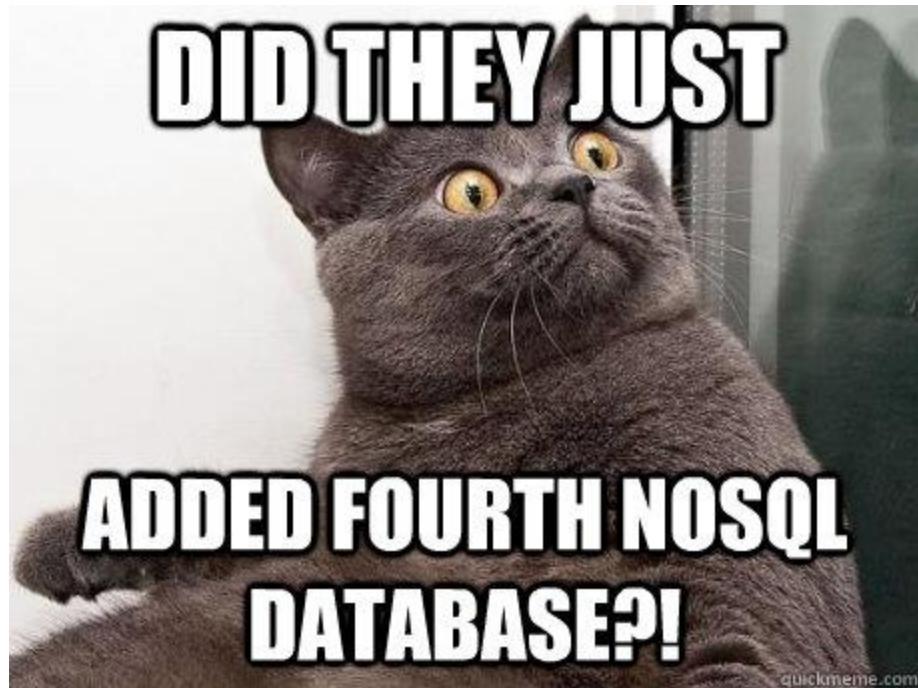


JESQUE

TO THE RESCUE



ALSO, ~~RADISH~~ REDIS TO THE RESCUE



```
75     RedisEntryProtos.RedisEntry.Builder builder = RedisEntryProtos.RedisEntry.newBuilder();
76     String username = user.getName() == null ? ANONYMOUS_USERNAME : user.getName();
77     builder.setUsername(username);
78     builder.setUseragent(containerRequest.getHeaderValue(USER_AGENT));
79     builder.setDownloadtime(exportLogDateFormat.get().format(now));
80     builder.setUrl(resource);
81     String ip = resolveIp(containerRequest);
82     builder.setIp(ip);
83     builder.setReferer(containerRequest.getHeaderValue(REFERER_HEADER) == null ? StringUtils.EMPTY :
84                         containerRequest.getHeaderValue(REFERER_HEADER));
85     builder.setContentLength(String.valueOf(contentLength));
86
87     try {
88         statisticsRecordRedisTemplate.opsForList()
89             .rightPush(RedisKeysPrefix.STATS_RECORDS.getKey(now), builder.build());
90     } catch (Exception e) {
```

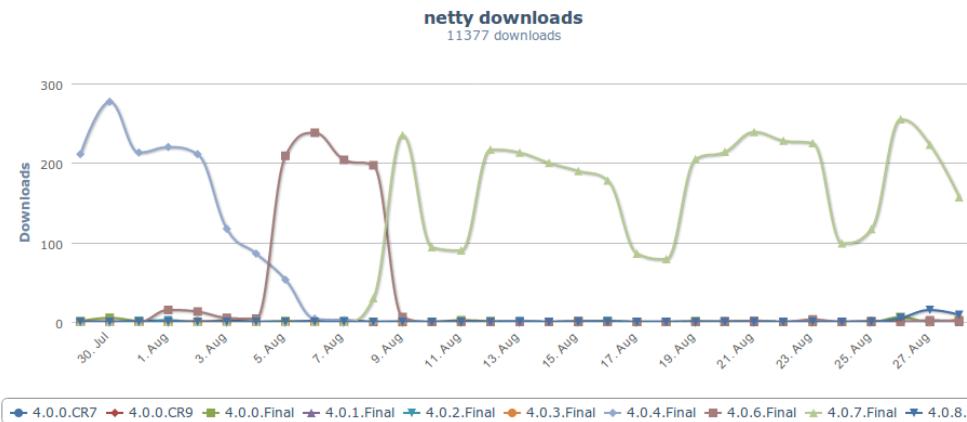
Date range

Last 30 Days

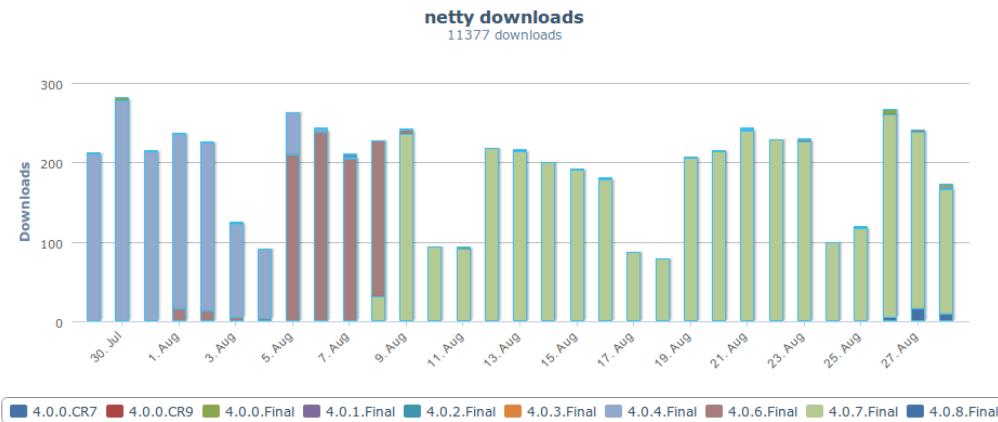
Show

Graph type: Bar / Line / Pie / Country

Date range: Last 30 Days Show Graph type: Bar / Line / Pie / Country



Date range: Last 30 Days Show Graph type: Bar / Line / Pie / Country



ADDITIONAL SERVICES

DOCUMENTATION

SUFFERING WITH DOCBOOK?

