Pragmatic Continuous Delivery

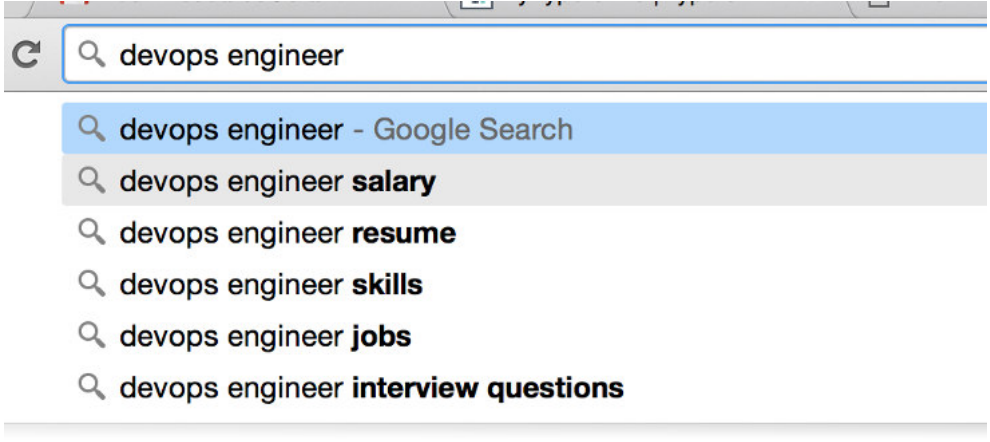
Day 1

Continuous Delivery 101

Scrum vs Continuous Deployment or why Scrum falls short ...

www.agileweboperations.com/**scrum-vs-continuous-deployment**-or-why...

May 10, 2011 - **Scrum vs Continuous Deployment** or why **Scrum** falls short for web applications ... The basic idea of **Scrum** is to create a safe and change-free ...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DevOps

Kanban

Continuous Integration

Continuous Testing

Continuous Delivery

Continuous Deployment

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Continuous Deployment

What?

A methodology for reducing the **cost**, **time** and **risk** of delivering incremental changes to users.

Qualities

1. Software is always in shippable state once code is pushed into the mainline (including infrastructure, configuration, data)

2. Push-button deployment for any desired version

DevOps

Kanban

Continuous Integration

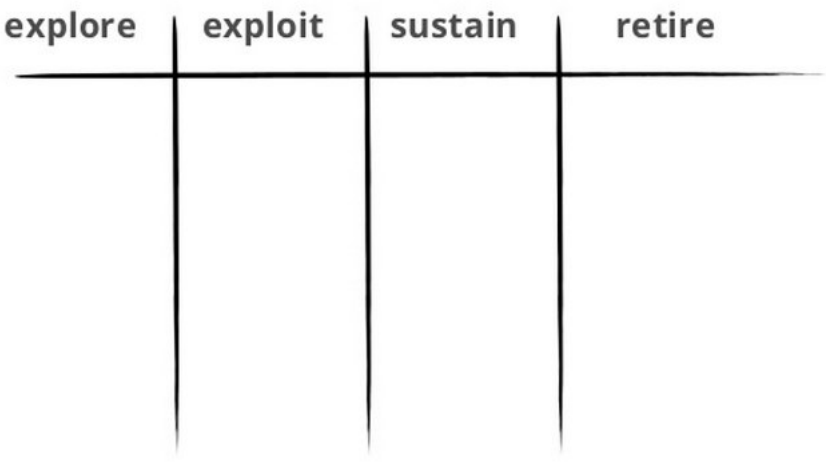
Continuous Testing

Continuous Delivery

Continuous Deployment

Why Continuous Delivery?

INNOVATION PORTFOLIO



High-performing organizations are deploying code 30 times more frequently, with 50 percent fewer failures than their lower-performing counterparts.

State of DevOps Report (2014)

Amazon

new code is deployed every 11.6 seconds during a normal business day (3K production deployments per day)

Facebook

each of 5,000 engineers commits to trunk HEAD at least once a day and the code at trunk HEAD is pushed to production once daily

Etsy

50 deploys/day

Google

15K engineers work from the HEAD revision of a single Perforce trunk. 50% of the code will be changed in any given month. 8 minutes after you commit code it's live in production.

This book integrates into a compelling narrative the best current thinking about how to create great software-intensive products and services. The approach in this book is both challenging and disciplined, and **some organizations will be unable to imagine following this path. But those who make the journey will find it impossible to imagine ever going back—and if they happen to be a competitor, they are well positioned to steal both your market and your people**. Ignore this book at your own risk.

(c) Mary Poppendieck

Anatomy of Deployment Pipeline


Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment

All changes to production go through deployment pipeline

All changes to production go through version control (from mainline!)

Build only once

Test on production-like environment

Deploy the same way to every environment

Commit Stage

Continuous Integration compliance checklist

1. All developers push the code at least once a day (to Mainline)
2. All developers run tests locally before pushing the code (and never push the code if tests fail)
3. **Every change** results in a build and tests run
4. Developers never push the code if a build is broken (why the build is broken if #3 is true?)
5. Build is **always** fixed within ten minutes of it going red

I will work in a branch and sync with Mainline every day.

(and push when my feature is ready)

I will use Mainline as a primary tool for identifying regression in my code

CI changes dynamics of a game

- No painful merges (try aggressive refactoring w/o CI)

- Small increments (easier code review, more opportunities for pairing)

- Evergreen Mainline requires engineering rigor (TDD, preflight quality control)

- Feature branching becomes unnecessary (brings back synchronous code reviews)

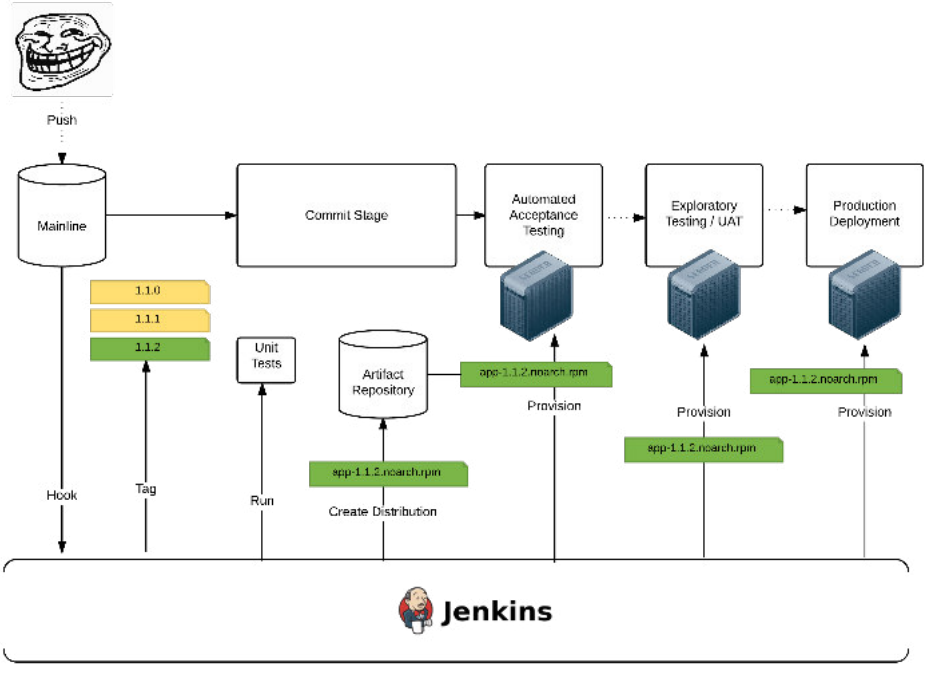
- Faster feedback from Sheriff on Duty (SoD)

- Faster feedback from downstream quality gates (if any)

One thing that I really like about open-source is that it really allows different people to work together. We don't have to like each other. And sometimes we really don't like each other.

(c) Linus Torvalds

http://www.ted.com/talks/linus_torvalds_the_mind_behind_linux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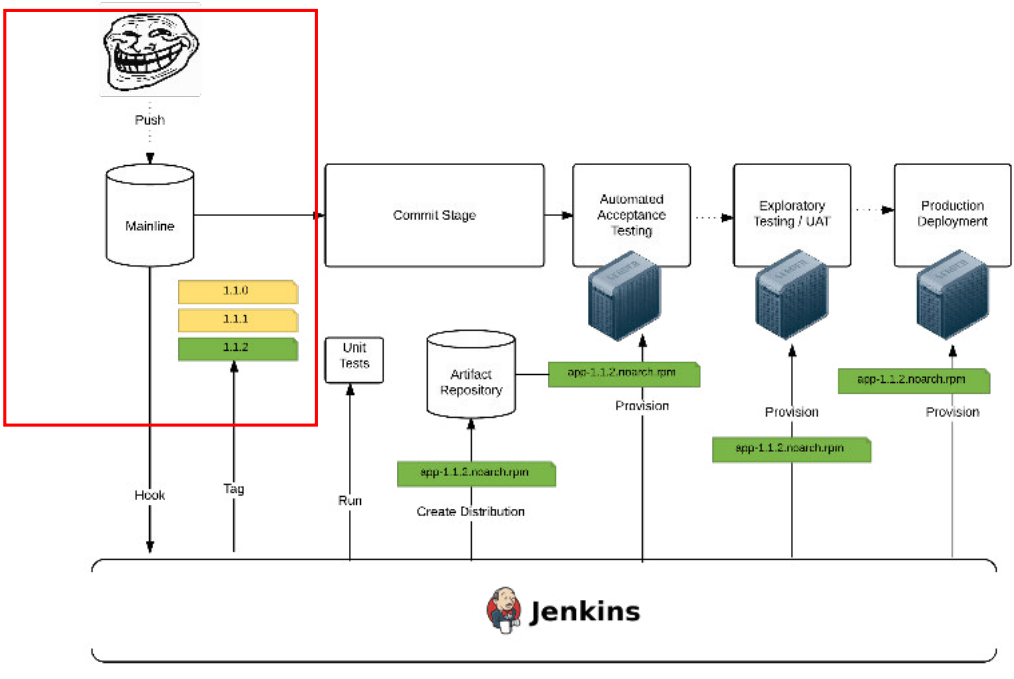
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Jenkins

Dealing with unfinished functionality

Feature Toggles

Feature Toggles

- Release Toggles

- Business Toggles

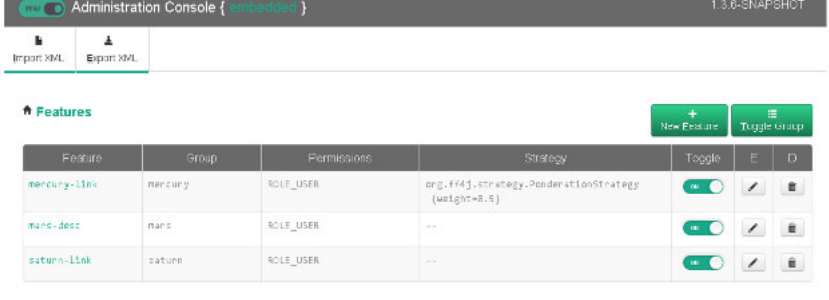
Use cases

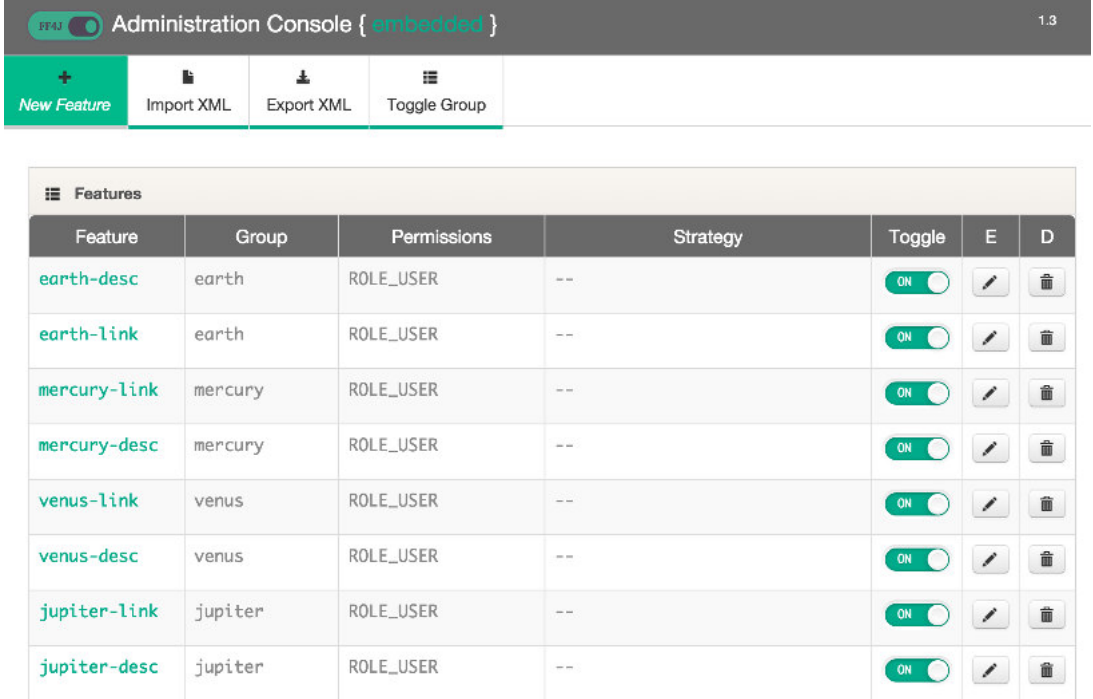
- Decoupling deployment from release
- Enabling feature for subgroup of users
- A/B testing
- Addition to circuit breaking

Feature Flipping for Java

FF4J is a proposition of Feature Toggle. You can enable and disable features through configuration at runtime with dedicated consoles or Web API but also **monitor** features usage. You can also define any **Property** and change its value at runtime with the exact same web console.

More information at ff4j.org or reference guide. To access a demo please click here




FF4J
Administration Console { embedded }
1.3
+
New Feature
Import XML
Export XML
Toggle Group
Features
Feature
Group
Permissions
Strategy
Toggle
E
D
earth-desc
earth
ROLE_USER
--
ON
earth-link
earth
ROLE_USER
--
ON
mercury-link
mercury
ROLE_USER
--
ON
mercury-desc
mercury
ROLE_USER
--
ON
venus-link
venus
ROLE_USER
--
ON
venus-desc
venus
ROLE_USER
--
ON
jupiter-link
jupiter
ROLE_USER
--
ON
jupiter-desc
jupiter
ROLE_USER
--
ON

```
if (ff4j.exist("new-feature")) {
    // new-feature exists
}

if (ff4j.check("new-feature")) {
    // new-feature is toggled
}
```

LaunchDarkly

Product ▾ | Pricing | Developers ▾ | FAQ | Blog | Sign Up | Login

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Anti-pattern: Feature Toggles introduce additional failure mode

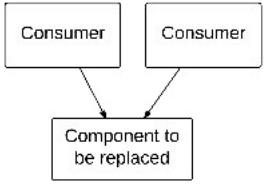
Release toggles are a useful technique and lots of teams use them. However they should be your last choice when you're dealing with putting features into production. Your first choice should be to break the feature down so you can safely introduce parts of the feature into the product. The advantages of doing this are the same ones as any strategy based on small, frequent releases. You reduce the risk of things going wrong and you get valuable feedback on how users actually use the feature that will improve the enhancements you make later.