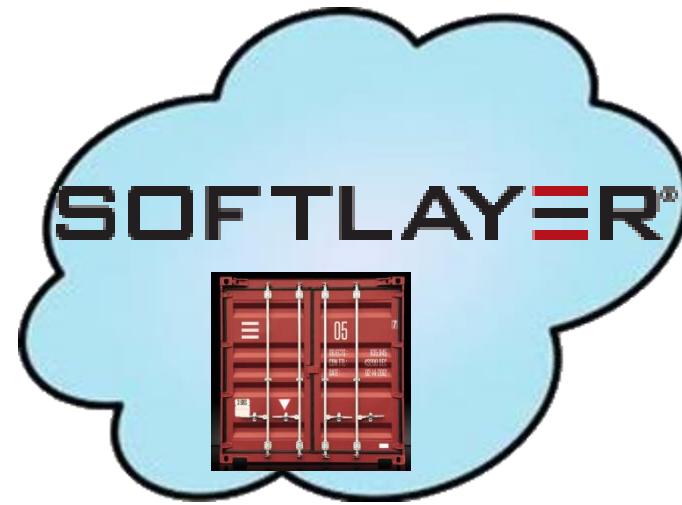
**JUST SWITCH TO
ASCIIDOCTOR!**

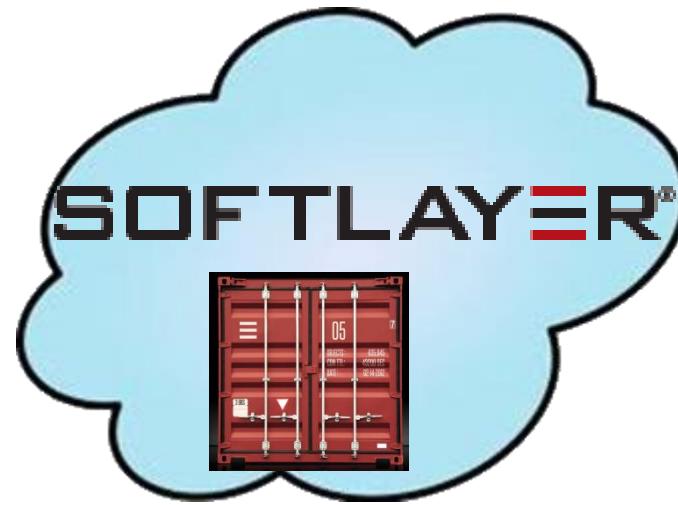
DevOps

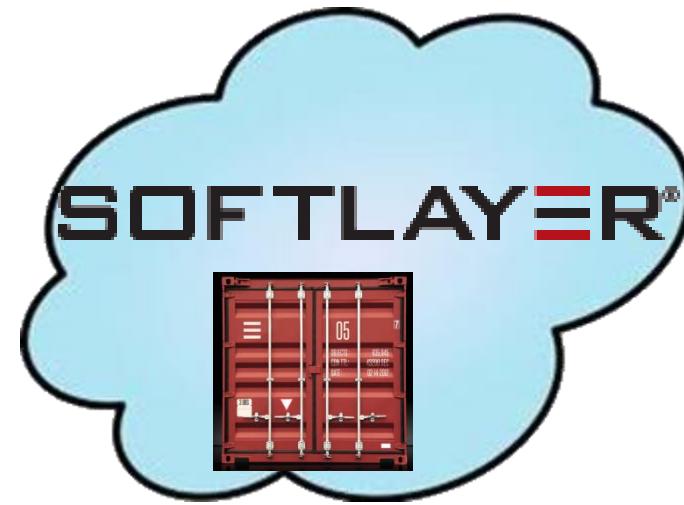
IAAS VS. SAAS

LEAVE IT TO THE PRO









SaaS FOR DOWNLOAD SERVER

COMPONENT

SaaS

SAAS FOR DOWNLOAD SERVER

COMPONENT

BLOB STORAGE

SAAS

SOFTLAYER DATASTORE

SaaS FOR DOWNLOAD SERVER

COMPONENT

BLOB STORAGE

MAPPING

SaaS

SOFTLAYER DATASTORE

CLOUDANT

SAAS FOR WEB AND SERVICES

COMPONENT SAAS

SAAS FOR WEB AND SERVICES

COMPONENT

MODEL

SAAS

MONGOHQ

SAAS FOR WEB AND SERVICES

COMPONENT	SAAS
MODEL	MONGOHQ
GRAILS	N/A

SAAS FOR WEB AND SERVICES

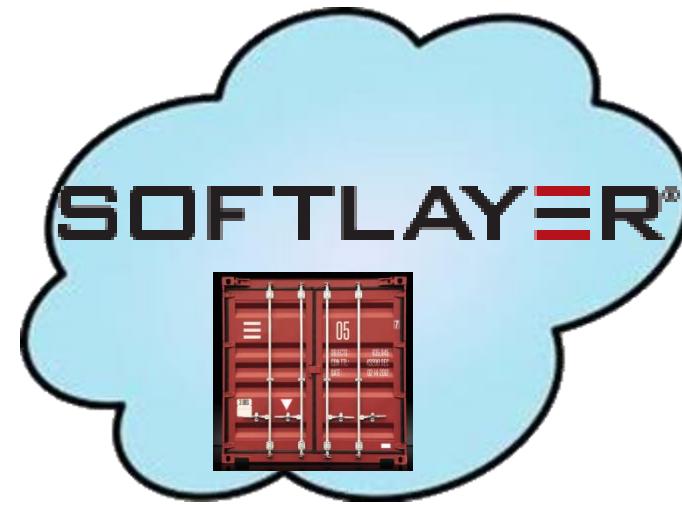
COMPONENT	SAAS
MODEL	MONGOHQ
GRAILS	N/A
ELASTICSEARCH	N/A

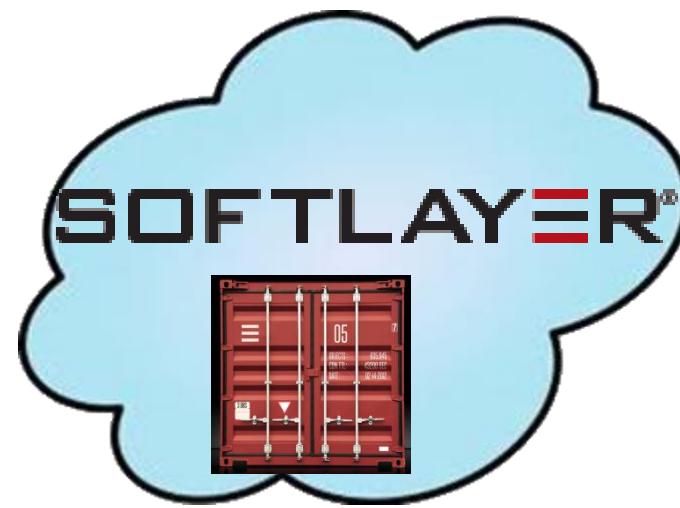
SAAS FOR WEB AND SERVICES

COMPONENT	SAAS
MODEL	MONGOHQ
GRAILS	N/A
ELASTICSEARCH	N/A
REDIS	N/A



IF YOU WANT SOMETHING DONE, DO IT YOURSELF. YEP!





PHYSICAL VS. VIRTUAL

Remember this?

NON-FUNC. REQUIREMENTS

REQUIREMENT RPS AVAILABLE
DOWNLOAD 10K ALWAYS

VIRTUALIZATION

VIRTUALIZATION

PROS

VIRTUALIZATION

PROS

- CHEAP

VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY

VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY
- VOLATILITY

VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY
- VOLATILITY

CONS

VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY
- VOLATILITY

CONS

- OVERHEAD

VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY
- VOLATILITY

CONS

- OVERHEAD
- TENANT, NOT OWNER



How much overhead does x86/x64 virtualization have?



10

How much overhead does x86/x64 virtualization (I'll probably be using VirtualBox, possibly VMWare, definitely not paravirtualization) have for each of the following operations a Win64 host and Linux64 guest using Intel hardware virtualization?

3 Answers

active

oldest

votes



9

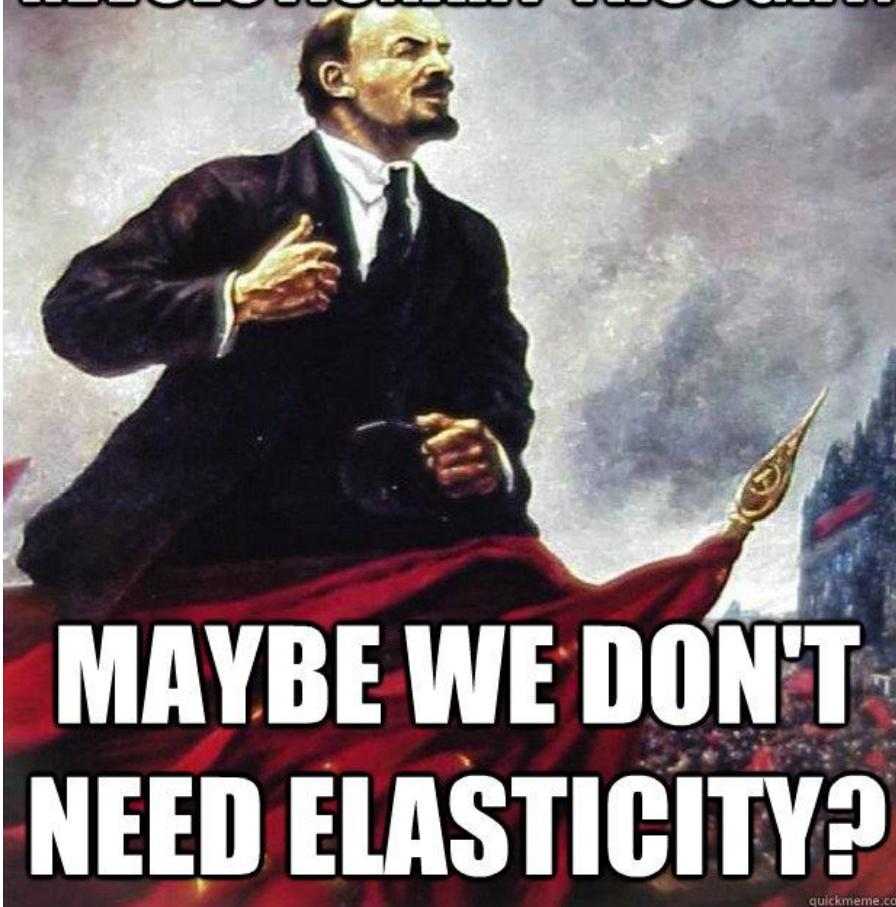


I found that there isn't simple and absolute answer for questions like yours. Each virtualization solution behaves differently on specific performance tests. Also, tests like disk I/O throughput can be split in many different tests (read, write, rewrite, ...) and the results will vary from solution to solution, and from scenario to scenario. This is why it is not trivial to point one solution as being the fastest for disk I/O, and this is why there is no absolute answer for labels like overhead for disk I/O.

VM layer overhead, Linux guest:

- CPU and Memory: 14.36%
- Network I/O: 24.46%
- Disk I/O: 8.84%
- Disk latency for reading: 2.41 times slower
- Micro-operations execution time: 10.84 times slower

REVOLUTIONARY THOUGHT:



VIRTUALIZATION

PROS

- CHEAP
- ELASTICITY
- VOLATILITY

CONS



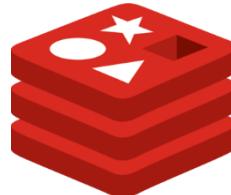
WTF?



WAIT FOR IT

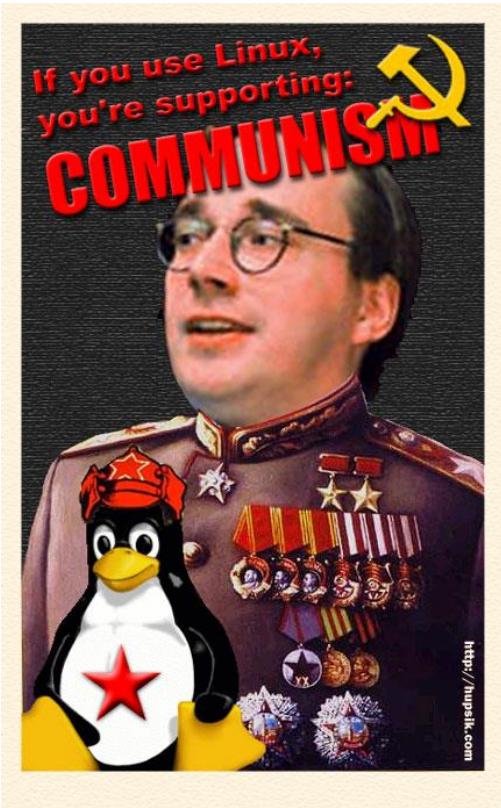
DEVELOPMENT ENVIRONMENT

REMEMBER?

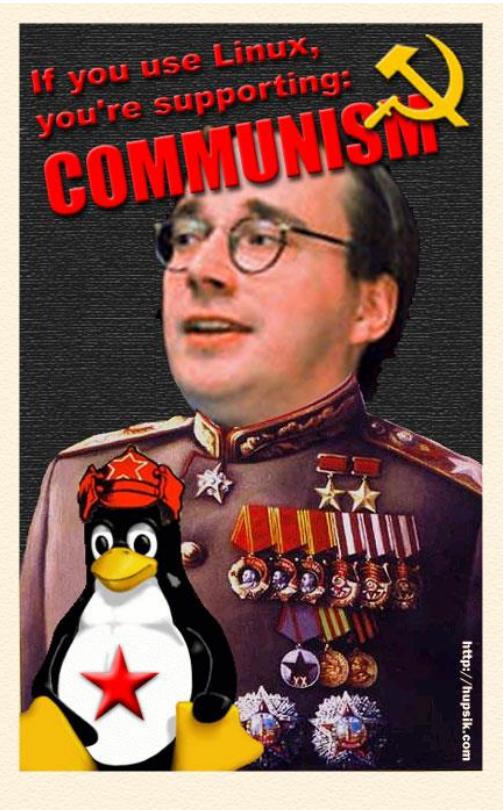


WE ARE LIBERAL

WE ARE LIBERAL



WE ARE LIBERAL

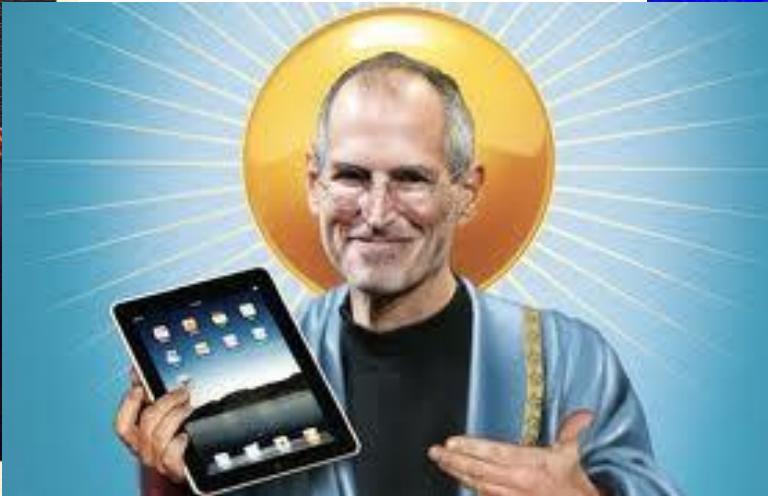
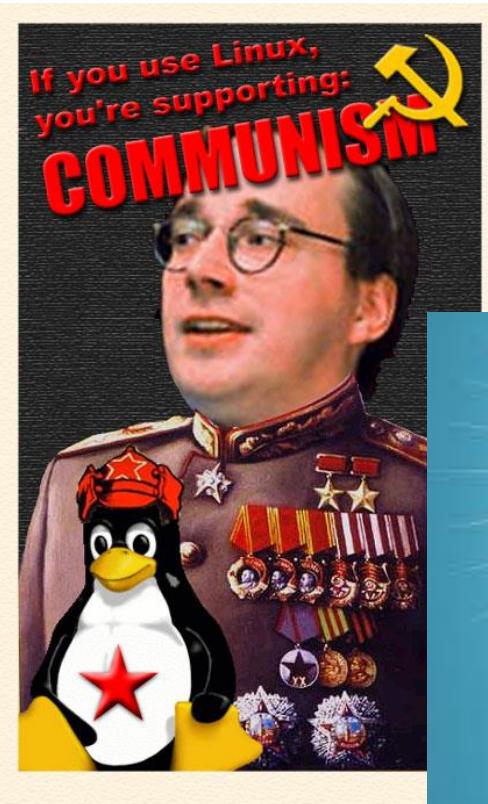


0x00000000, 0x9016A950, 0x00000001, 0x00000006)
HANDLED*** Address 0016a950 has been at 00100000
.6.2 inqfile SYSVER 0x10000565

Name	Dll Base	baseStamp	- Name
ntoakrni.exe	\$0010000	33247200	ai.dll
atapi.sys	\$0007000	3324604	SIPORT.
disk.sys	\$0100000	3360156	A382.SY
NTfia.sys	\$0237000	344eeb4	uvivid.sy
NTIce.sys	\$1f48000	31ec6c80	loppy.SY
cdrom.SYS	\$228e000	31ec6c9	ull.SYS
KSecDD.SYS	\$2290000	3356	l.SYS
min32k.sys	\$e0c2000	3	ll.dll
Cdf8.SYS	\$de82000	3	
nbf.sys	\$dc35000	3	
netbt.sys	\$1f68000	3	
scr.sys	\$2008000	3	
parport.SYS	\$de14000	3	
win32k.sys	\$1dd0000	3	



WE ARE LIBERAL



```
0x00000000, 0x0016A950, 0x00000001, 0x00000006)
HANDLED*** Address 0016a950 has been at 00100000
.6.2 inqfile SYSVER 0x10000565

Name          Dll Base  DateStamp - Name
ntoakrni.exe 00010000 33247200 - nai.dll
atapi.sys    00007000 3324604 - SIPORT.
disk.sys     00100000 336015c - ASS2.SY
ntfia.sys    00237000 344eeb4 - uvid.sy
NTice.sys    01f48000 31ec6c80 - floppy.SY
cdrom.SYS    0228e000 31ec6c9 - null.SYS
                02290000 3356000 - 
                0e0c2000 3 - 
                0de82000 3 - 
                0dc35000 3 - 
                01f68000 0 - 
                02008000 0 - 
                0de14000 0 - 
                01dd0000 0 -
```





ONE DOES NOT SIMPLY

SETUP ALL THAT ON ALL THIS

REMEMBER?



The Solution



The Solution



The Solution



Chef what?