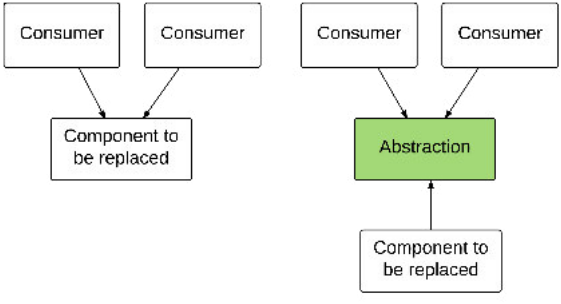
(c) Martin Fowler at Bliki

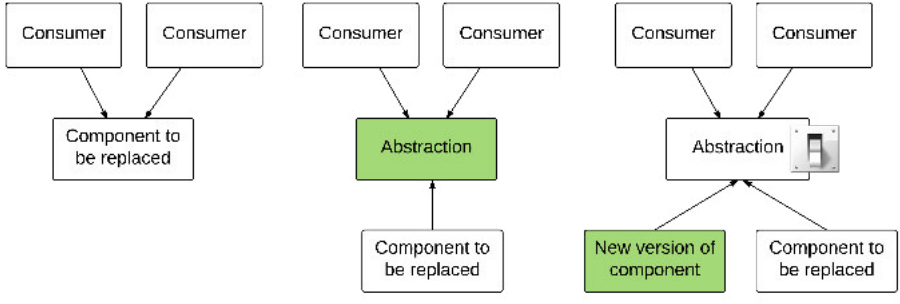
Breaking changes

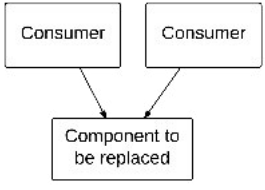
Rule: In Continuous Delivery there are no breaking changes

Branch by Abstraction vs. ~~Branch by Source Control~~


Consumer
Consumer
Component to be replaced


Consumer
Consumer
Component to be replaced
Consumer
Consumer
Abstraction
Component to be replaced


Consumer
Consumer
Component to be replaced
Consumer
Consumer
Abstraction
Component to be replaced
Consumer
Consumer
Abstraction
New version of component
Component to be replaced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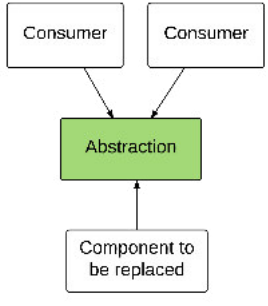
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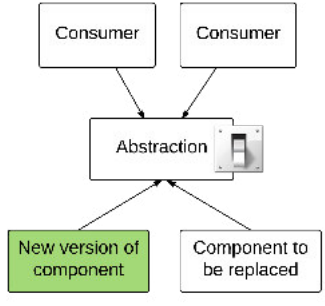
Abstraction
Component to be replaced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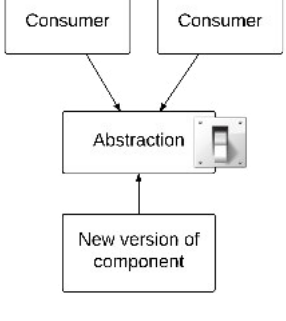
New version of component
Component to be replaced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Consumer
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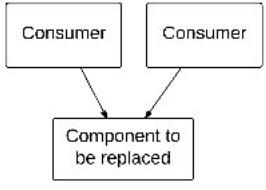
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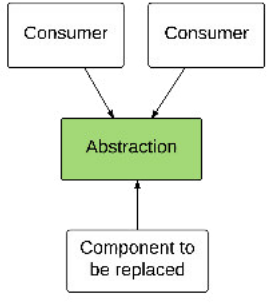
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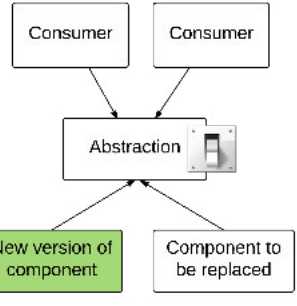
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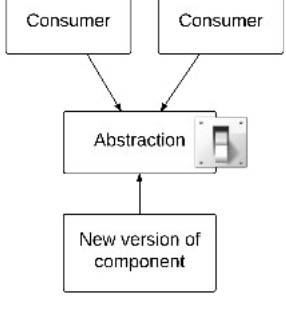
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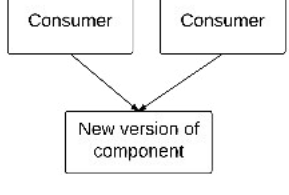

Consumer
Consumer
New version of component

StranglerApplication

Martin Fowler
29 June 2004

When Cindy and I went to Australia, we spent some time in the rain forests on the Queensland coast. One of the natural wonders of this area are the huge strangler vines. They seed in the upper branches of a fig tree and gradually work their way down the tree until they root in the soil. Over many years they grow into fantastic and beautiful shapes, meanwhile strangling and killing the tree that was their host.

This metaphor struck me as a way of describing a way of doing a rewrite of an important system. Much of my career has involved rewrites of critical systems. You would think such a thing as easy - just make the new one do what the old one did. Yet they are always much more complex than they seem, and overflowing with risk. The big cut-over date looms, the pressure is on. While new features (there are always new features) are liked, old stuff has to remain. Even old bugs often need to be added to the rewritten system.

An alternative route is to gradually create a new system around the edges of the old, letting it grow slowly over several years until the old system is strangled. Doing this sounds hard, but increasingly I think it's one of those things that isn't tried enough. In particular I've noticed a couple of basic strategies that work well. The fundamental strategy is EventInterception, which can be used to gradually move functionality to the strangler and to enable AssetCapture.

?

Upcoming changes

Estimated date	Description	Announcement	Affected APIs
March 5, 2013	Retirement of deprecated @Anywhere API	Original blog post Updated deadline announcement	@Anywhere API
March 5, 2013	Retirement of deprecated API v1.0.	Deprecation announcement Release of 1.1	REST API v1.0 Streaming API v1.0

Recent changes

Deployed date	Description	Announcement	Affected APIs
November 5, 2012	Sitestreams certificate change.	Blog post	Sitestreams API v1.0 Sitestreams API v1.1
November 2, 2012	Changes to withheld content fields.	Blog post	REST API v1.0 REST API v1.1 Streaming API v1.0 Streaming API v1.1
October 25, 2012	Entities in streamed DMs.	Announcement	Sitestreams API v1.0 Sitestreams API v1.1 Userstreams API v1.0 Userstreams API v1.1


MAJOR Version Number
PATCH Version Number
1.7.3
MINOR Version Number

Meaningful commits

4W

Who

When

What

Why

~~How~~

4W

Who

When

What

Why

~~How~~

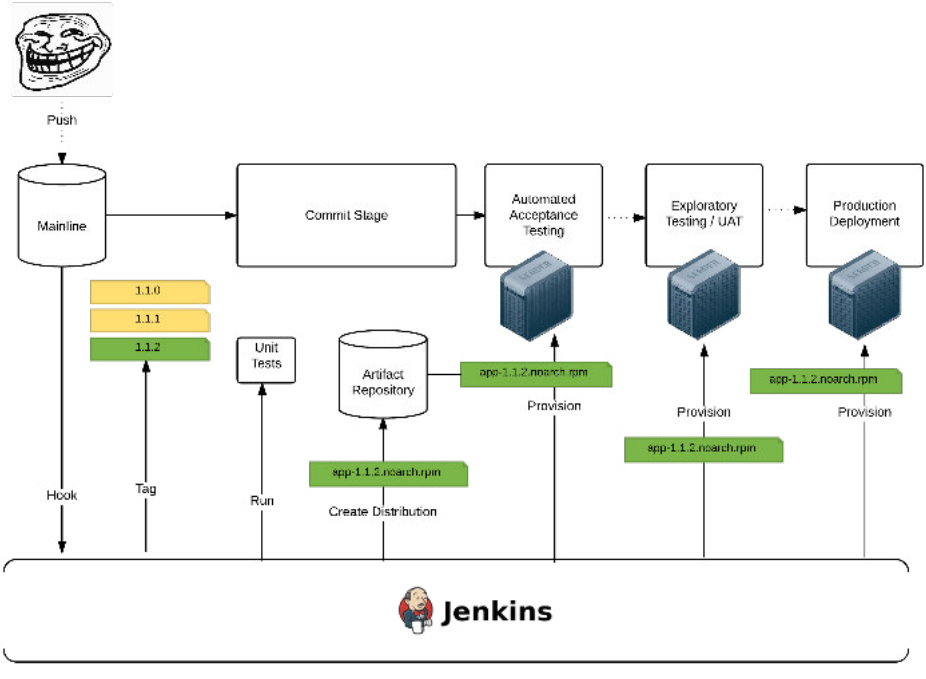
```
$ git log --oneline -5 --author cbeams --before "Fri Mar 26 2009"

e5f4b49 Re-adding AutoConfigurationPostProcessor
2db0f12 fixed two build-breaking issues
147709f Tweaks to dependency files
7f96f57 polishing
2d30f32 implemented facebook integration
```

```
$ git log --oneline -5 --author pwebb --before "Sat Aug 30 2014"

5ba3db6 Add automatic configuration with reasonable defaults
84564a0 Improve stability of DateTime tests
e142fd1 Set fixed Guava version from 16.0.* to 16.0.1
ac8326d Polish mockito usage according to [best practices]
2d30f32 Implement facebook authentication [FB-5332]
```

-> How to Write a Git Commit Message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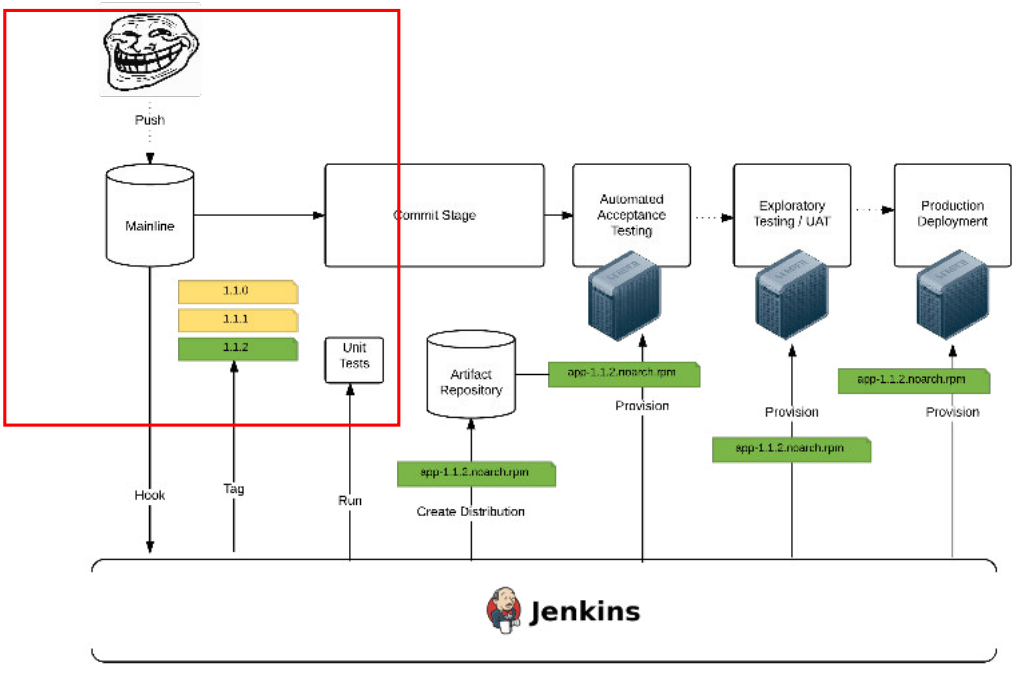
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app-1.1.2.noarch.rpm
Hook
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Run
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Jenkins

6 Deadly Sins of A Unit Test

Unstable

OS-specifics

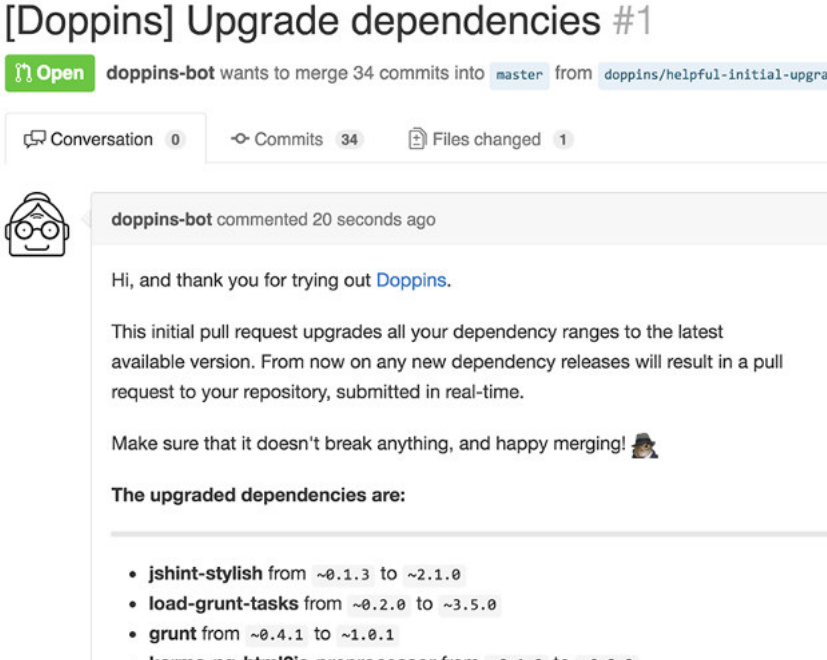
Wildcard dependency versions

Shared state in tests

System Time

Asynchrony

Concurrency



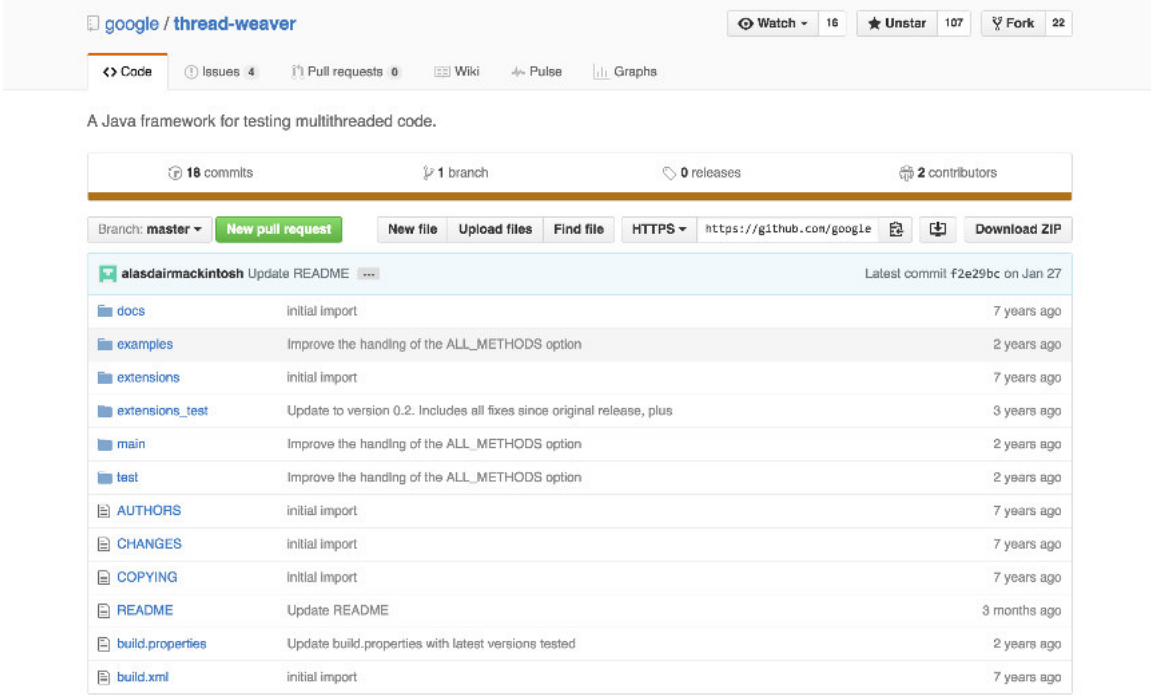
Testing asynchronous systems is hard. Not only does it require handling threads, timeouts and concurrency issues, but the intent of the test code can be obscured by all these details. Awaitility is a DSL that allows you to express expectations of an asynchronous system in a concise and easy to read manner. For example:

```
@Test
public void updatesCustomerStatus() throws Exception {
    // Publish an asynchronous event:
    publishEvent(updateCustomerStatusEvent);
    // Awaitility lets you wait until the asynchronous operation completes:
    await().atMost(5, SECONDS).until(customerStatusIsUpdated());
    ...
}
```

```
public class FlawedList<T> extends ArrayList<T> {
  public boolean putIfAbsent(T object) {
    boolean absent = !super.contains(object);
    if (absent) {
      super.add(object);
    }
    return absent;
  }
}
```

```java
@Test
public void testPutIfAbsent() {
  FlawedList<String> list = new FlawedList<String>();
  list.putIfAbsent("foo");
  list.putIfAbsent("foo");
  assertThat(list.size(), is(1));
}
```

```
FlawedList<String> list = new FlawedList<String>();

@Test(threadPoolSize = 5, invocationCount = 20)
public void testList() {
  list.putIfAbsent("foo");
  assertThat(list.size(), is(1));
}
```


google / thread-weaver
Watch 16
Unstar 107
Fork 22
Code
Issues 4
Pull requests 0
Wiki
Pulse
Graphs
A Java framework for testing multithreaded code.
18 commits
1 branch
0 releases
2 contributors
Branch: master
New pull request
New file
Upload files
Find file
HTTPS
https://github.com/google
Download ZIP
alasdairmackintosh Update README
Latest commit f2e29bc on Jan 27
docs initial import 7 years ago
examples Improve the handling of the ALL_METHODS option 2 years ago
extensions initial import 7 years ago
extensions_test Update to version 0.2. Includes all fixes since original release, plus 3 years ago
main Improve the handling of the ALL_METHODS option 2 years ago
test Improve the handling of the ALL_METHODS option 2 years ago
AUTHORS initial import 7 years ago
CHANGES initial import 7 years ago
COPYING initial import 7 years ago
README Update README 3 months ago
build.properties Update build.properties with latest versions tested 2 years ago
build.xml initial import 7 years ago

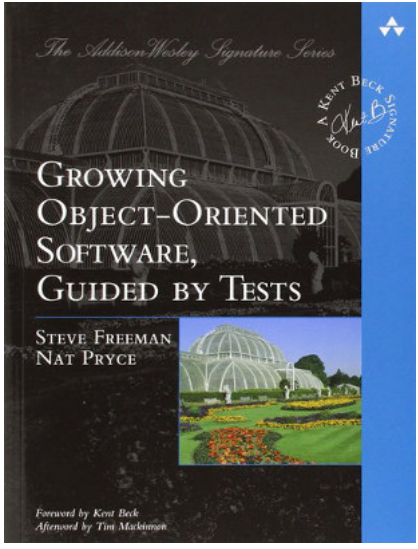
```
public class WeavedFlawedListTest {
  private FlawedList<String> list;

  @ThreadedBefore public void before() {
    list = new FlawedList<String>();
  }

  @ThreadedMain public void mainThread() {
    list.putIfAbsent("foo");
  }

  @ThreadedSecondary public void secondThread() {
    list.putIfAbsent("foo");
  }

  @ThreadedAfter public void after() {
    assertEquals(1, list.size());
  }
}
```

```
public class FlawedList<T> extends ArrayList<T> {
  public boolean putIfAbsent(T object) {
    boolean absent = !super.contains(object);
    if (absent) {
      super.add(object);
    }
    return absent;
  }
}
```

Unreliable

No tests - bad

Bad tests - even worse



Real world mutation testing

PIT is a state of the art **mutation testing** system, providing **gold standard test coverage** for Java and the jvm. It's fast, scalable and integrates with modern test and build tooling.