Opscode Chef



SIGN IN MANAGEMENT CONSOLE [!\[\]\(810b27d43356ba64c7e93df4c5657dc1_img.jpg\)](#) [!\[\]\(87e5d721e607c753cc3efad24a54dd12_img.jpg\)](#) [!\[\]\(1b33c1e5a2e06d87932d5aaf5f85920c_img.jpg\)](#) [!\[\]\(15c20e141ac387a28ebcd60bd54a2357_img.jpg\)](#)

CHEF

[Products ▾](#) [Solutions ▾](#) [Learn Chef ▾](#) [About ▾](#)

Chef is an **automation platform** that transforms **infrastructure into code**. Stop thinking in terms of physical and virtual servers. With Chef, your real asset is the code that brings those servers and the services they provide to life. **An automated infrastructure** can accelerate your time to

Chef works with cookbooks

Cookbooks

A cookbook is the fundamental **unit of configuration** and policy distribution.

Each cookbook defines a **scenario**, such as everything needed to install and configure MySQL, and then it contains all of the components that are required to support that scenario, including:

- Attribute values that are set on nodes
- Definitions that allow the creation of reusable collections of resources
- File distributions

Chef works with cookbooks

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- Attribute values that are set on nodes
- Definitions that allow the creation of reusable collections of resources
- File distributions

Install MySQL in Ruby

```
115
116 if platform_family? 'windows'
117   require 'win32/service'
118
119   windows_path node['mysql']['bin_dir'] do
120     action :add
121   end
122
123   windows_batch "install mysql service" do
124     command "\"#{node['mysql']['bin_dir']}\\mysqld.exe\" --install #{node['mysql']['service_name']}"
125     not_if { Win32::Service.exists?(node['mysql']['service_name']) }
126   end
127 end
128
```

Why not Puppet?

DEVOPS REACTIONS

The moment you have to pick between puppet and chef



⌚ 1 year ago

♥ 5 notes

Like 64

Tweet 84

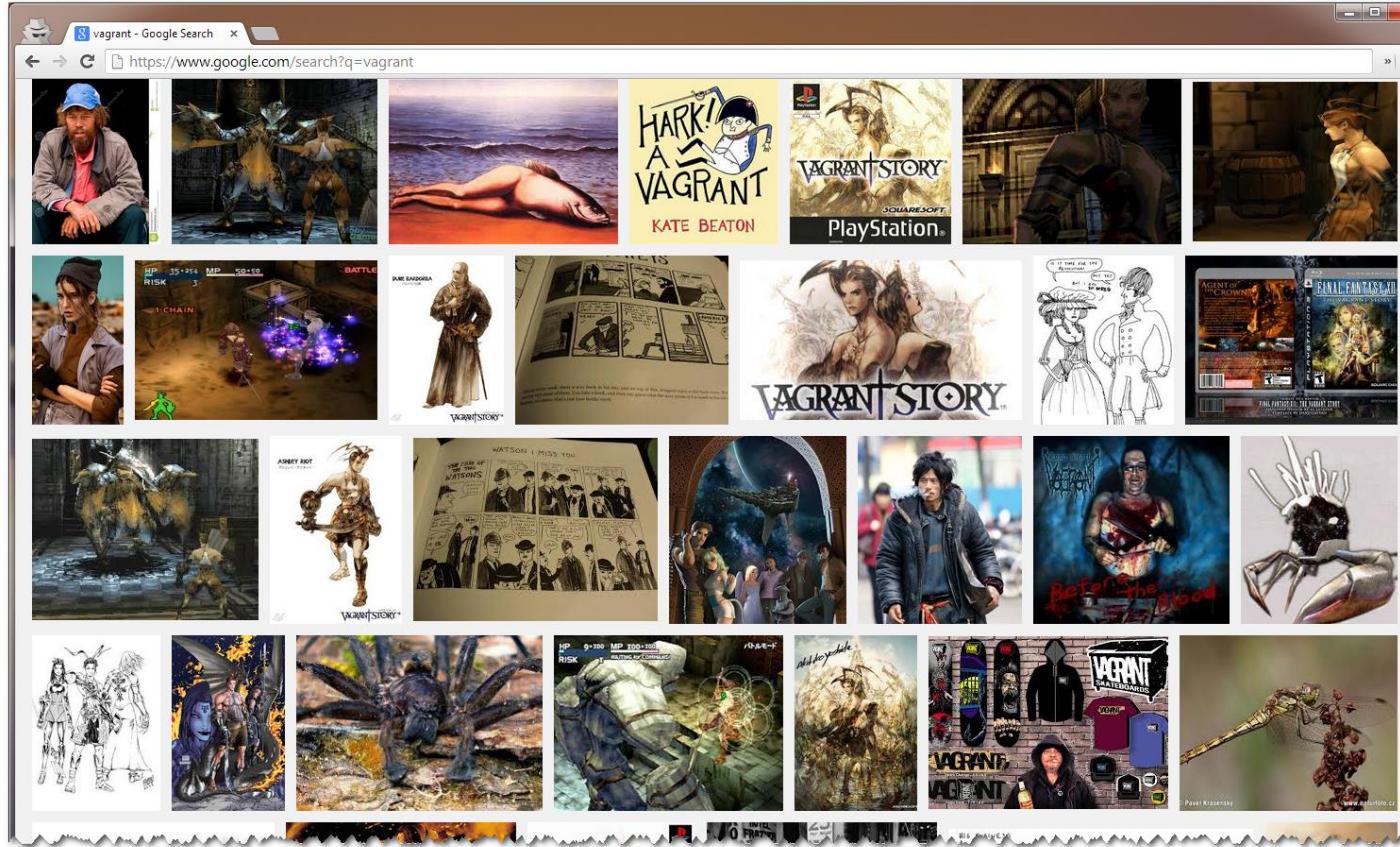
The Solution



The Solution



Vagrant what?



Vagrant

The image shows a screenshot of a website titled "VAGRANT DOCS". The main heading on the page is "HOW VAGRANT BENEFITS YOU". Below the heading, there is a paragraph of text describing the benefits of Vagrant. The text is highlighted with yellow boxes around specific words and phrases.

If you're a **developer**, Vagrant will **isolate** dependencies and their configuration within a **single disposable, consistent environment**, without sacrificing any of the tools you're used to working with (editors, browsers, debuggers, etc.). Once you or someone else creates a single [Vagrantfile](#), you just need to **vagrant up** and everything is installed

Setup Vagrant with Chef

CHEF SOLO PROVISIONER

Provisioner name: `chef_solo`

The chef solo provisioner allows you to provision the guest using Chef specifically with Chef Solo.

Setup Vagrant with Chef

```
config.vm.box = "centos-6"

# Enable and configure the chef solo provisioner
config.vm.provision :chef_solo do |chef|
    chef.cookbooks_path = "#{checkout}"
    #chef.data_bags_path = "install/chef/data_bags"
    chef.roles_path = "install/chef/roles"

    chef.add_role("bintray_common_vagrant_server")
    chef.add_role("bintray_interaction_vagrant_server")
    chef.add_role("bintray_download_vagrant_server")
end
end
```

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  chef.add_role("bintray_interaction_vagrant_server")
  chef.add_role("bintray_download_vagrant_server")
end
end
```

Development



Development



CHEF DOCUMENTS

chef-solo

chef-solo is an open source version of the chef-client that allows using cookbooks with nodes without requiring access to a server. **chef-solo runs locally** and requires that a **cookbook** (and any of its dependencies) **be on the same physical disk as the node**. chef-solo is a limited-functionality version of the chef-client and **does not support** the following:

Development



The screenshot shows a section of the Chef Documents website. At the top, there's a dark header with the "CHEF DOCUMENTS" logo. Below it, a title reads "chef-solo". A horizontal orange bar follows. The main text describes "chef-solo" as an open-source version of the chef-client that runs locally on a node. It specifies that cookbooks and their dependencies must be on the same physical disk as the node. The text also notes that "chef-solo" is a limited-functionality version of the chef-client and does not support certain features. A red arrow points from the text "chef-solo runs locally" towards the GitHub logo.

chef-solo

chef-solo is an open source version of the chef-client that allows using cookbooks with nodes without requiring access to a server. **chef-solo runs locally** and requires that a **cookbook** (and any of its dependencies) **be on the same physical disk as the node**. chef-solo is a limited-functionality version of the chef-client and **does not support** the following:

Development



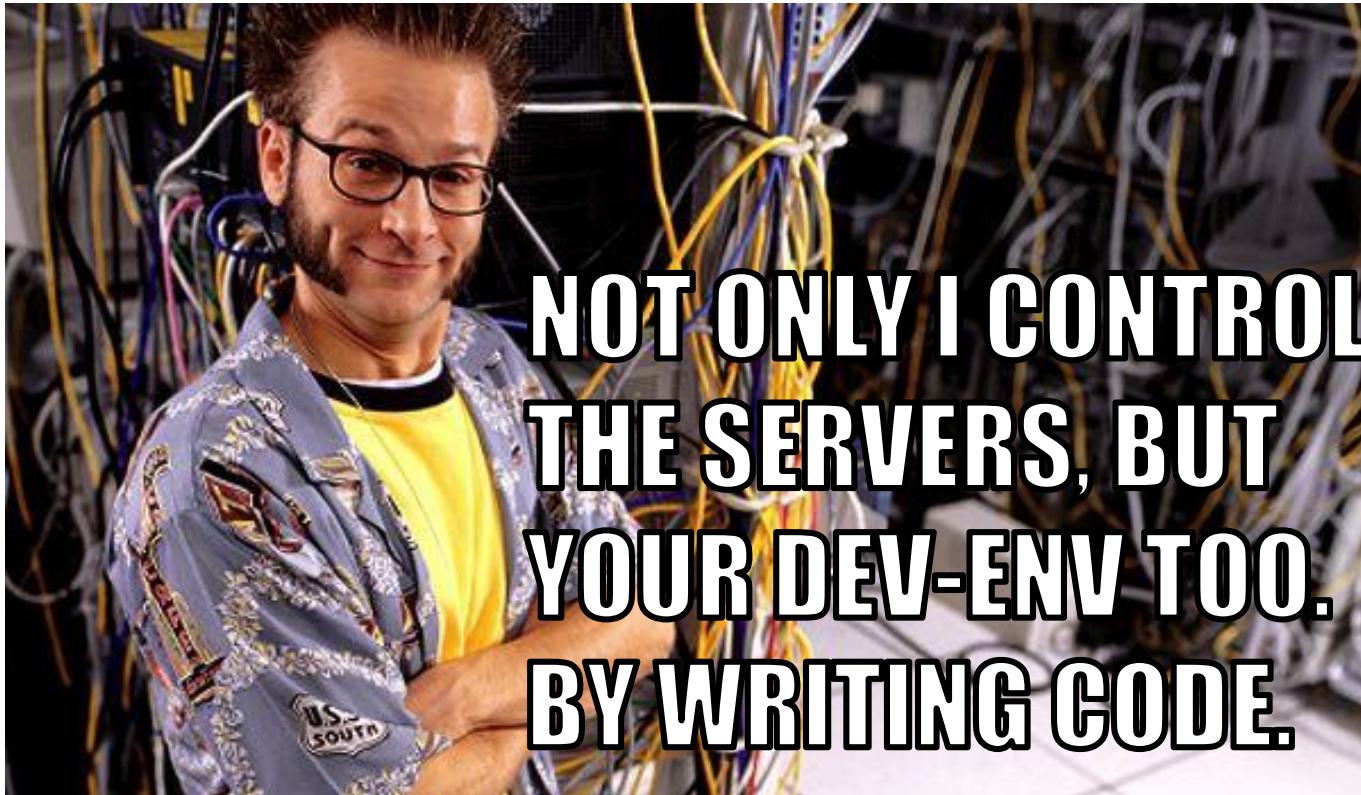
chef-solo

chef-solo is a command-line tool for running cookbooks without a node or a chef server. It reads a configuration file, finds the cookbooks to run, and executes them in parallel. It's great for testing, development, and deployment.

Directory of D:\Users\jbaruch\projects\cookbooks\cookbooks