Get Started

User Group Issues Source Maven Central

Slow

Implicit waiting

Computation-intensive

Sequential

Shared state

Stupid

Code coverage boosters

Fuzzing

Sociable

Relying on concrete classes

Relying on external systems

Being sociable is OK, if:

Dependency on non-trivial execution context (e.g. Spring)

File system

SMTP client

SQL repository

Redis repository

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Being sociable is OK, if:

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Jimfs

Jimfs is an in-memory file system for

build passing maven central 1.1

Getting started

The latest release is 1.1.

It is available in Maven Central as co

```
<dependency>
  <groupId>com.google.jimfs</grou
```

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Being sociable is OK, if:

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File system

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SQL repository

Redis repository

Translate

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- Embed
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- Small f

Down

Version

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All

Being sociable is OK, if:

Dependency on non-trivial execution context (e.g. Spring)

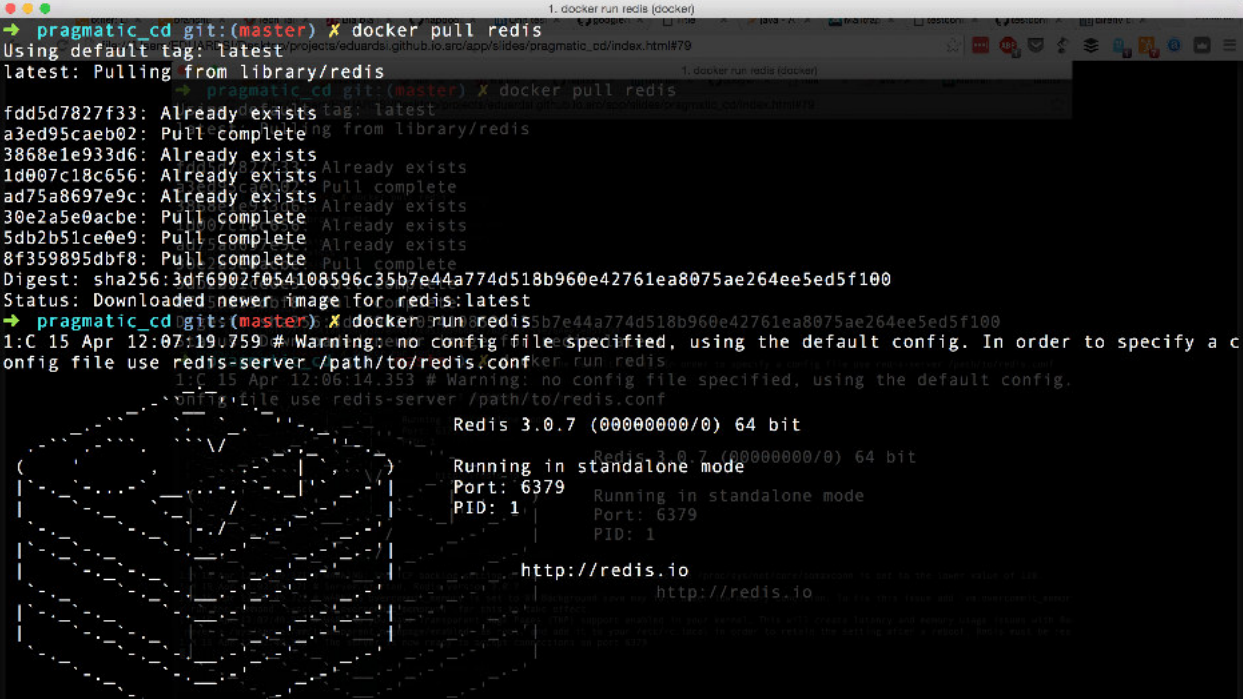
File system

SMTP client

SQL repository

Redis repository


docker


1. docker run redis (docker)
→ pragmatic_cd git:(master) ✗ docker pull redis
Using default tag: latest
latest: Pulling from library/redis
fdd5d7827f33: Already exists
a3ed95caeb02: Pull complete
3868e1e933d6: Already exists
1d007c18c656: Already exists
ad75a8697e9c: Already exists
30e2a5e0acbe: Pull complete
5db2b51ce0e9: Pull complete
8f359895dbf8: Pull complete
Digest: sha256:3df6902f054108596c35b7e44a774d518b960e42761ea8075ae264ee5ed5f100
Status: Downloaded newer image for redis:latest
→ pragmatic_cd git:(master) ✗ docker run redis
1:C 15 Apr 12:07:19.759 # Warning: no config file specified, using the default config. In order to specify a c
onfig file use redis-server /path/to/redis.conf
Redis 3.0.7 (00000000/0) 64 bit
Running in standalone mode
Port: 6379
PID: 1
http://redis.io


TESTCONTAINERS

```
class RedisBackedCacheTest {

    @Rule
    public GenericContainer redis = new GenericContainer("redis:3.0.6")
                                            .withExposedPorts(6379);
    private Cache cache;

    @Before
    public void setUp() {
        Jedis jedis = new Jedis(redis.getIpAddress(), redis.getMappedPort(6379));
        cache = new RedisBackedCache(jedis, "test");
    }

    @Test
    public void findsAnInsertedValueInCache() {
        String key = "foo";
        cache.put(key, "FOO");
        Optional<String> cacheHit = cache.get(key, String.class);
        assertThat(cacheHit, isPresent());
    }

}
```

```
class RedisBackedCacheTest {

    @ClassRule
    public static GenericContainer redis = new GenericContainer("redis:3.0.6")
                                            .withExposedPorts(6379);
    private Cache cache;

    @Before
    public void setUp() {
        Jedis jedis = new Jedis(redis.getIpAddress(), redis.getMappedPort(6379));
        cache = new RedisBackedCache(jedis, "test");
    }

    @Test
    public void findsAnInsertedValueInCache() {
        String key = UUID.randomUUID().toString()
        cache.put(key, "FOO");
        Optional<String> cacheHit = cache.get(key, String.class);
        assertThat(cacheHit, isPresent());
    }

}
```

WireMock

WireMock is a flexible library for stubbing and mocking web services. Unlike general purpose mocking
actual HTTP server that your code under test can connect to as it would a real web service.

It supports HTTP response stubbing, request verification, proxy/intercept, record/playback of stubs an
used from within a unit test or deployed into a test environment.

Although it's written in Java, there's also a JSON API so you can use it with pretty much any language

Video - Using WireMock in Practice

Rob Elliot and I recently gave a presentation at Skillsmatter to the London Java Community demonstra
WireMock in practice after 4 years of using it.

Watch the video here.

New new new! Version 2.0 in beta

WireMock 2.0 is now in development. We're using the major version bump to make a few breaking cha
don't worry!).

Changes from 1.x include:

```
class UberSmartHttpClientTest {

  @Rule
  public WireMockRule wireMockRule = new WireMockRule(8089);

  @Test
  public void exampleTest() {
      stubFor(get(urlEqualTo("/my/resource"))
              .withHeader("Accept", equalTo("text/xml"))
              .willReturn(aResponse()
                  .withStatus(200)
                  .withHeader("Content-Type", "text/xml")
                  .withBody("<response>Some content</response>")));

      Result result = uberSmartHttpClient.doSomeHttpRequest();

      assertTrue(result.wasSuccessful());
  }

}
```

Fault injection

```
stubFor(get(urlEqualTo("/delayed")).willReturn(
        aResponse()
                .withStatus(200)
                .withFixedDelay(2000)));
```

mountebank - over the wire test doubles

Fork me on GitHub

v1.5.0 was released this week

Welcome, friend

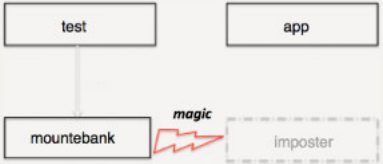
mountebank is the first open source tool to provide cross-platform, multi-protocol test doubles over the wire. Simply point your application under test to mountebank instead of the real dependency, and test like you would with traditional stubs and mocks.

mountebank will cure what ails you, guaranteed.

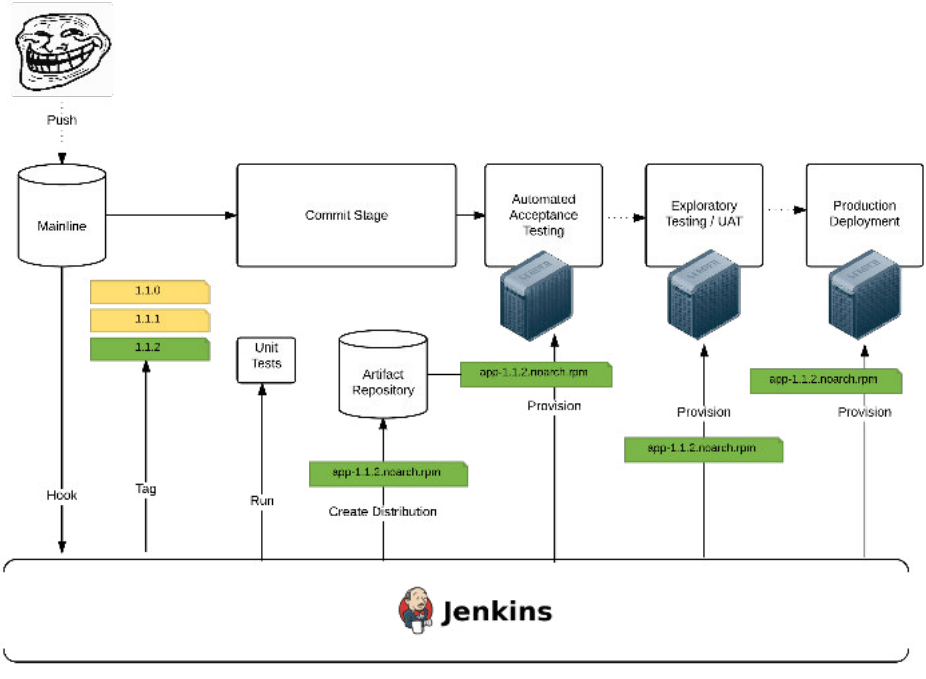
How it works

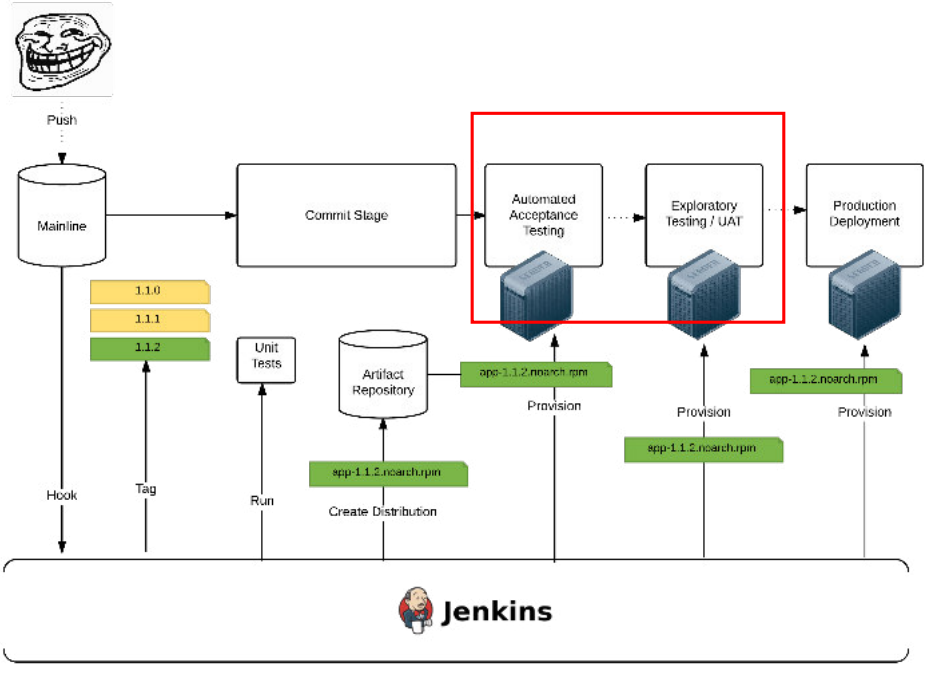
mountebank employs a legion of *imposters* to act as on-demand test doubles. Your test communicates to mountebank over http using the api to set up stubs, record and replay proxies, and verify mock expectations. In the typical use case, each test will start an imposter during test setup and stop an imposter during test teardown.

mountebank employs several types of imposters, each responding to a specific protocol. Typically, your test will tell the imposter which port to bind to, and the imposter will open the corresponding socket.



View the getting started guide for a quick introduction.


Push
Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment
1.1.0
1.1.1
1.1.2
Unit Tests
Artifact Repository
app-1.1.2.noarch.rpm
Provision
Provision
Provision
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
Hook
Tag
Run
Create Distribution
Jenkins


Push
Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment
1.1.0
1.1.1
1.1.2
Unit Tests
Artifact Repository
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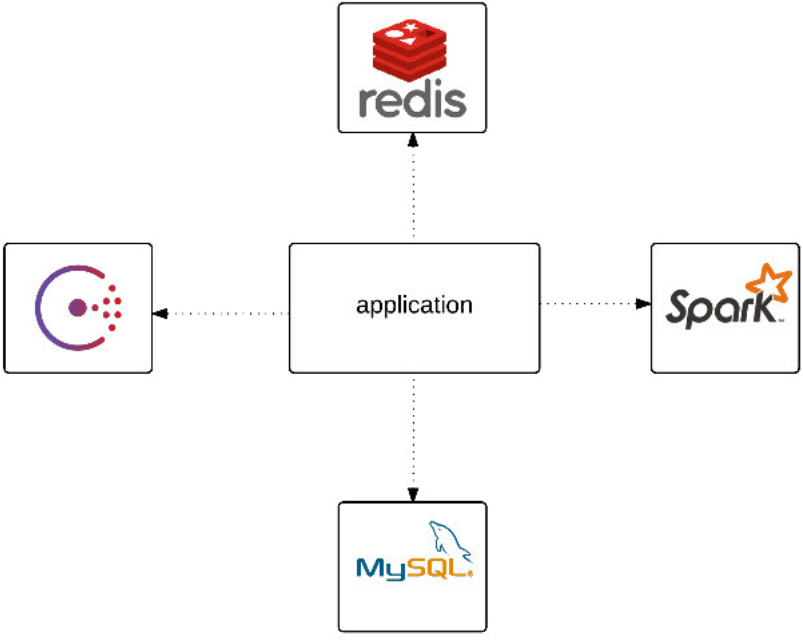
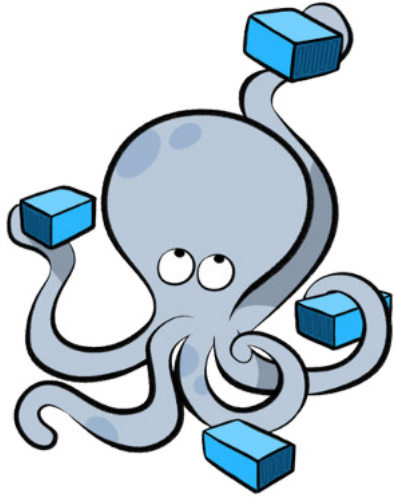
Hook
Tag
Run
Create Distribution
Jenkins


redis
application
Spark
MySQL

```
# docker-compose.yml
version: '2'
services:
  app:
    build: .
    ports:
     - "5000:5000"
    volumes:
     - .:/code
    depends_on:
     - redis
     - mysql
  redis:
    image: redis:2.8
  mysql:
    image: mysql:5.6
  ...
```



```
➜  compose  docker-compose up redis
Recreating compose_redis_1
Pulling redis (redis:2.8)...
2.8: Pulling from library/redis
fdd5d7827f33: Already exists
a3ed95caeb02: Pull complete
3868e1e933d6: Already exists
1d007c18c656: Already exists
ad75a8697e9c: Already exists
8de500daf5d7: Pull complete
788fee3bdabf: Pull complete
8f359895dbf8: Pull complete
Digest: sha256:6abf21819a654f918119d6ee1ccacafc94247d6f417be748501d88782bbb8845
Status: Downloaded newer image for redis:2.8
Attaching to compose_redis_1
redis_1 | [1] 03 Apr 12:36:55.330 # Warning: no config file specified, using the default config. In order to spe
redis_1 |
redis_1 |                 _._
redis_1 |            _.-``__ ''-._
redis_1 |       _.-``    `.  `_.  ''-._           Redis 2.8.23 (00000000/0) 64 bit
redis_1 |   .-`` .-```.  ```\/    _.,_ ''-._
redis_1 |  (    '      ,       .-`  | `,    )     Running in stand alone mode
redis_1 |  |`-._`-...-` __...-.``-._|'` _.-'|     Port: 6379
redis_1 |  |    `-._   `._    /     _.-'    |     PID: 1
redis_1 |   `-._    `-._  `-./  _.-'    _.-'
redis_1 |  |`-._`-._    `-.__.-'    _.-'_.-'|
redis_1 |  |    `-._`-._        _.-'_.-'    |           http://redis.io
redis_1 |   `-._    `-._`-.__.-'_.-'    _.-'
redis_1 |  |`-._`-._    `-.__.-'    _.-'_.-'|
redis_1 |  |    `-._`-._        _.-'_.-'    |
redis_1 |   `-._    `-._`-.__.-'_.-'    _.-'
redis_1 |       `-._    `-.__.-'    _.-'
redis_1 |           `-._        _.-'
redis_1 |               `-.__.-'
redis_1 |
```

```
➜  compose  docker-compose scale redis=3
Creating and starting 2 ... done
Creating and starting 3 ... done
➜  compose  docker ps
CONTAINER ID        IMAGE               COMMAND                  C
6987c8ba0fff        redis:2.8           "/entrypoint.sh redis"   1
0de43f230e0d        redis:2.8           "/entrypoint.sh redis"   1
5a025f47c530        redis:2.8           "/entrypoint.sh redis"   1
➜  compose
```

Dockerfiles

```
FROM nginx
RUN rm -f /etc/nginx/conf.d/*

RUN apt-get update && apt-get install -my \
  supervisor \
  curl \
  wget \
  php5-curl \
  php5-fpm \
  php5-gd \
  php5-memcached \
  php5-mysql \
  php5-mcrypt \
  php5-sqlite \
  php5-xdebug \
  php-apc

RUN sed -i "s/user = www-data/user = root/" /etc/php5/fpm/pool.d/www.conf
RUN sed -i "s/group = www-data/group = root/" /etc/php5/fpm/pool.d/www.conf
RUN sed -i '/^;clear_env = no/s/^;//' /etc/php5/fpm/pool.d/www.conf
RUN sed -i '/^;ping\.path/s/^;//' /etc/php5/fpm/pool.d/www.conf
RUN sed -i '/^;pm\.status_path/s/^;//' /etc/php5/fpm/pool.d/www.conf
```

DOCKER BUILDER

Type: `docker`

The `docker` Packer builder builds Docker images using Docker. The builder starts a Docker container, runs provisioners within this container, then exports the container for reuse or commits the image.