```
29/01/2014  16:27  <DIR>          .
29/01/2014  16:27  <DIR>          ..
29/01/2014  16:27  <DIR>          apache2
29/01/2014  16:27  <DIR>          apt
29/01/2014  16:27  <DIR>          ark
29/01/2014  16:27  <DIR>          artifactory
29/01/2014  16:27  <DIR>          aws
29/01/2014  16:27  <DIR>          basic-pack
29/01/2014  16:27  <DIR>          bluepill
29/01/2014  16:27  <DIR>          bt_install
29/01/2014  16:27  <DIR>          build-essential
29/01/2014  16:27  <DIR>          chef_handler
29/01/2014  16:27  <DIR>          couchdb
29/01/2014  16:27  <DIR>          deploy
29/01/2014  16:27  <DIR>          devnullsmtp
29/01/2014  16:27  <DIR>          elasticsearch
29/01/2014  16:27  <DIR>          erlang
29/01/2014  16:27  <DIR>          haproxy
29/01/2014  16:27  <DIR>          incapsula
29/01/2014  16:27  <DIR>          install_from
29/01/2014  16:27  <DIR>          java
29/01/2014  16:27  <DIR>          jfrog
29/01/2014  16:27  <DIR>          libs
29/01/2014  16:27  <DIR>          logentries
29/01/2014  16:27  <DIR>          loggly
29/01/2014  16:27  <DIR>          logicmonitor
29/01/2014  16:27  <DIR>          logrotate
29/01/2014  16:27  <DIR>          memcached
29/01/2014  16:27  <DIR>          metachef
29/01/2014  16:27  <DIR>          mongodb
29/01/2014  16:27  <DIR>          mount
29/01/2014  16:27  <DIR>          mysql
29/01/2014  16:27  <DIR>          nagios
29/01/2014  16:27  <DIR>          network-host
29/01/2014  16:27  <DIR>          network-keys
29/01/2014  16:27  <DIR>          nginx
```

DevOps in Dev Env



I. VAGRANT BOOTS CENTOS ON VIRTUALBOX

1. VAGRANT BOOTS CENTOS
ON VIRTUALBOX
2. CHEF INSTALLS ALL DB
AND SERVICE RPM'S
FROM PRIVATE YUM
REPO

1. VAGRANT BOOTS CENTOS
ON VIRTUALBOX
2. CHEF INSTALLS ALL DB
AND SERVICE RPM'S
FROM PRIVATE YUM
REPO
3. PROFIT!

HIGH AVAILABILITY

(AND LOCALITY)

CLUSTER EVERYTHING



REMEMBER?

REQUIREMENTS

- RAPID APPLICATION DEVELOPMENT
- FLEXIBLE SCHEMA
- JAVA BACKGROUND
- STATELESS



**STATELESS IS
AWESOME!**

CDN FOR DOWNLOAD SERVER

Account

View Credentials

Containers: 13	Incoming: 8553.4 MB	Private Net
Storage: 565812.1	Outgoing: 334.6 MB	

Type to filter

000008e5f5b95fc49499...	0.31 KB	2013-06-03 05:00 AM	
0000f37b2402525bc64...	4.6 MB	2013-04-19 05:20 AM	
00001f02f9302b6da3f2...	12.51 KB	2013-03-01 05:01 AM	
000023f3f1fcca5840438...	0.48 KB	2013-06-26 05:07 AM	
00002587d25b7888112...	0.86 KB	2013-06-02 05:04 AM	
00002e639b14b499ee8...	629.88 KB	2012-11-26 12:27 PM	
00003ca9329f3f2ffcc4f93...	166.63 KB	2013-04-02 05:02 AM	
00004220bab3d755d9b...	18.97 KB	2012-12-13 12:12 PM	
000043f435fad27bb5e6...	212.43 KB	2012-11-27 05:37 PM	
0000483a68f47a55c86f...	6.78 KB	2013-04-13 05:25 AM	
00005993fb43b699f57a...	0.49 KB	2013-06-14 04:57 AM	

data-production
application/container
Objects: 1678117
Size: 2048 MB

CDN

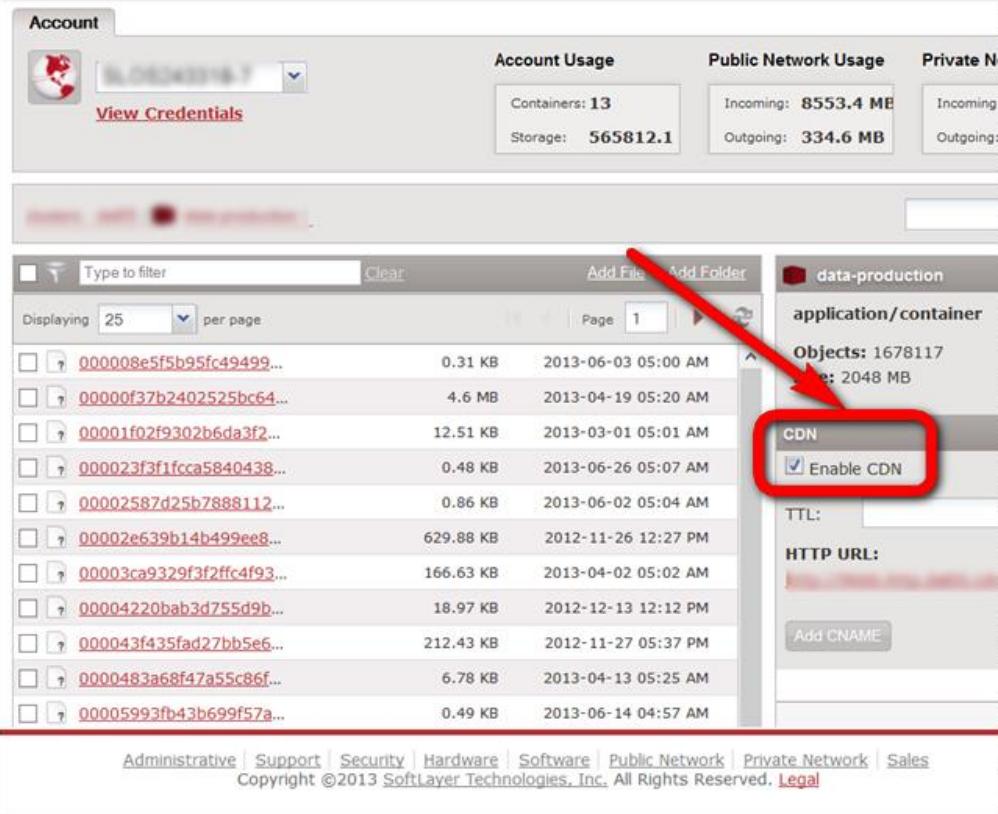
Enable CDN

TTL:

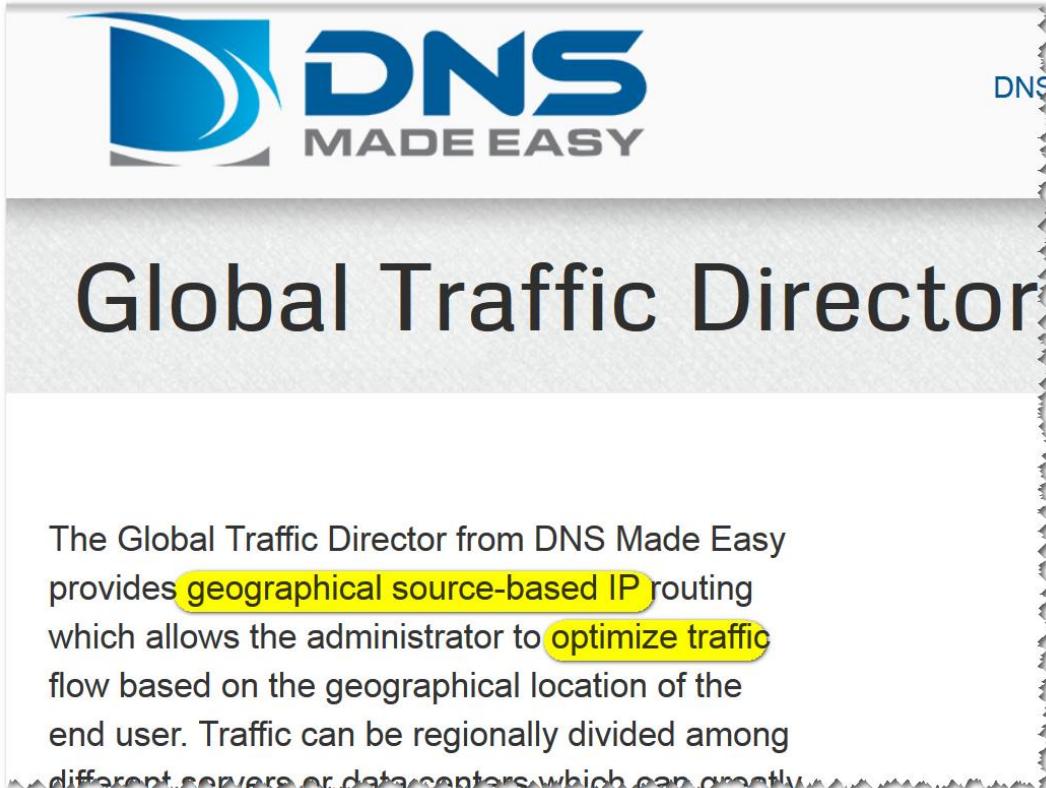
HTTP URL:

Add CNAME

Administrative | Support | Security | Hardware | Software | Public Network | Private Network | Sales
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GTD FOR WEB APPLICATION



The Global Traffic Director from DNS Made Easy provides geographical source-based IP routing which allows the administrator to optimize traffic flow based on the geographical location of the end user. Traffic can be regionally divided among different servers or datacenters which can greatly

DNS
MADE EASY

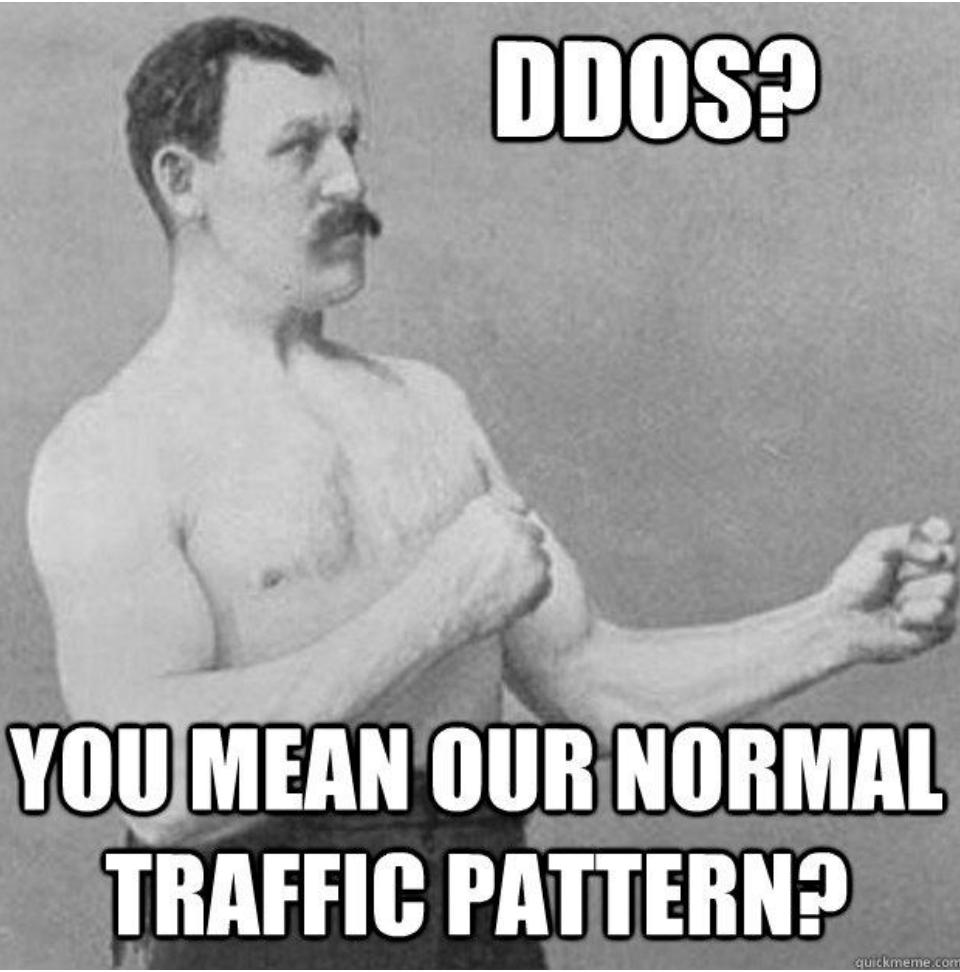
Global Traffic Director

The Global Traffic Director from DNS Made Easy provides geographical source-based IP routing which allows the administrator to optimize traffic flow based on the geographical location of the end user. Traffic can be regionally divided among different servers or datacenters which can greatly



302

Found



DDOS?

**YOU MEAN OUR NORMAL
TRAFFIC PATTERN?**

BACKUP

(AND VENDOR LOCK-OUT)

**Our Disaster Recovery Plan
Goes Something Like This...**



THERE ARE TWO TYPES OF PEOPLE



**THOSE WHO BACK UP
THEIR COMPUTERS,
AND THOSE WHO WILL**

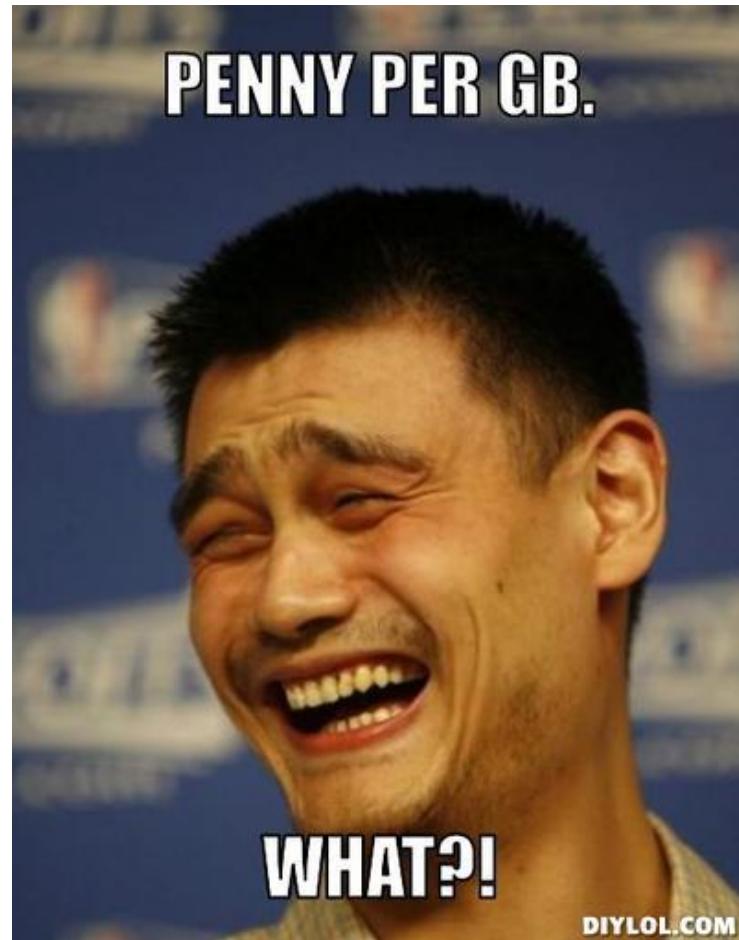
Amazon Glacier Pricing

Pay only for what you use. There is no minimum

Storage Pricing

Region: US East (N. Virginia) ▾

- \$0.01 per GB / month



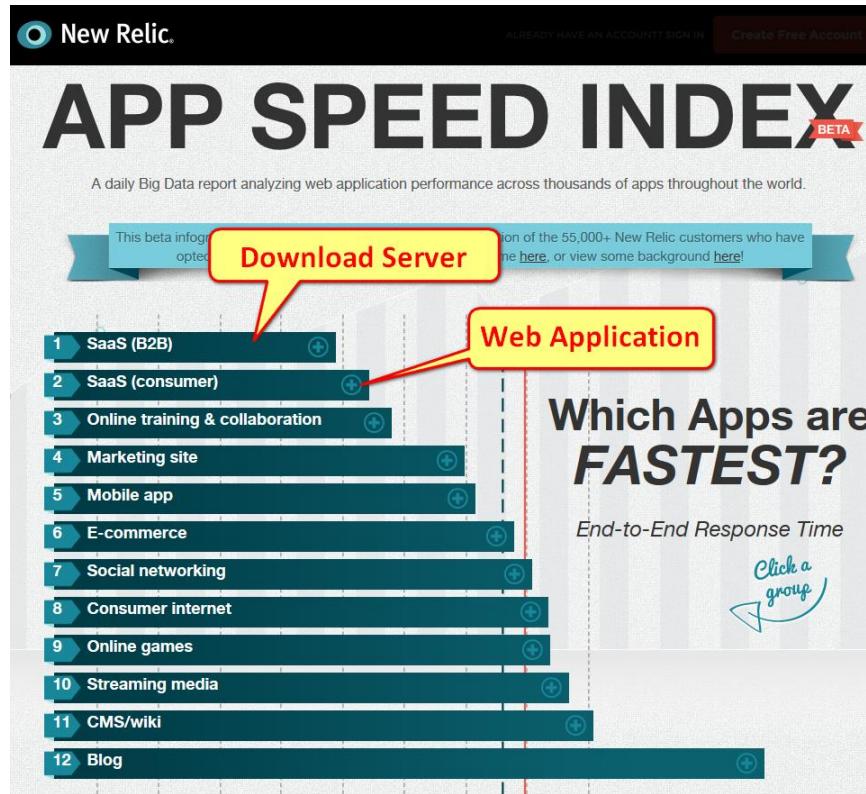
MONITORING

(SERVERS, STATE AND LOGS)

JAVA MONITORING



BTW...



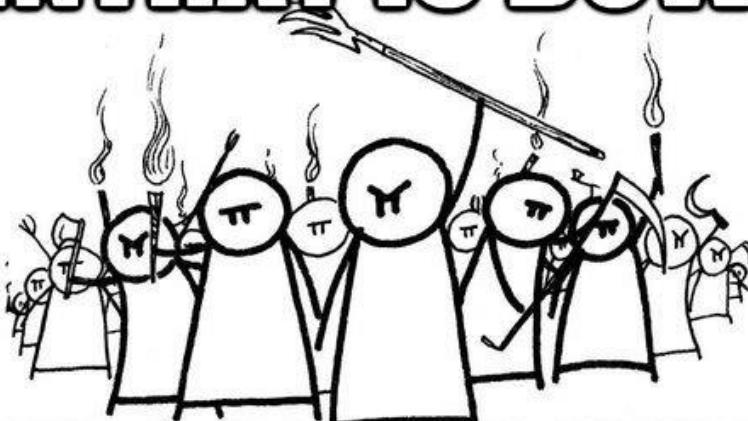


**ONE DOES NOT SIMPLY
MONITOR LOGS
IN CLUSTER OF CLUSTERS**



PREVENT THIS:

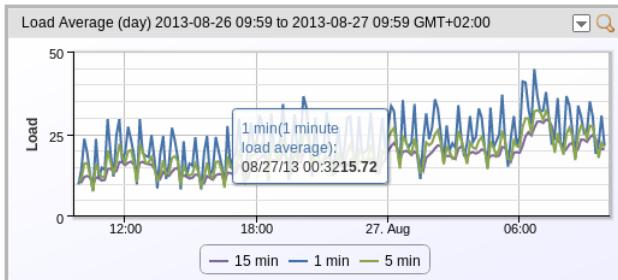
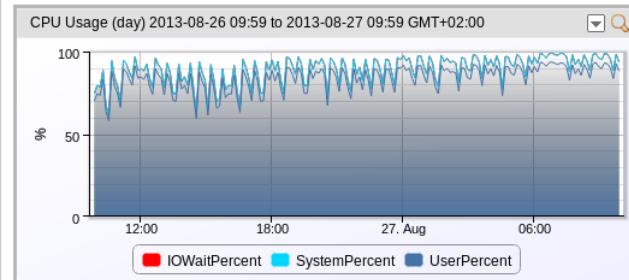
BINTRAY IS DOWN!



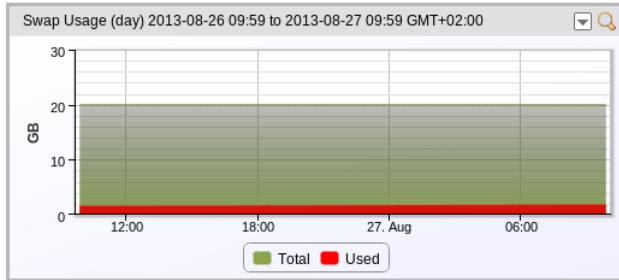
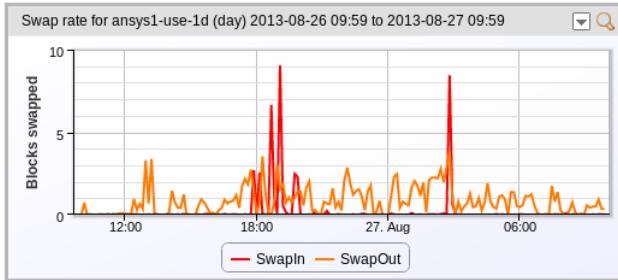
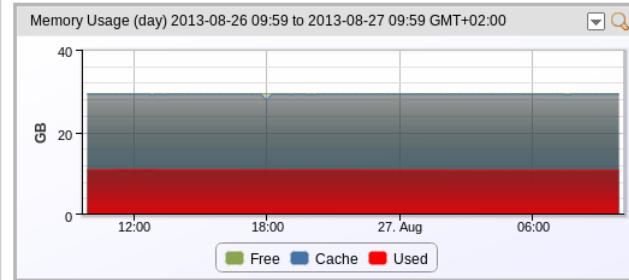
WE CAN'T BUILD!

LogicMonitor

CPU



- ▶ CPU Cores - *
- ▶ Disks
- ▶ Host Status
- ▶ ▶ Interfaces (64 bit)-
- ▶ Memory Usage



Ping

GOING TO PRODUCTION...



REMEMBER?

The Solution



CHEF™