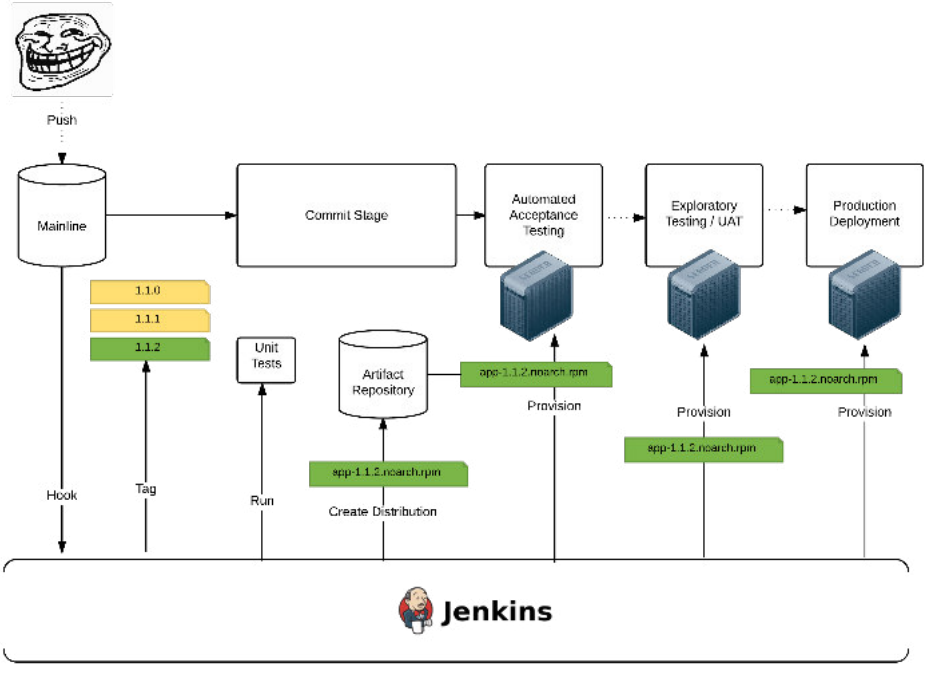
Packer builds Docker containers *without* the use of Dockerfiles. By not using Dockerfiles, Packer is able to provision containers with portable scripts or configuration management systems that are not tied to Docker in any way. It also has a simpler mental model: you provision containers much the same way you provision a normal virtualized or dedicated server. For more information, read the section on Dockerfiles.

sysdig

Universal System Visibility
With Native Container Support

Get it Now

Sysdig is open source, system-level exploration: capture system state and activity from a running Linux instance, then save, filter and analyze. Sysdig is scriptable in Lua and includes a command line interface and a powerful interactive UI, csysdig, that runs in your terminal. Think of sysdig as strace + tcpdump + htop + iftop + lsof + awesome sauce.
With state of the art container visibility on top.


Push
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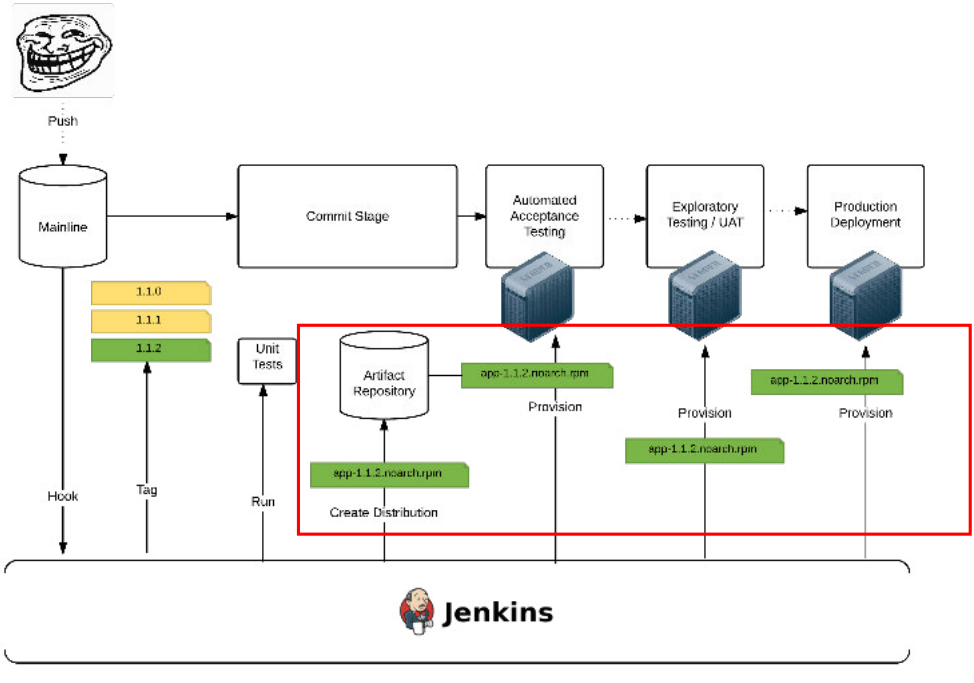
app-1.1.2.noarch.rpm
Hook
Tag
Run
Create Distribution
Jenkins


Push
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app-1.1.2.noarch.rpm
Provision
app-1.1.2.noarch.rpm
Create Distribution
Hook
Tag
Run
Jenkins

YUM repository

- Nexus
- Artifactory
- yum-s3-plugin
- yum-s3-iam

RPM packager

- fpm
- gradle-ospackage-plugin


➜ app tree
.
├── provision
│ ├── deploy-playbook.yml
│ ├── hosts
│ │ ├── acceptance
│ │ ├── exploratory
│ │ └── production
│ └── supervisor.conf
└── source

supervisor.conf

```
[program:app]
command=java -port=3000 -logdir=/var/log/app/ -jar /opt/app/current/app.jar
user=deployer
autostart=true
autorestart=true
startsecs=10
startretries=3
stdout_logfile=/var/log/app/stdout.log
stderr_logfile=/var/log/app/stderr.log
```

Click to open expanded view

WiFi ResetPlug - A smart plug to monitor your WiFi router/modem and reset power if WiFi fails.

by Multinet

Be the first to review this item

Price: $59.99

In Stock.

This item does not ship to **Riga, Latvia**. Please check other sellers who may ship internationally. Learn more

Sold by MultiNet and Fulfilled by Amazon.

- Automatically resets power to both the router and broadband modem if the Internet connection is lost.
- LED indicates if the WiFi is working. A solid blue LED means WiFi Internet is working.
- Works with any WiFi router, any WiFi access point, and any broadband modem.
- Also works with any all-in-one combination device (Router/Modem/AP).
- Use a power strip to monitor separate devices (Router/Modem/WiFi AP) with one ResetPlug.

deploy-playbook.yml

```
- hosts: all
  serial: 1
  tasks:
   - name: install the app
     yum: name=app-{{version}} state=present
     notify:
      - restart supervisord
  handlers:
    - name: restart supervisord
      service: name=supervisord state=restarted

    - name: start the app
      supervisorctl: name=app state=started

    - name: health check
      health_check:
          url: "{{inventory_hostname}}/health"
          delay_between_tries: 5
          max_retries: 20
          expected_regexp: "alive"
  pre_tasks:
    - name: disable nagios alerts for this host webserver service
      nagios: action=disable_alerts host={{ inventory_hostname }} services=webserver

    - name: disable the server in haproxy
      haproxy: state=disabled host={{ inventory_hostname }}

    - name: stop the app
      supervisorctl: name=app state=stopped
```

```
$ ansible-playbook deploy-playbook.yml -i /hosts/acceptance --extra-
vars "version=1.1.2"

$ ansible-playbook deploy-playbook.yml -i /hosts/exploratory --extra-
vars "version=1.1.2"

$ ansible-playbook deploy-playbook.yml -i /hosts/production --extra-
vars "version=1.1.2"
```

- bot: building **1.1.2** from commit [add healtchecks] by @eduardsi

- bot: **1.2.2** passed commit stage

- bot: **1.2.2** passed acceptance tests

- bot: **1.1.2** ready to be promoted to exploratory testing

- $ promote 1.1.2

- bot: **1.1.2** is available at http://exploratory.app.io/1.1.2

- $ promote 1.1.2 --single 50% 100%

- $ features list

- bot: /facebook-registration (disabled)

  /twitter-registration (enabled, 100%)

- $ features enable facebook-registration 10%

- $ features list

- bot: /facebook-registration (enabled 10%)

  /twitter-registration (enabled, 100%)

supervisor.conf

```
[program:app]
command=java -port=3000 -log.dir=/var/log/app/ -jar /opt/app/current/app.jar
user=deployer
autostart=true
autorestart=true
startsecs=10
startretries=3
stdout_logfile=/var/log/app/stdout.log
stderr_logfile=/var/log/app/stderr.log
```

Arg4j

```
@Option(name="-port", usage="HTTP port the application will run on")
public Integer port;
...
@Option(name="-log.dir", usage="A directory where logs will be written to")
public File logDir;
...
```

```
$ java -jar app.jar -wrong

"-wrong" is not a valid option
Application [options]
 -port   VAL  : HTTP port the application will run on
 -logDir FILE : A directory where logs will be written to
```

deploy-playbook.yml

```
- hosts: all
  serial: 1
  tasks:
   - name: install the app
     yum: name=app-{{version}} state=present
     notify:
      - restart supervisord
  handlers:
    - name: restart supervisord
      service: name=supervisord state=restarted

    - name: start the app
      supervisorctl: name=app state=started

    - name: health check
      health_check:
          url: "{{inventory_hostname}}/health"
          delay_between_tries: 5
          max_retries: 20
          expected_regexp: "alive"
  pre_tasks:
    - name: disable nagios alerts for this host webserver service
      nagios: action=disable_alerts host={{ inventory_hostname }} services=webserver

    - name: disable the server in haproxy
      haproxy: state=disabled host={{ inventory_hostname }}

    - name: stop the app
      supervisorctl: name=app state=stopped
```

/health

/version

/info

/metrics

/env

/configprops

/trace

/mappings

/logfile

/dump

/shutdown


```
{
    "counter.status.200.root": 20,
    "counter.status.200.metrics": 3,
    "counter.status.200.star-star": 5,
    "counter.status.401.root": 4,
    "gauge.response.star-star": 6,
    "gauge.response.root": 2,
    "gauge.response.metrics": 3,
    "classes": 5808,
    "classes.loaded": 5808,
    "classes.unloaded": 0,
    "heap": 3728384,
    "heap.committed": 986624,
    "heap.init": 262144,
    "heap.used": 52765,
    "mem": 986624,
    "mem.free": 933858,
    "processors": 8,
    "threads": 15,
    "threads.daemon": 11,
    "threads.peak": 15,
```

Part V. Spring Boot Actuator: Production-ready features

Spring Boot includes a number of additional features to help you monitor and manage your application when it's pushed to production. You can choose to manage and monitor your application using HTTP endpoints, with JMX or even by remote shell (SSH or Telnet). Auditing, health and metrics gathering can be automatically applied to your application.

Actuator HTTP endpoints are only available with a Spring MVC-based application. In particular, it will not work with Jersey unless you enable Spring MVC as well.

44. Enabling production-ready features

The `spring-boot-actuator` module provides all of Spring Boot's production-ready features. The simplest way to enable the features is to add a dependency to the `spring-boot-starter-actuator` 'Starter POM'.

> **Definition of Actuator**
>
> An actuator is a manufacturing term, referring to a mechanical device for moving or controlling something. Actuators can generate a large amount of motion from a small change.

To add the actuator to a Maven based project, add the following 'starter' dependency:

```
<dependencies>
    <dependency>
        <groupId>org.springframework.boot</groupId>
        <artifactId>spring-boot-starter-actuator</artifactId>
    </dependency>
</dependencies>
```

For Gradle, use the declaration:

```
dependencies {
    compile("org.springframework.boot:spring-boot-starter-actuator")
}
```

Metrics is a Java library which gives you unparalleled insight into what your code does in production.

Metrics provides a powerful toolkit of ways to measure the behavior of critical components **in your production environment.**

With modules for common libraries like **Jetty**, **Logback**, **Log4j**, **Apache HttpClient**, **Ehcache**, **JDBI**, **Jersey** and reporting backends like **Ganglia** and **Graphite**, Metrics provides you with full-stack visibility.