```
78
79 bash "install_interaction" do
80   user "root"
81   cwd "/usr/share/tomcat/webapps"
82   code <<-EOH
83   service tomcat7 stop
84   rm -rf ROOT*
85   rm -rf ../work/Catalina/localhost/interaction
86   rm -rf ../temp/*
87   wget --auth-no-challenge --no-check-certificate #{url} -O ROOT.war
88   chown #{int_user}:#{int_user} ROOT.war
89   service tomcat7 start
90   echo #{latest_version} > #{int_dir}/_version
91   EOH
92   not_if do
93     my_env == 'production' and databag_forbids_deploy(node['hostname'], my_env, 'interaction')
94   end
95 end
96
```

The Solution



Jenkins

Jenkins bintray-deploy-production

[Back to Dashboard](#)

[Status](#)

[Changes](#)

[Workspace](#)

[Build Now](#)

[Configure](#)

Build History (trend)	
	#173 Aug 26, 2013 4:36:29 PM
	#172 Aug 25, 2013 2:49:39 PM
	#171 Aug 21, 2013 9:21:17 AM
	#170 Aug 21, 2013 9:16:39 AM
	#169 Aug 20, 2013 12:38:17 PM

Project bintray-deploy-production

This build requires parameters:

buildNumber

role

- all
- all
- interaction
- download
- stats

confirm

I risk my life deploying an older build