Getting Started » User Manual » About Metrics »

- bot: building **1.1.2** from commit [add healtchecks] by @eduardsi

- bot: **1.2.2** passed commit stage

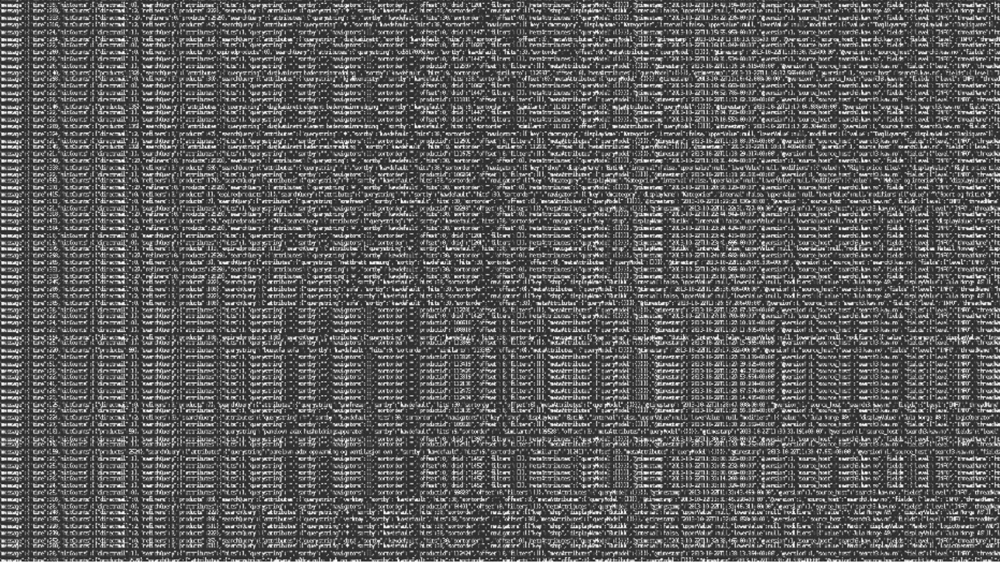
- bot: **1.2.2** passed acceptance tests

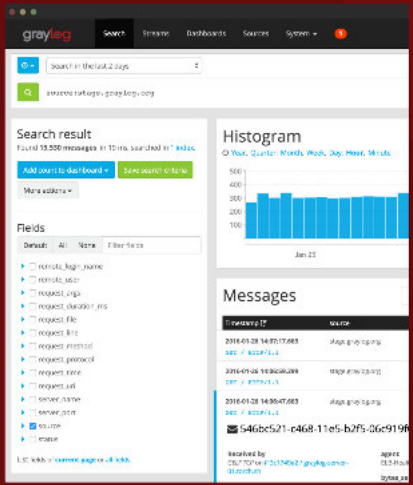
- bot: **1.1.2** ready to be promoted to exploratory testing

- $ promote 1.1.2

- bot: **1.1.2** is available at http://exploratory.app.io/1.1.2

- $ promote 1.1.2 --single 50% 100%





MAKE LOGGING GREAT AGAIN

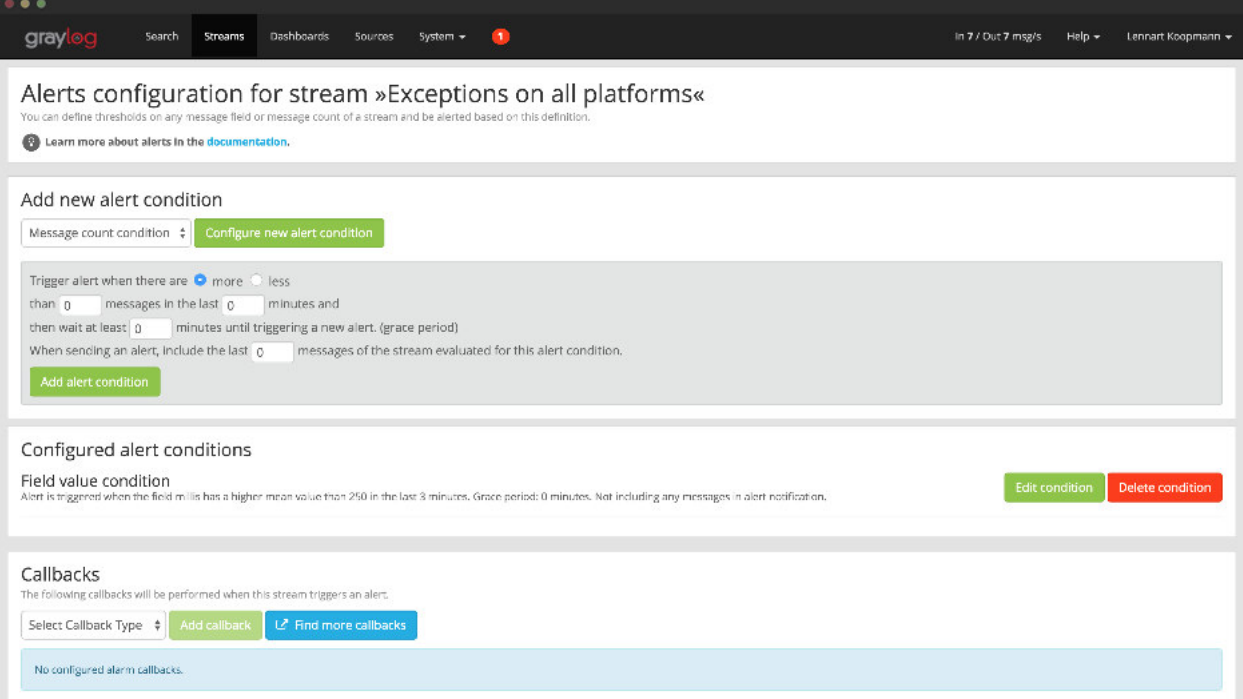
All your logs in one place

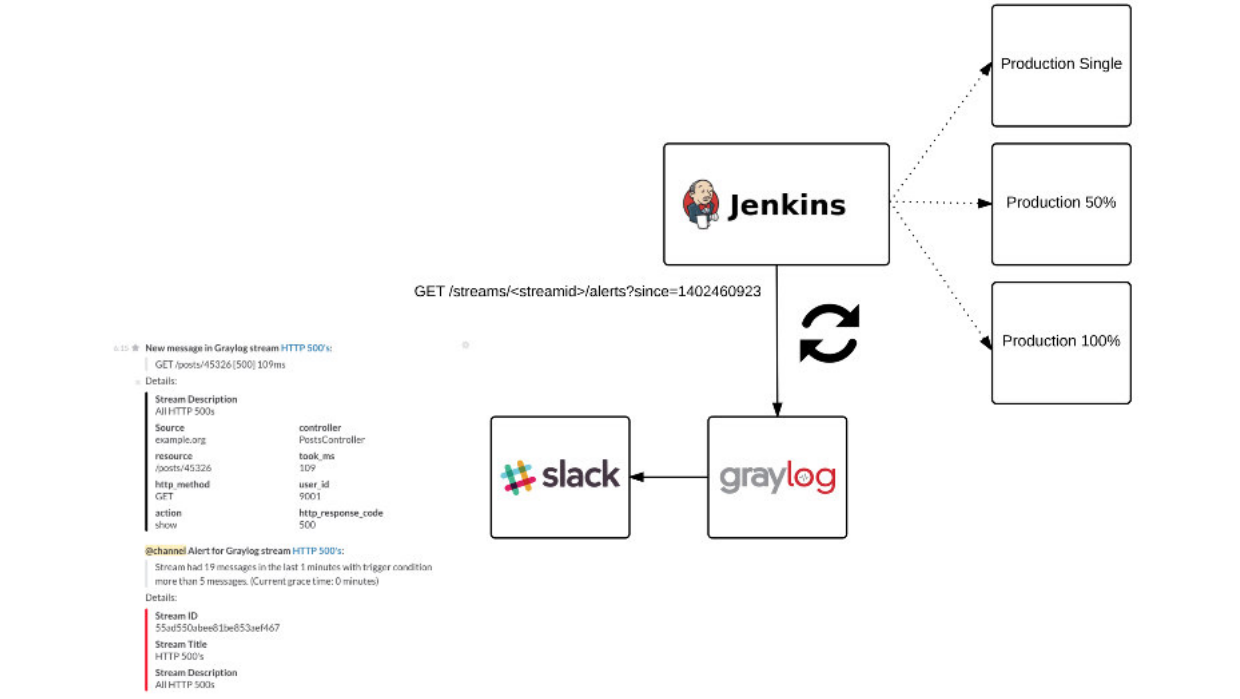
Centralize and aggregate all your log files for 100% visibility. Use our powerful query language to search through terabytes of log data to discover and analyze important information.

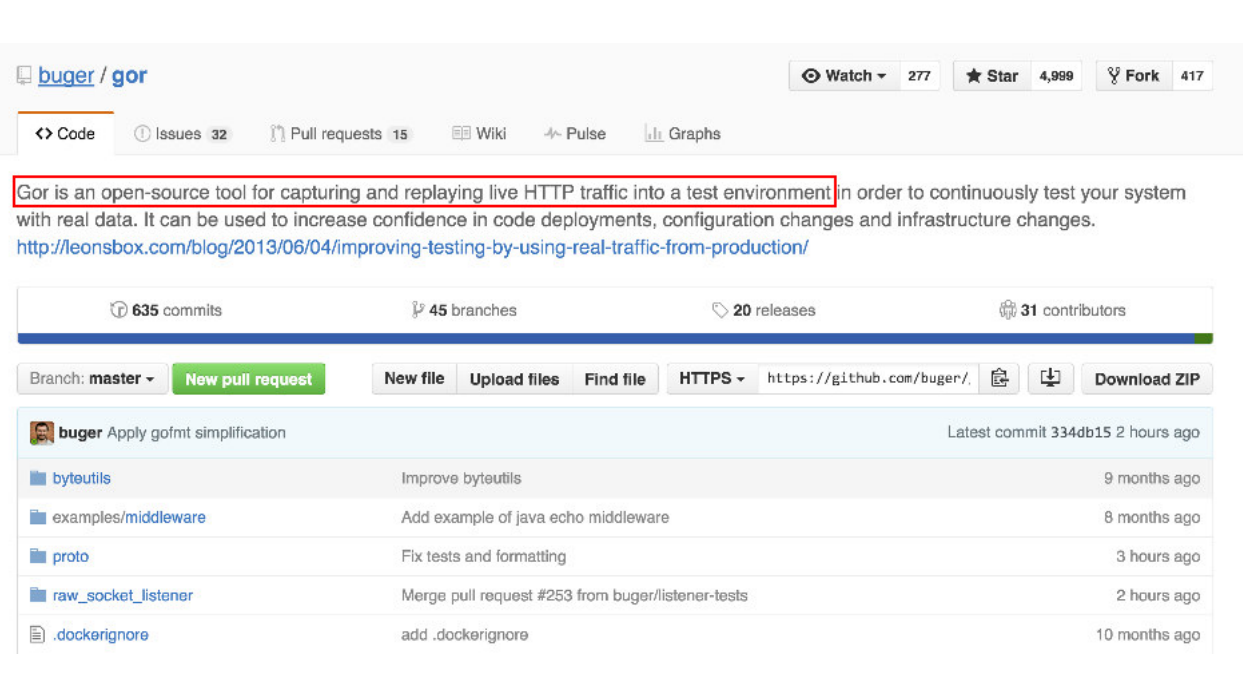
Forward & Archive
Forward subsets of data to other systems in real-time. Archive data you access less frequently to cheaper long-term storage systems.

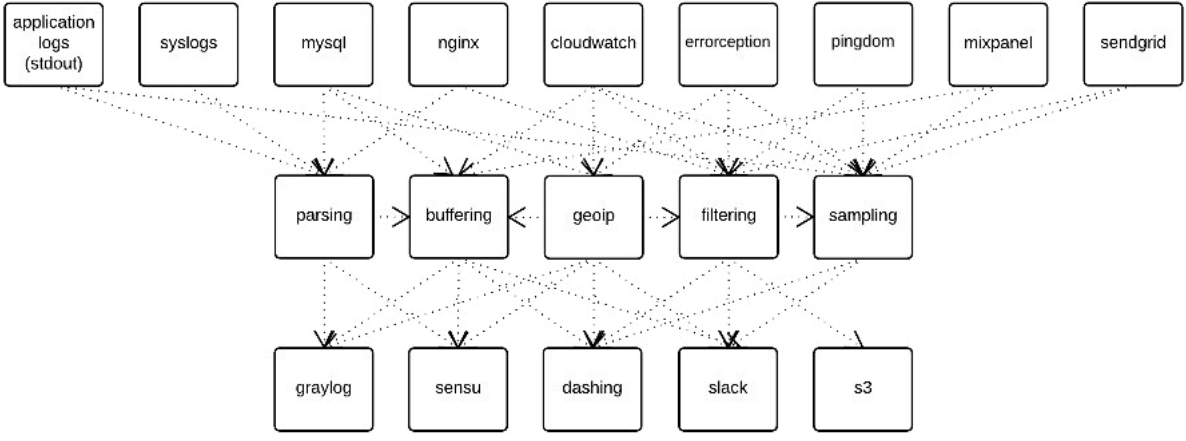
Monitor & Alert
Trigger actions or get notified when something needs attention, such as failed login attempts, exceptions or performance degradation.

Learn more

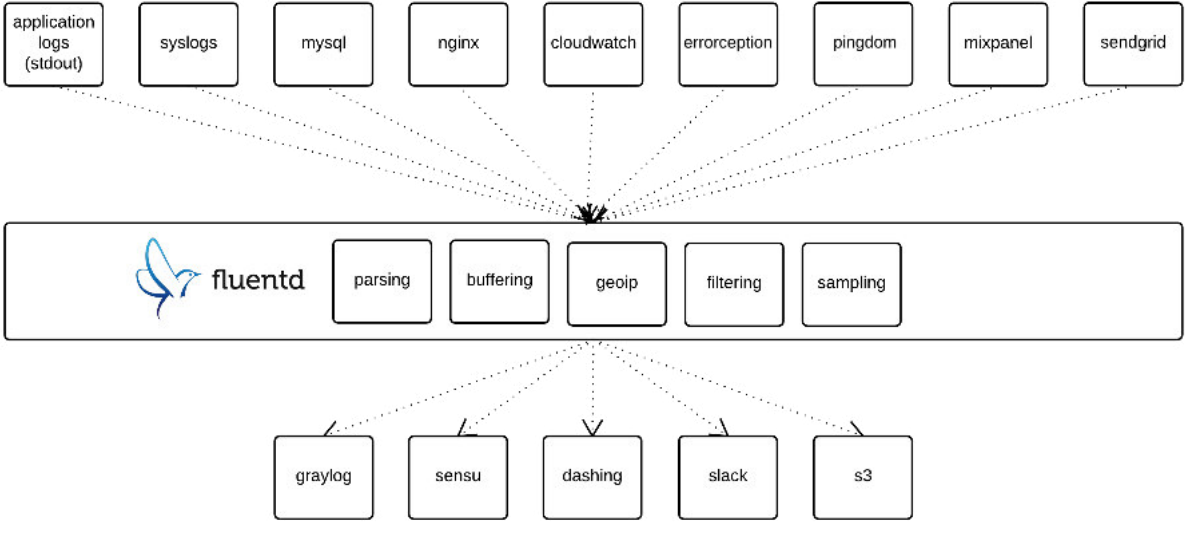

graylog
Search
Streams
Dashboards
Sources
System
1
In 7 / Out 7 msg/s
Help
Lennart Koopmann
Alerts configuration for stream »Exceptions on all platforms«
You can define thresholds on any message field or message count of a stream and be alerted based on this definition.
Learn more about alerts in the documentation.
Add new alert condition
Message count condition
Configure new alert condition
Trigger alert when there are more less
than 0 messages in the last 0 minutes and
then wait at least 0 minutes until triggering a new alert. (grace period)
When sending an alert, include the last 0 messages of the stream evaluated for this alert condition.
Add alert condition
Configured alert conditions
Field value condition
Alert is triggered when the field rollis has a higher mean value than 250 in the last 3 minutes. Grace period: 0 minutes. Not including any messages in alert notification.
Edit condition
Delete condition
Callbacks
The following callbacks will be performed when this stream triggers an alert.
Select Callback Type
Add callback
Find more callbacks
No configured alarm callbacks.


Production Single
Jenkins
Production 50%
Production 100%
GET /streams/<streamid>/alerts?since=1402460923
slack
graylog
New message in Graylog stream HTTP 500's:
GET /posts/45326 [500] 109ms
Details:
Stream Description
All HTTP 500s
Source
example.org
controller
PostsController
resource
/posts/45326
took_ms
109
http_method
GET
user_id
9001
action
show
http_response_code
500
@channel Alert for Graylog stream HTTP 500's:
Stream had 19 messages in the last 1 minutes with trigger condition more than 5 messages. (Current grace time: 0 minutes)
Details:
Stream ID
55ad550abee81be853aef467
Stream Title
HTTP 500's
Stream Description
All HTTP 500s


buger / gor
Watch 277
Star 4,999
Fork 417
Code
Issues 32
Pull requests 15
Wiki
Pulse
Graphs
Gor is an open-source tool for capturing and replaying live HTTP traffic into a test environment in order to continuously test your system with real data. It can be used to increase confidence in code deployments, configuration changes and infrastructure changes.
http://leonsbox.com/blog/2013/06/04/improving-testing-by-using-real-traffic-from-production/
635 commits
45 branches
20 releases
31 contributors
Branch: master
New pull request
New file
Upload files
Find file
HTTPS
https://github.com/buger/
Download ZIP
buger Apply gofmt simplification
Latest commit 334db15 2 hours ago
byteutils
Improve byteutils
9 months ago
examples/middleware
Add example of java echo middleware
8 months ago
proto
Fix tests and formatting
3 hours ago
raw_socket_listener
Merge pull request #253 from buger/listener-tests
2 hours ago
.dockerignore
add .dockerignore
10 months ago


application logs (stdout)
syslogs
mysql
nginx
cloudwatch
errorception
pingdom
mixpanel
sendgrid
parsing
buffering
geoip
filtering
sampling
graylog
sensu
dashing
slack
s3

fluentd


application logs (stdout)
syslogs
mysql
nginx
cloudwatch
errorception
pingdom
mixpanel
sendgrid
fluentd
parsing
buffering
geoip
filtering
sampling
graylog
sensu
dashing
slack
s3

```
➜ pragmatic_cd git:(master) ✗ cat /etc/fluent/fluent.conf
<source>
  @type http
  port 9880
</source>

<filter **>
  @type record_transformer
  <record>
    host_param "#{Socket.gethostname}"
  </record>
</filter>

<match **>
  @type stdout
</match>
➜ pragmatic_cd git:(master) ✗ fluentd
2016-04-17 20:44:36 +0300 [info]: reading config file path="/etc/fluent/fluent.conf"
2016-04-17 20:44:36 +0300 [info]: starting fluentd-0.12.22
2016-04-17 20:44:36 +0300 [info]: gem 'fluentd' version '0.12.22'
2016-04-17 20:44:36 +0300 [info]: adding filter pattern="**" type="record_transformer"
2016-04-17 20:44:36 +0300 [info]: adding match pattern="**" type="stdout"
2016-04-17 20:44:36 +0300 [info]: adding source type="http"
2016-04-17 20:44:36 +0300 [info]: using configuration file: <ROOT>
  <source>
    @type http
    port 9880
  </source>
  <filter **>
    @type record_transformer
    <record>
      host_param EduardSi.local
    </record>
  </filter>
  <match **>
    @type stdout
  </match>
</ROOT>
2016-04-17 20:44:51 +0300 app.request: {"event":"data","host_param":"EduardSi.local"}
2016-04-17 20:44:53 +0300 app.request: {"event":"data","host_param":"EduardSi.local"}
2016-04-17 20:44:56 +0300 app.request: {"event":"data","host_param":"EduardSi.local"}
```

```
curl -X POST -H "Content-Type: application/json" -d '{"event":"data"}' \
    localhost:9880/app.request
```