```
253     elsif artifact == 'interaction'
254         arts = ["interaction"]
255         arts.each do |arti|
256             update_deployment_datbag(server['hostname'], arti, build_num, environment, rest)
257         end
258     else
259         update_deployment_datbag(server['hostname'], artifact, build_num, environment, rest)
260     end
261
262     run_chef_client(server['ipaddress'])
```

```
253     elsif artifact == 'interaction'  
254         arts = ["interaction"]  
255         arts.each do |arti|  
256             update_deployment_datbag(server['hostname'], arti, build_num, environment, rest)  
257         end  
258     else  
259         update_deployment_datbag(server['hostname'], artifact, build_num, environment, rest)  
260     end  
261  
262     run_chef_client(server['ipaddress'])
```

Where from?

[▼ Browse](#)[Tree Browser](#)[Simple Browser](#)[Search Results](#)[Builds](#)[▼ Search](#)[Quick Search](#)[Class Search](#)[GAVC Search](#)[Property Search](#)[Checksum Search](#)[Remote Search !\[\]\(cfd4dcc01a67b142ccc5e0c4f938b556_img.jpg\)](#)

Repository Browser

- ▼ bintray
 - ▶ admin
 - ▶ bintray-site
 - ▶ clusterman
 - ▶ context
 - ▶ documentation
 - ▶ download
 - ▶ gradle
 - ▶ interaction-domains
 - ▶ jcclouds
 - ▶ jesque-workers
 - ▶ maintenance
 - ▶ repository-extractor
 - ▶ security
 - ▶ security-webapp
 - ▶ server
 - ▶ statistics
 - ▶ statistics-aggregator
 - ▶ statistics-log-writer
 - ▶ storage
 - ▶ webapp

[General](#)[Properties](#)

Info

Name: [webapp](#) 

Deployed by:

Created: 05-05-13 13:01:31 UTC

Artifact Count: 83

Repository Path: [libs-snapshots-local:com/jfrog/bintray/webapp](#) 

Actions



Refresh



Watch

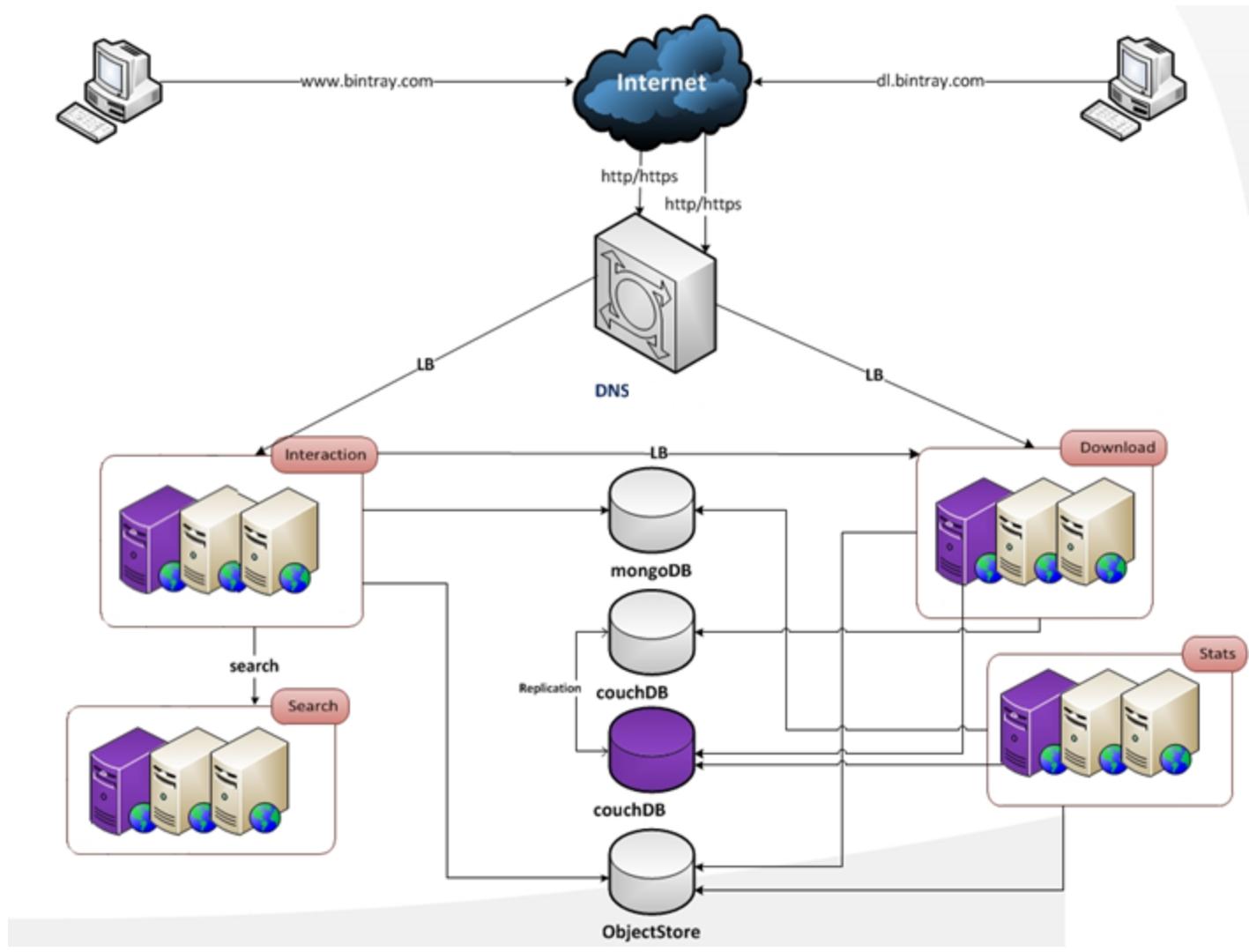
Virtual Repository Associations

 [repo](#)  [libs-snapshots](#)  [artifactory-dependencies](#)  [aol-resources](#)  [bintray-libs](#)

```
253     elsif artifact == 'interaction'  
254         arts = ["interaction"]  
255         arts.each do |arti|  
256             update_deployment_datbag(server['hostname'], arti, build_num, environment, rest)  
257         end  
258     else  
259         update_deployment_datbag(server['hostname'], 'all', artifact, build_num, environment, rest)  
260     end  
261  
262     run_chef_client(server['ipaddress'])
```

And run Chef!

ALL TOGETHER NOW



CONCLUSIONS TIME

CONCLUSIONS TIME

- DEFINE CRITICALITY

CONCLUSIONS TIME

- DEFINE CRITICALITY
- EMBRACE THE CHANGE

CONCLUSIONS TIME

- DEFINE CRITICALITY
- EMBRACE THE CHANGE
- PLAN FOR SCALE, BUT BE REAL

CONCLUSIONS TIME

- DEFINE CRITICALITY
- EMBRACE THE CHANGE
- PLAN FOR SCALE, BUT BE REAL
- BACKUP EVERYTHING!

NO, THANK YOU!