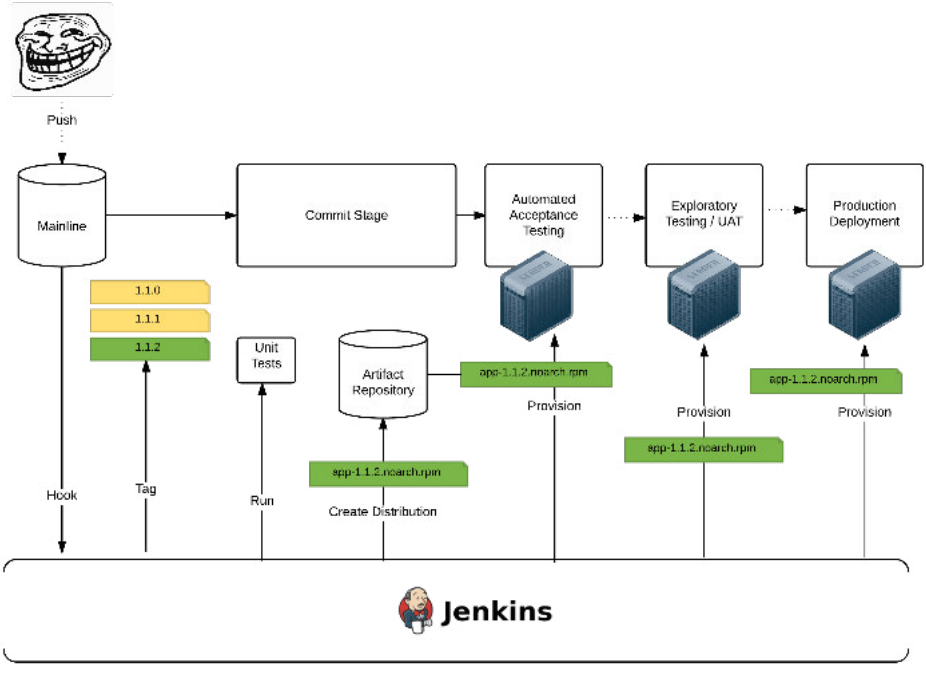
NOVEMBER 15, 2011

8

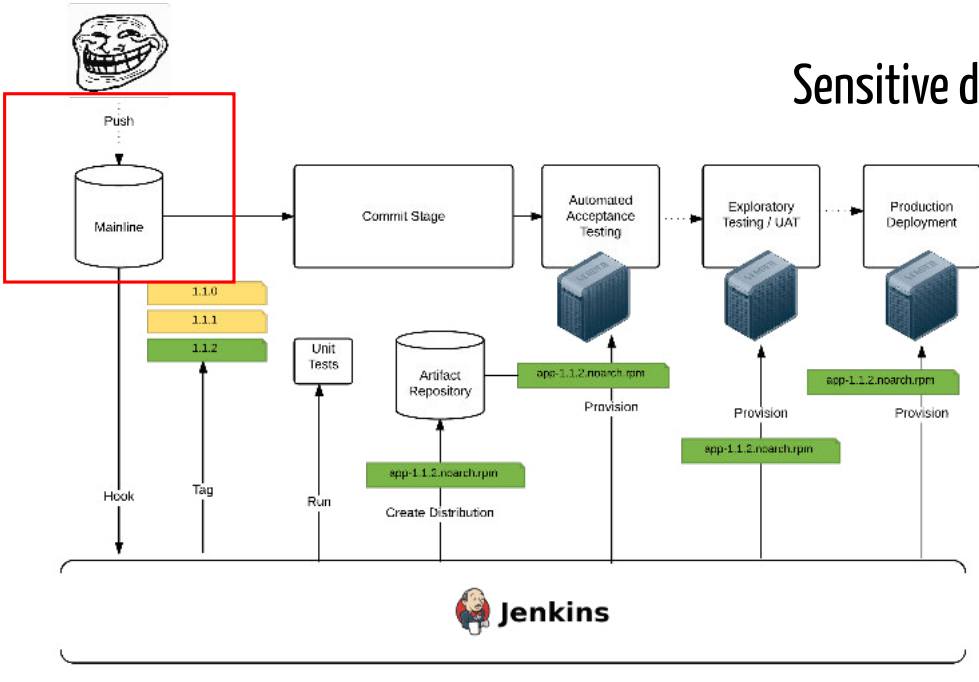
Subdirectory Checkouts with git sparse-checkout

By Jason Karns in git

If there is one thing I miss about SVN having switched to git (and trust me, it's the only thing), it is the ability to checkout only a sub-tree of a repository. As of version 1.7, you can check out just a sub-tree in git as well! Now not only does git support checking out sub-directories, it does it better than subversion!


Push
Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment
1.1.0
1.1.1
1.1.2
Unit Tests
Artifact Repository
app-1.1.2.noarch.rpm
Provision
Provision
Provision
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
Hook
Tag
Run
Create Distribution
Jenkins

Sensitive data?



elasticdog / **transcrypt**

Watch 22 | Unstar 427 | Fork 24

Code | Issues 9 | Pull requests 2 | Wiki | Pulse | Graphs

transparently encrypt files within a git repository

76 commits | **1** branch | **4** releases | **5** contributors

Branch: **master** | New pull request | New file | Upload files | Find file | HTTPS | https://github.com/elasti | Download ZIP

elasticdog Ignore build artifacts within the pacman directory — Latest commit `991a200` on Dec 31, 2015

contrib	Ignore build artifacts within the pacman directory	3 months ago
man	Add --force option Zsh completion and man page	2 years ago
.gitattributes	Add encrypted version of a sensitive file	2 years ago
INSTALL.md	Document installation options in INSTALL.md	3 months ago
LICENSE	Bump version up to 0.9.7	a year ago
README.md	Document installation options in INSTALL.md	3 months ago
sensitive_file	Create helper scripts to simplify filter commands	2 years ago
transcrypt	Add ability to dump the raw commit objects for all encrypted files	a year ago

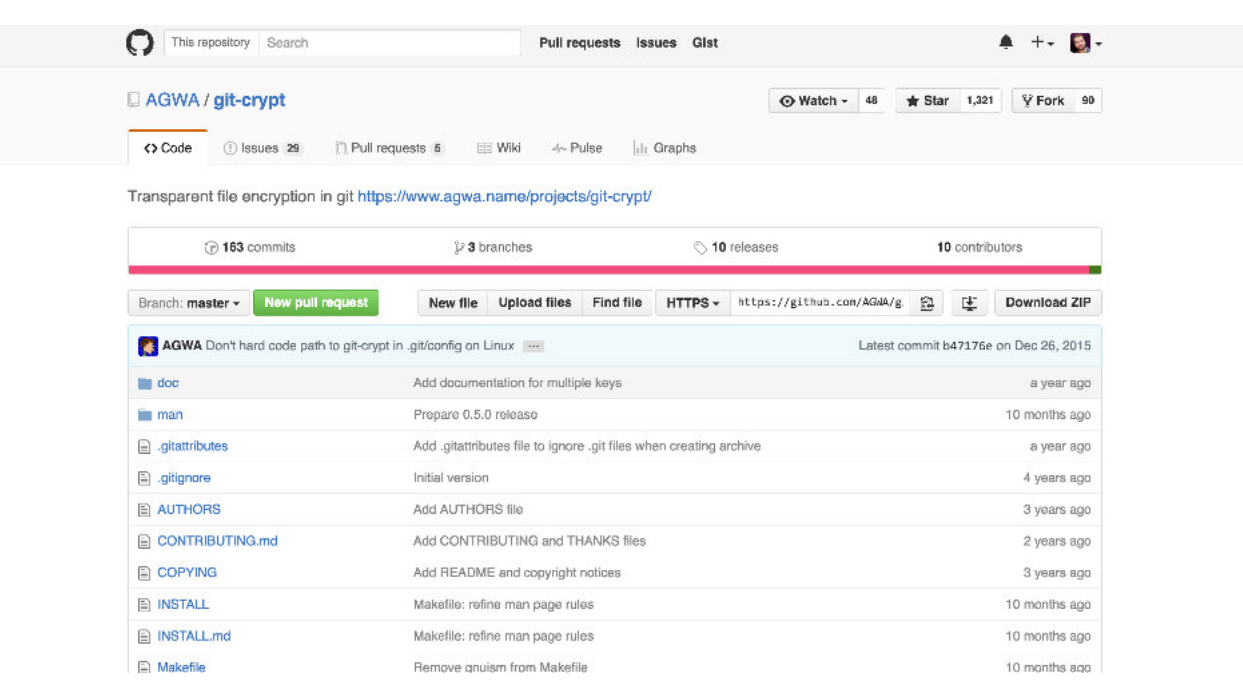
README.md

```
The current repository was configured using transcrypt version 0.9.6
and has the following configuration:

  CIPHER:   aes-256-cbc
  PASSWORD: MEu5xyQ&G@/}:D\___1231aala4

Copy and paste the following command to initialize a cloned repository:

  transcrypt -c aes-256-cbc -p 'MEu5xyQ&G@/}:D\___1231aala4'
```


This repository
Search
Pull requests
Issues
Gist
AGWA / git-crypt
Watch 48
Star 1,321
Fork 90
Code
Issues 29
Pull requests 5
Wiki
Pulse
Graphs
Transparent file encryption in git https://www.agwa.name/projects/git-crypt/
163 commits
3 branches
10 releases
10 contributors
Branch: master
New pull request
New file
Upload files
Find file
HTTPS
https://github.com/AGWA/g
Download ZIP
AGWA Don't hard code path to git-crypt in .git/config on Linux
Latest commit b47176e on Dec 26, 2015
doc
Add documentation for multiple keys
a year ago
man
Prepare 0.5.0 release
10 months ago
.gitattributes
Add .gitattributes file to ignore .git files when creating archive
a year ago
.gitignore
Initial version
4 years ago
AUTHORS
Add AUTHORS file
3 years ago
CONTRIBUTING.md
Add CONTRIBUTING and THANKS files
2 years ago
COPYING
Add README and copyright notices
3 years ago
INSTALL
Makefile: refine man page rules
10 months ago
INSTALL.md
Makefile: refine man page rules
10 months ago
Makefile
Remove gnuism from Makefile
10 months ago

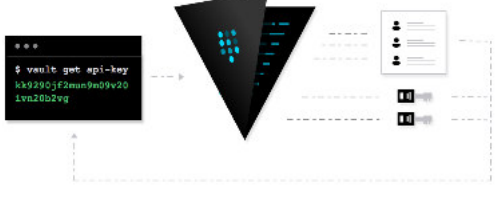
What do you do when a developer leaves the team or the repository is compromised?

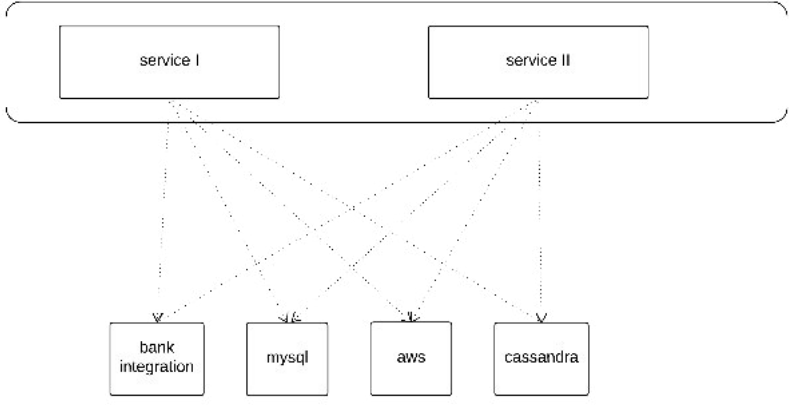
VAULT

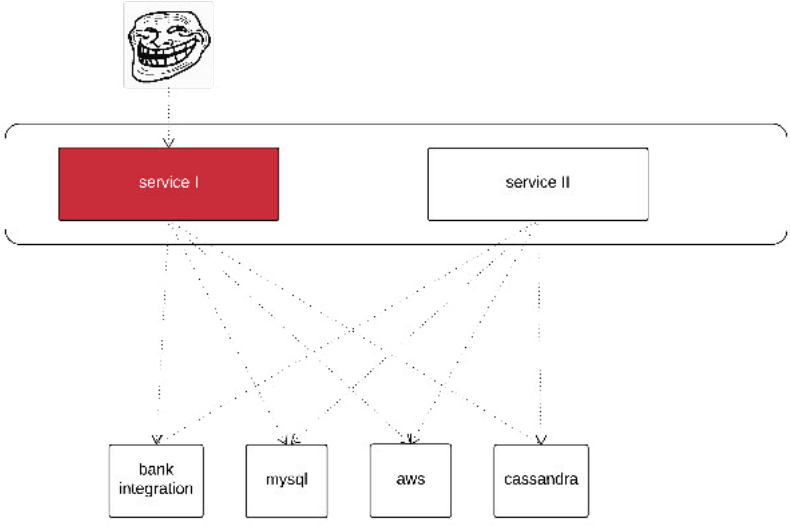
A tool for managing secrets.

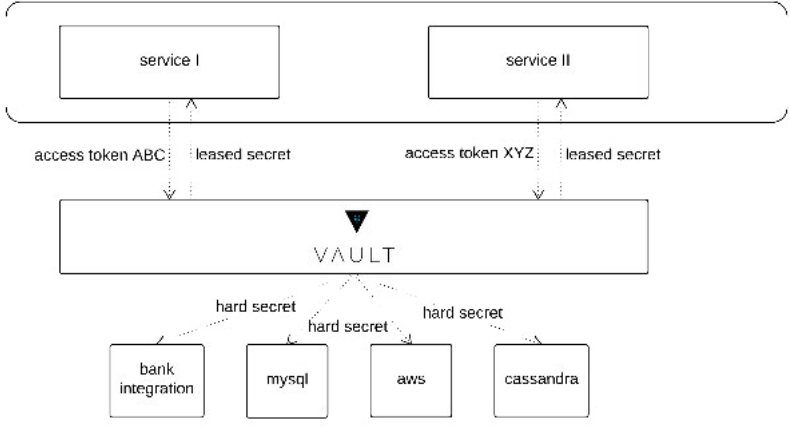
Get Started

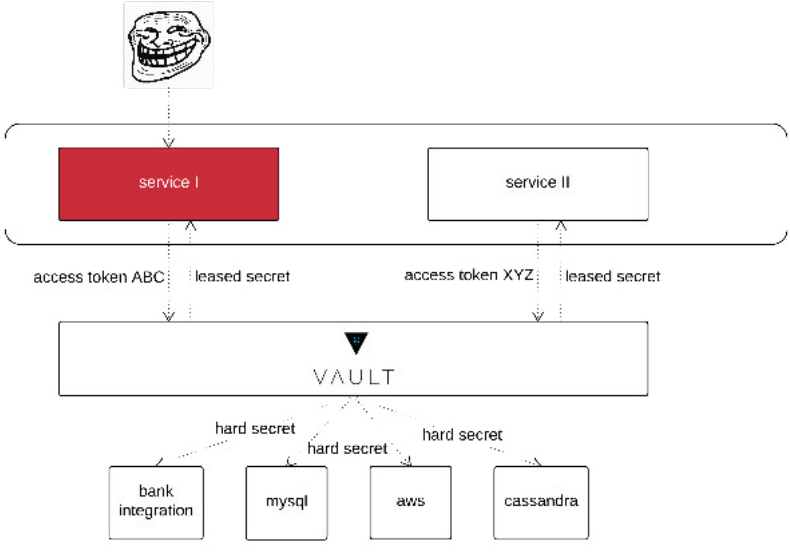
Launch Interactive Tutorial

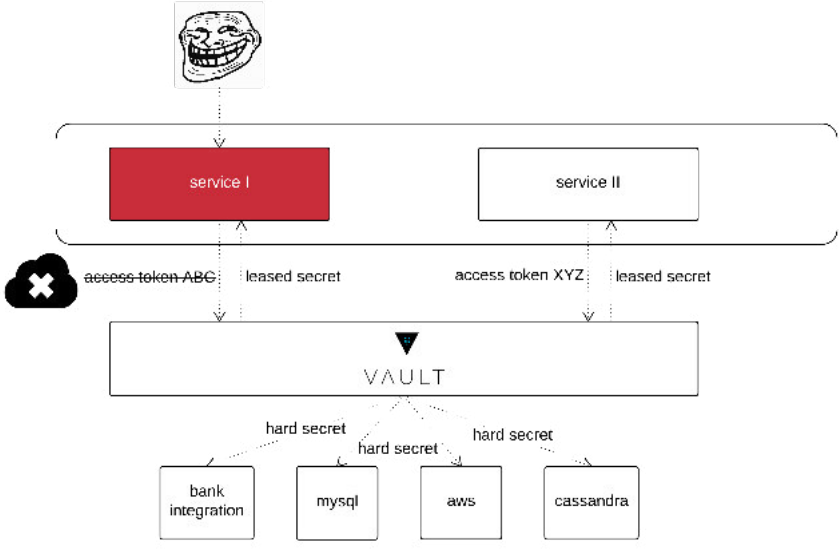


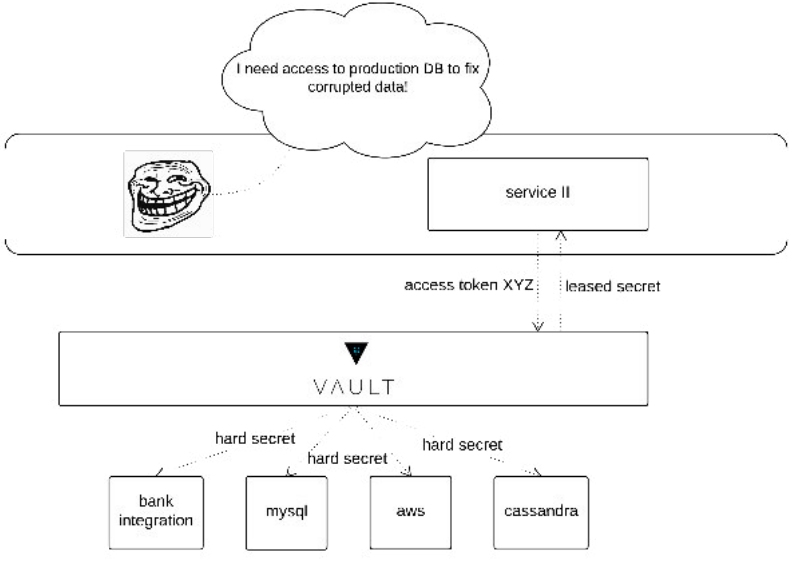

service I
service II
bank integration
mysql
aws
cassandra

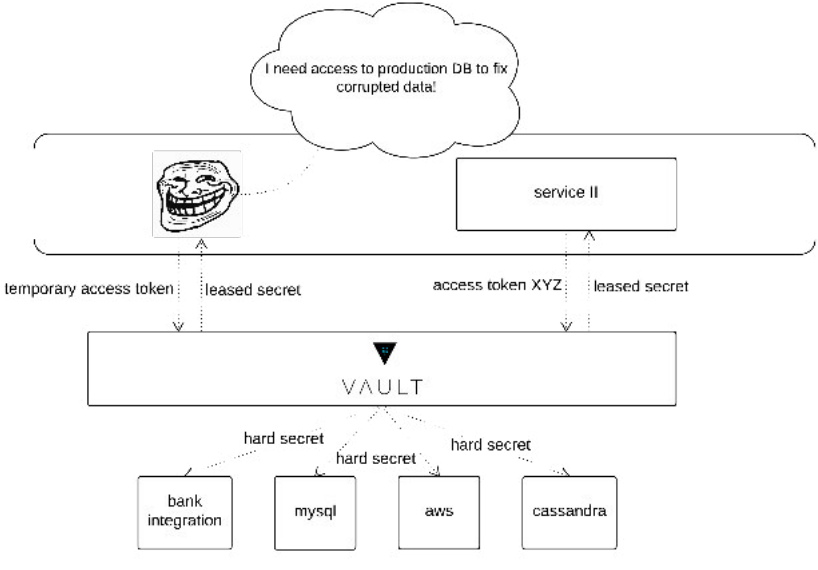

service I
service II
bank integration
mysql
aws
cassandra


service I
service II
access token ABC
leased secret
access token XYZ
leased secret
VAULT
hard secret
hard secret
hard secret
bank integration
mysql
aws
cassandra


service I
service II
access token ABC
leased secret
access token XYZ
leased secret
VAULT
hard secret
hard secret
hard secret
bank integration
mysql
aws
cassandra


service I
service II
access token ABC
leased secret
access token XYZ
leased secret
VAULT
hard secret
hard secret
hard secret
bank integration
mysql
aws
cassandra

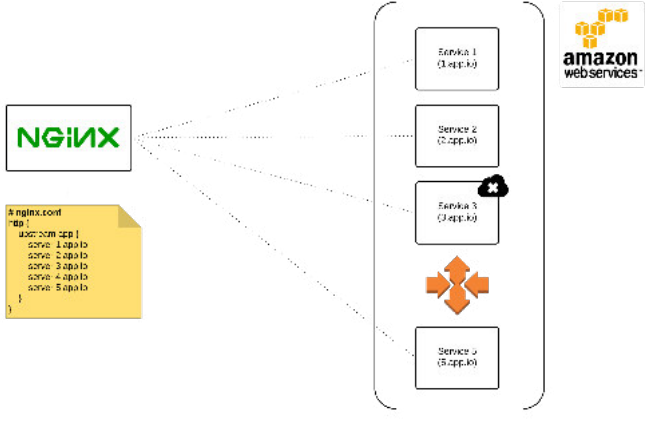

I need access to production DB to fix corrupted data!
service II
access token XYZ
leased secret
VAULT
hard secret
hard secret
hard secret
bank integration
mysql
aws
cassandra


I need access to production DB to fix corrupted data!
service II
temporary access token
leased secret
access token XYZ
leased secret
VAULT
hard secret
hard secret
hard secret
bank integration
mysql
aws
cassandra

Our recommended approach to use Vault with any configuration manage tool is to move the secret retrieval and renewal into a runtime process instead of a build time process.

- excerpt from Vault documentation

Dynamic infrastructure


NGINX
# nginx.conf
"app" {
user:com.app }
serve 1.app.lb
serve 2.app.lb
serve 3.app.lb
serve 4.app.lb
serve 5.app.lb
}
Service 1
(1.app.lb)
Service 2
(2.app.lb)
Service 3
(3.app.lb)
Service 5
(5.app.lb)
amazon
web services

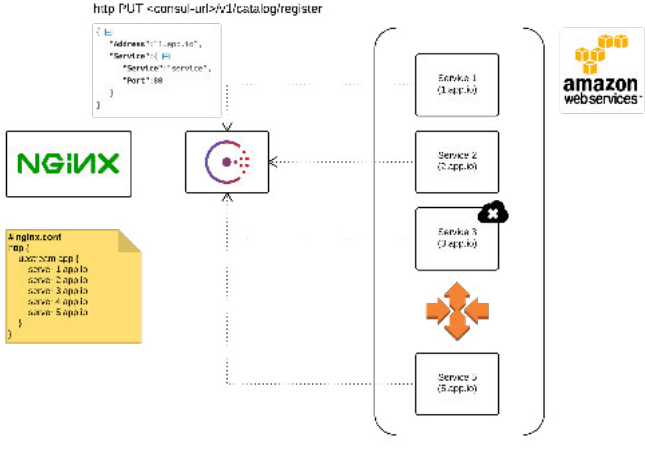
Service discovery and configuration made easy. Distributed, highly available, and datacenter-aware.

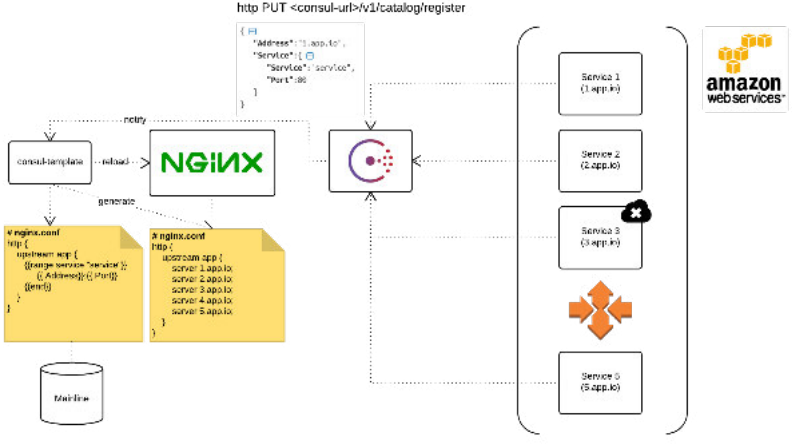
Service Discovery

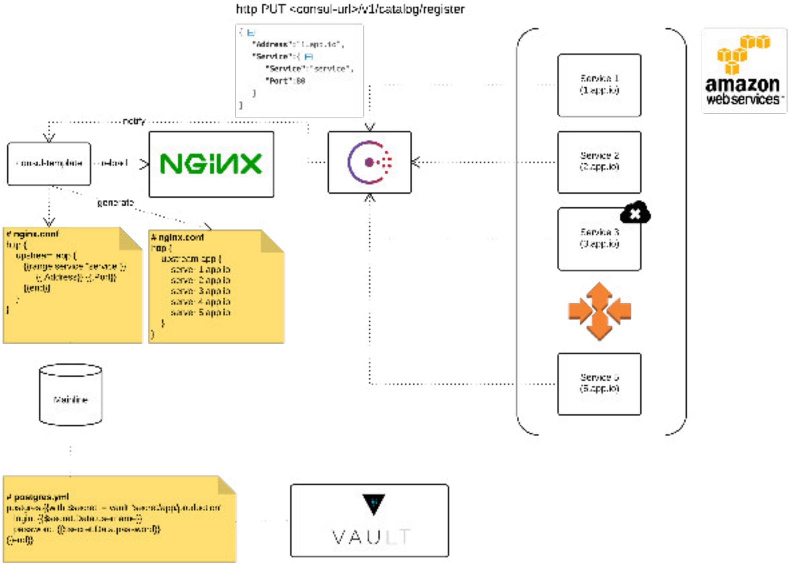
Consul makes it simple for services to register themselves and to discover other services via a DNS or HTTP interface. Register external services such as SaaS providers as well.

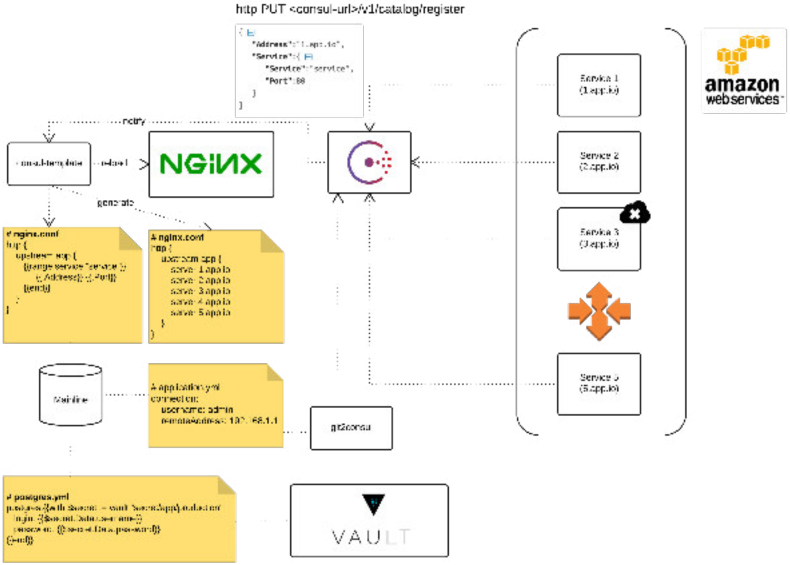
Failure Detection

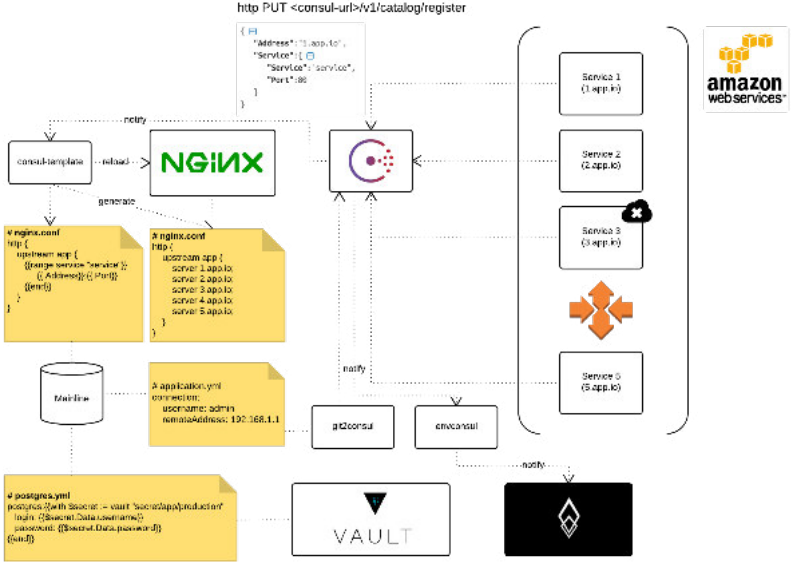
Pairing service discovery with health checking prevents routing requests to unhealthy hosts and enables services to easily provide circuit breakers.


http PUT <consul-url>/v1/catalog/register
{ [
"Address": "1.app.io",
"Service": {
"Service": "service",
"Port": 80
}
}
]
NGINX
nginx.conf
http {
upstream app {
server 1.app.io
server 2.app.io
server 3.app.io
server 4.app.io
server 5.app.io
}
}
Service 1
(1.app.io)
Service 2
(2.app.io)
Service 3
(3.app.io)
Service 5
(5.app.io)
amazon
web services


http PUT <consul-url>/v1/catalog/register
{
"Address": "1.app.io",
"Service": {
"Service": "service",
"Port": 80
}
}
notify
consul-template
reload
NGINX
generate
# nginx.conf
http {
upstream app {
{{range service "service" }}
{{.Address}}:{{.Port}}
{{end}}
}
}
# nginx.conf
http {
upstream app {
server 1.app.io;
server 2.app.io;
server 3.app.io;
server 4.app.io;
server 5.app.io;
}
}
Mainline
Service 1
(1.app.io)
Service 2
(2.app.io)
Service 3
(3.app.io)
Service 5
(5.app.io)
amazon
web services


http PUT <consul-url>/v1/catalog/register
notify
consul-template
reload
NGINX
generate
nginx.conf
nginx.conf
Mainline
postgres.yml
VAULT
Service 1
(1.app.io)
Service 2
(2.app.io)
Service 3
(3.app.io)
Service 5
(5.app.io)
amazon
web services


http PUT <consul-url>/v1/catalog/register
notify
consul-template
reload
NGINX
generate
nginx.conf
nginx.conf
Mainline
application.yml
username: admin
git2consul
postgres.yml
VAULT
Service 1
(1.app.io)
Service 2
(2.app.io)
Service 3
(3.app.io)
Service 5
(5.app.io)
amazon
web services


http PUT <consul-url>/v1/catalog/register
{
"Address": "1.app.io",
"Service": {
"Service": "service",
"Port": 80
}
}
Service 1
(1.app.io)
Service 2
(2.app.io)
Service 3
(3.app.io)
Service 5
(5.app.io)
amazon
web services
notify
consul-template
reload
NGINX
generate
# nginx.conf
http {
upstream app {
{{range service "service"}}
{{.Address}}:{{.Port}}
{{end}}
}
}
# nginx.conf
http {
upstream app {
server 1.app.io;
server 2.app.io;
server 3.app.io;
server 4.app.io;
server 5.app.io;
}
}
notify
MariaDB
application.yml
connection:
username: admin
remoteAddress: 192.168.1.1
git2consul
envconsul
notify
postgres.yml
postgres:{{with $secret := vault "secret/app/production"
login: {{$secret.Data.username}}
password: {{$secret.Data.password}}
{{end}}
VAULT

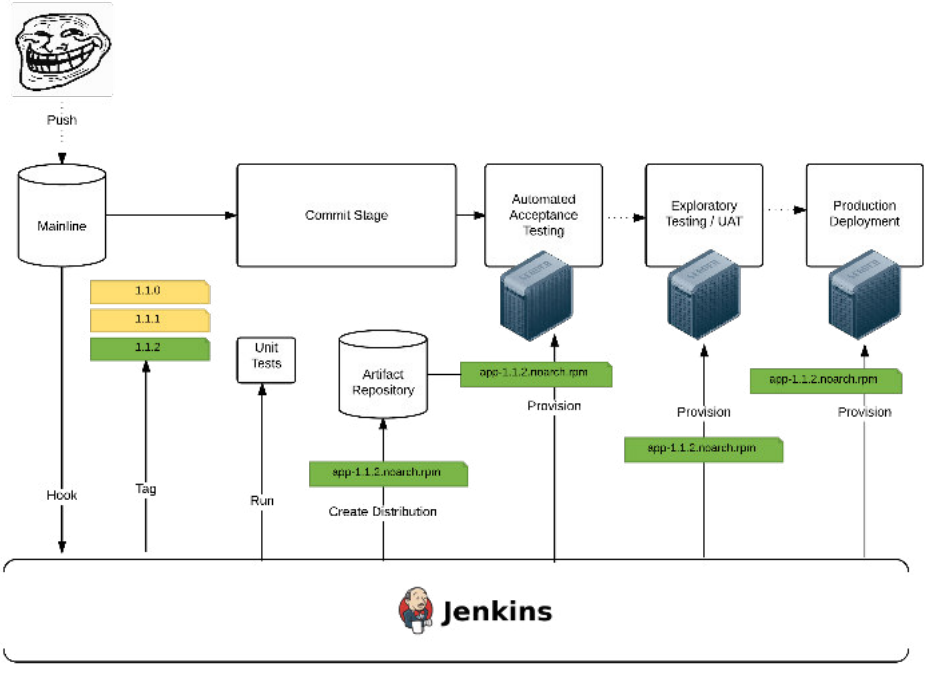
Note that this definition of "config" does **not** include internal application config, such as `config/routes.rb` in Rails, or how code modules are connected in Spring. This type of config does not vary between deploys, and so is best done in the code.

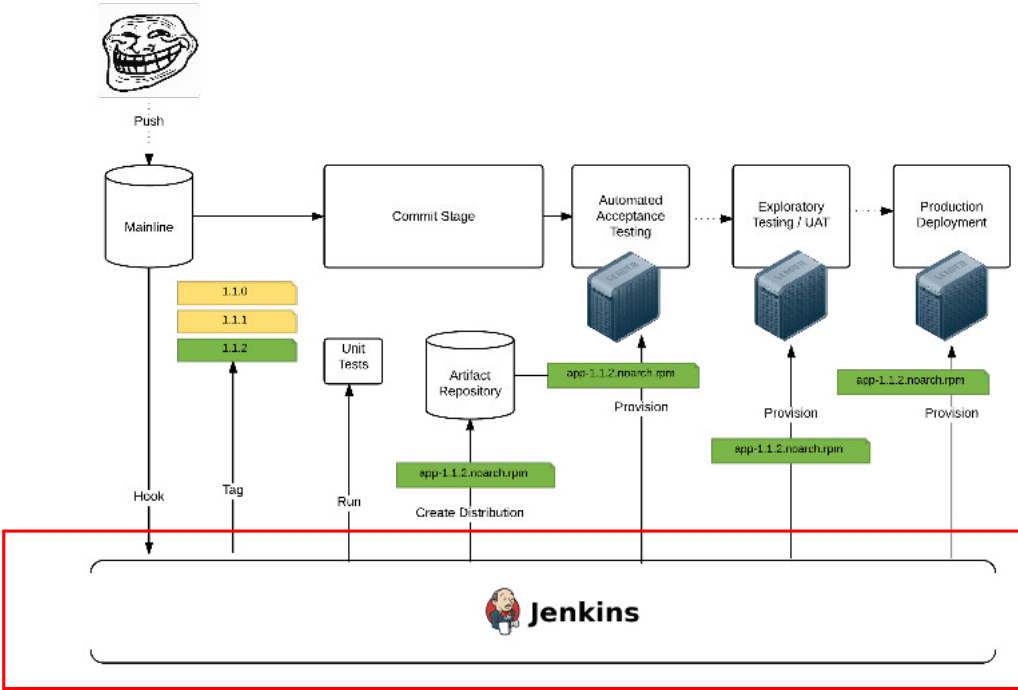
Another approach to config is the use of config files which are not checked into revision control, such as `config/database.yml` in Rails. This is a huge improvement over using constants which are checked into the code repo, but still has weaknesses: it's easy to mistakenly check in a config file to the repo; there is a tendency for config files to be scattered about in different places and different formats, making it hard to see and manage all the config in one place. Further, these formats tend to be language- or framework-specific.

The twelve-factor app stores config in *environment variables* (often shortened to *env vars* or *env*). Env vars are easy to change between deploys without changing any code; unlike config files, there is little chance of them being checked into the code repo accidentally; and unlike custom config files, or other config mechanisms such as Java System Properties, they are a language- and OS-agnostic standard.

Another aspect of config management is grouping. Sometimes apps batch config into named groups (often called "environments") named after specific deploys, such as the `development`, `test`, and `production` environments in Rails. This method does not scale cleanly: as more deploys of the app are created, new environment names are necessary, such as `staging` or `qa`. As the project grows further, developers may add their own special environments like `joes-staging`, resulting in a combinatorial explosion of config which makes managing deploys of the app very brittle.

In a twelve-factor app, env vars are granular controls, each fully orthogonal to other env vars. They are never grouped together as "environments", but instead are independently managed for each deploy. This is a model that scales up smoothly as the app naturally expands into more deploys over its lifetime.


Push
Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment
1.1.0
1.1.1
1.1.2
Unit Tests
Artifact Repository
app-1.1.2.noarch.rpm
Provision
Provision
Provision
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
Hook
Tag
Run
Create Distribution
Jenkins


Push
Mainline
Commit Stage
Automated Acceptance Testing
Exploratory Testing / UAT
Production Deployment
1.1.0
1.1.1
1.1.2
Unit Tests
Artifact Repository
app-1.1.2.noarch.rpm
Provision
Provision
Provision
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
app-1.1.2.noarch.rpm
Hook
Tag
Run
Create Distribution
Jenkins

Reliable deployments require Reliable Deployment System

All changes to Jenkins go through version control and Jenkins can be rebuilt in automated fashion

Golden Image

Job DSL Plugin

```
def project = 'quidryan/aws-sdk-test'
def branchApi = new URL("https://api.github.com/repos/${project}/bran
def branches = new groovy.json.JsonSlurper().parse(branchApi.newReade
branches.each {
    def branchName = it.name
    def jobName = "${project}-${branchName}".replaceAll('/','-')
    job(jobName) {
        scm {
            git("git://github.com/${project}.git", branchName)
        }
        steps {
            maven("test -Dproject.name=${project}/${branchName}")
        }
    }
}
```

README.md

build passing

gradle-jenkins-plugin

Gradle plugin to programmatically configure Jenkins jobs. This plugin allows you to maintain jenkins job configurations in source control and apply them to the server via gradle. Jobs can be stored as straight xml files, xml strings, markup builder closures, or jenkins job dsl. Job templates can be defined that can then be manipulated such that multiple jobs can be generated off of a single template definition.

See https://github.com/ghale/gradle-jenkins-plugin/wiki for details on usage.

TTD and TTR metrics are defined by SLA of the most critical system

Metadata survives the crash (build number, logs, history)

Slaves survive the crash

All changes to Jenkins are pre-flight tested

Each team has their own Jenkins and owns underlying infrastructure

Hardware is never a bottleneck

Jenkins is either auto-scalable or easy to scale

Consider Jenkins EC2 plugin

Jenkins is at the close proximity with dependencies (which are redundant)

December 5, 2012 imbriaco Engineering

On Friday, November 30th, GitHub had a rough day. We experienced 18 minutes of complete unavailability along with sporadic bursts of slow responses and intermittent errors for the entire day. I'm very sorry this happened and I want to take some time to explain what happened, how we responded, and what we're doing to help prevent a similar problem in the future.

Note: I initially forgot to mention that we had a single fileserver pair offline for a large part of the day affecting a small percentage of repositories. This was a side effect of the network problems and their impact on the high-availability clustering between the fileserver nodes. My apologies for missing this on the initial writeup.

December 26, 2012  imbriaco Engineering

On Saturday, December 22nd we had a significant outage and we want to take the time to explain what happened. This was one of the worst outages in the history of GitHub, and it's not at all acceptable to us. I'm very sorry that it happened and our entire team is working hard to prevent similar problems in the future.

January 29, 2016  samlambert Engineering

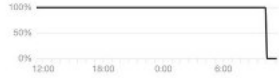
On Thursday, January 28, 2016 at 00:23am UTC, we experienced a severe service outage that impacted GitHub.com. We know that any disruption in our service can impact your development workflow, and are truly sorry for the outage. While our engineers are investigating the full scope of the incident, I wanted to quickly share an update on the situation with you.

A brief power disruption at our primary data center caused a cascading failure that impacted several services critical to GitHub.com's operation. While we worked to recover service, GitHub.com was unavailable for two hours and six minutes. Service was fully restored at 02:29am UTC. Last night we completed the final procedure to fully restore our power infrastructure.

Millions of people and businesses depend on GitHub. We know that our community feels the effects of our site going down deeply. We're actively taking measures to improve our resilience and response time, and will share details from these investigations.

Past Day | Past Week | Past Month

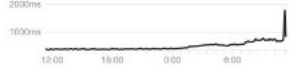
APP SERVER AVAILABILITY
95.5017%



MEAN WEB RESPONSE TIME
98ms

MEAN API RESPONSE TIME
52ms

98TH PERC. WEB RESPONSE TIME
481ms



PAGES BUILDS FAILURE RATE
0.3921%

Trey @_treyx · Mar 21
ouch #githubdown #github

Web Testing

phantomjs

xvfb

ievms

browsersync

saucelabs / browserstack / aws device farm

mitmproxy / mitmdump / tamper

Stress Testing

gatling / loader.io / flood.io

simian army

Fault Tolerance

risk storming

timeouts

circuit breakers / graceful degradation

bulkheads

handshaking / rate limiting

cloudflare

auto-scaling

continuous security

Consider

zero-time data migrations (flyway, LHM, pt-online-schema-change, testing migrations on replica)

immutable infrastructure (vagrant / vmware / ansible / serverspec / packer)

terraform

serverless

consumer-driven contracts (accurest in particular)

Implementing Continuous Delivery

find a bottleneck, set a goal

find the ~~best~~ simplest possible solution and get sh%t done

repeat.

More

regular devops get-togethers

commitment language

80/20

reduce batching

build quality in

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Shia LaBeouf "Just Do It" Motivational Speech (Original Video)

Thank you!

Continuous Security

Validating Git for things that look suspicious:

- Gitrob (https://github.com/michenriksen/gitrob)

- Talisman (https://github.com/thoughtworks/talisman)

GAUNTLT

BE MEAN TO YOUR CODE AND LIKE IT

Join the mailing list for the lastest updates

Gauntlt provides hooks to a variety of security tools and puts them within reach of security, dev and ops teams to collaborate to build rugged software. It is built to facilitate testing and communication between groups and create actionable tests that can be hooked into your deploy and testing processes.

```
Scenario: Verify server is open on expected set of port
  When I launch an "nmap" attack with:
    """
    nmap -F <hostname>
    """
  Then the output should match:
    """
    80/tcp\s+open
    """

Scenario: Verify that there are no unexpected ports open
  When I launch an "nmap" attack with:
    """
    nmap -F <hostname>
    """
  Then the output should not contain:
    """
    22/tcp
    25/tcp
    """
```

```
Scenario: Ensure no anonymous certificates
  When I launch an "sslyze" attack with:
    """
    python <sslyze_path> <hostname>:443
    """
  Then the output should not contain:
    """
    Anon
```

pathod: pathological HTTP

Crafted malice for tormenting HTTP clients and servers

pathod

A pathological web daemon.

code:[features] preview

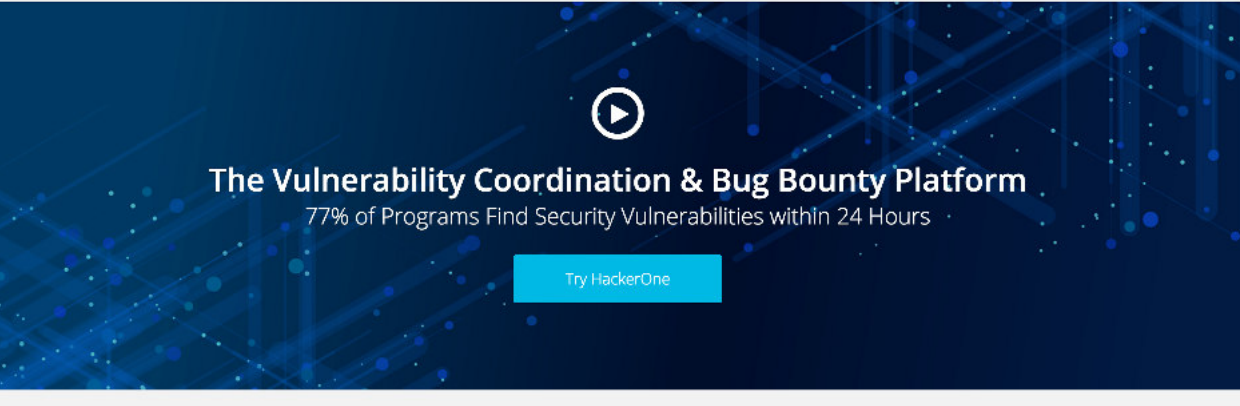
examples

pathoc

A perverse HTTP client.

method:path:[features] preview

examples



Yahoo! Twitter Adobe GM Square Uber New Relic Slack Dropbox GitHub

View all customers

We help security minded organizations run successful crowdsourced security programs.

Run a Program | I'm a Researcher

or find out why crowdsourced security can help you.

"Their researchers dig deep in their testing. Not only will they take a URL and test it for many days, but they also find what other systems just can't identify."

David Levin, Western Union

TESLA Pinterest Barracuda WESTERN UNION heroku

View All Public Programs

WebAppSec/Secure Coding Guidelines

OWASP Application Security Verification Standard Project

OWASP

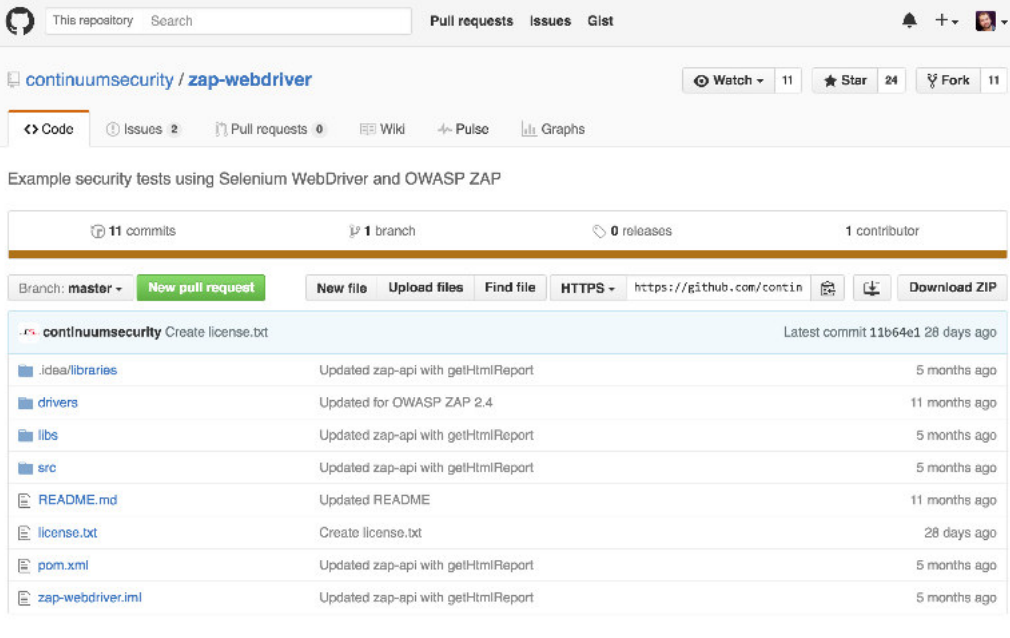
The Open Web Application Security Project

OWASP Top 10 - 2013

The Ten Most Critical Web Application Security Risks

release

The OWASP Zed Attack Proxy (ZAP) is one of the world's most popular free security tools and is actively maintained by hundreds of international volunteers*. It can help you automatically find security vulnerabilities in your web applications while you are developing and testing your applications. Its also a great tool for experienced pentesters to use for manual security testing.


This repository
Search
Pull requests
Issues
Gist
continuumsecurity / zap-webdriver
Watch 11
Star 24
Fork 11
Code
Issues 2
Pull requests 0
Wiki
Pulse
Graphs
Example security tests using Selenium WebDriver and OWASP ZAP
11 commits
1 branch
0 releases
1 contributor
Branch: master
New pull request
New file
Upload files
Find file
HTTPS
https://github.com/contin
Download ZIP
continuumsecurity Create license.txt
Latest commit 11b64e1 28 days ago
.idea/libraries
Updated zap-api with getHtmlReport
5 months ago
drivers
Updated for OWASP ZAP 2.4
11 months ago
libs
Updated zap-api with getHtmlReport
5 months ago
src
Updated zap-api with getHtmlReport
5 months ago
README.md
Updated README
11 months ago
license.txt
Create license.txt
28 days ago
pom.xml
Updated zap-api with getHtmlReport
5 months ago
zap-webdriver.iml
Updated zap-api with getHtmlReport
5 months ago

```
switch (policyName.toLowerCase()) {
    case "directory-browsing":
        scannerIds = "0";
        break;
    case "cross-site-scripting":
        scannerIds = "40012,40014,40016,40017";
        break;
    case "sql-injection":
        scannerIds = "40018";
        break;
    case "path-traversal":
        scannerIds = "6";
        break;
    case "remote-file-inclusion":
        scannerIds = "7";
        break;
    case "server-side-include":
        scannerIds = "40009";
        break;
    case "script-active-scan-rules":
        scannerIds = "50000";
        break;
    case "server-side-code-injection":
        scannerIds = "90019";
        break;
    case "remote-os-command-injection":
        scannerIds = "90020";
        break;
    case "external-redirect":
        scannerIds = "20019";
        break;
    case "crlf-injection":
        scannerIds = "40003";
        break;
    case "source-code-disclosure":
        scannerIds = "42,10045,20017";
        break;
    case "shell-shock":
        scannerIds = "10048";
        break;
    case "remote-code-execution":
        scannerIds = "20018";
        break;
    case "ldap-injection":
        scannerIds = "40015";
        break;
    case "xpath-injection":
        scannerIds = "90021";
        break;
    case "xml-external-entity":
        scannerIds = "90023";
        break;
    case "padding-oracle":
        scannerIds = "90024";
        break;
    case "el-injection":
        scannerIds = "90025";
```

Evil user stories

As {some kind of bad guy} I want to {do some bad thing}...