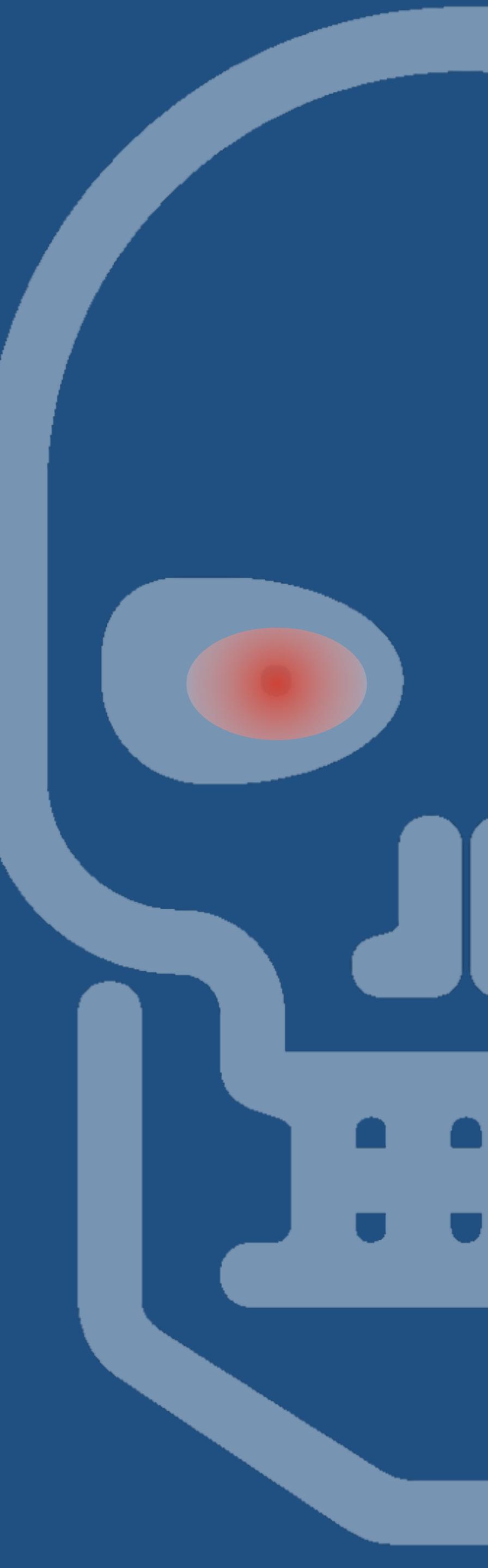




RISE OF THE MACHINES

AUTOMATE YOUR DEVELOPMENT

 @SVENPET



Disclaimer



Scripts



Chef, Puppet, etc



better build pipelines



Disclaimer



Ideas through examples

RISE OF THE MACHINES

IN OUR DAY TO DAY LIVES











RISE OF THE MACHINES IN SOFTWARE DEVELOPMENT





Sven Peters

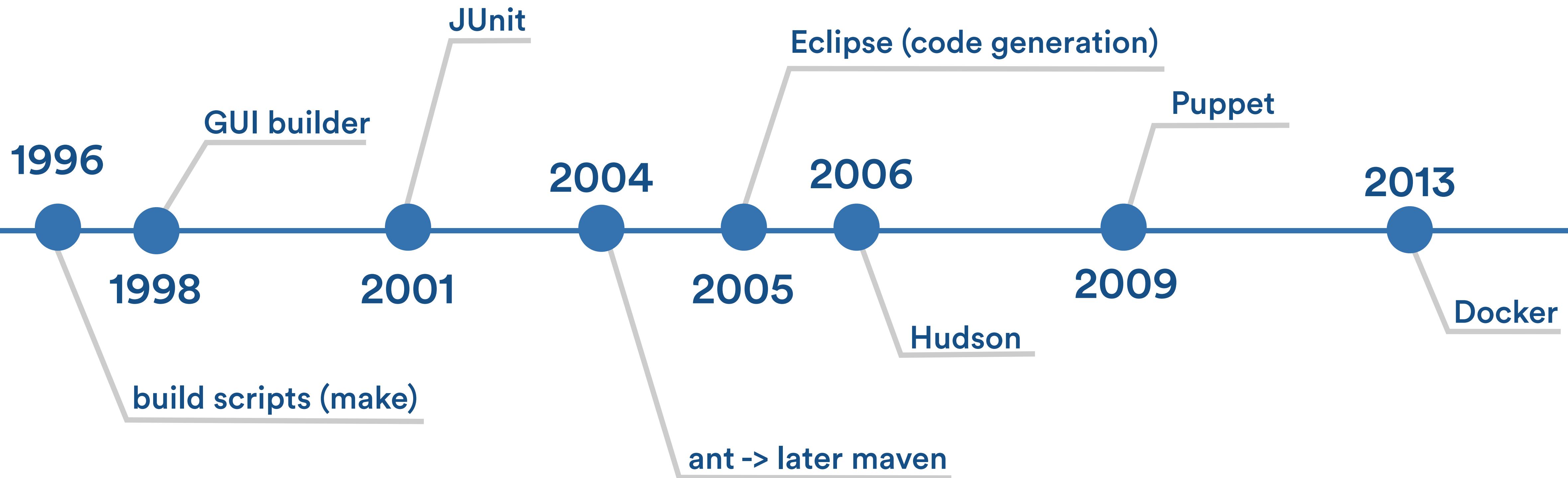
Atlassian Evangelist

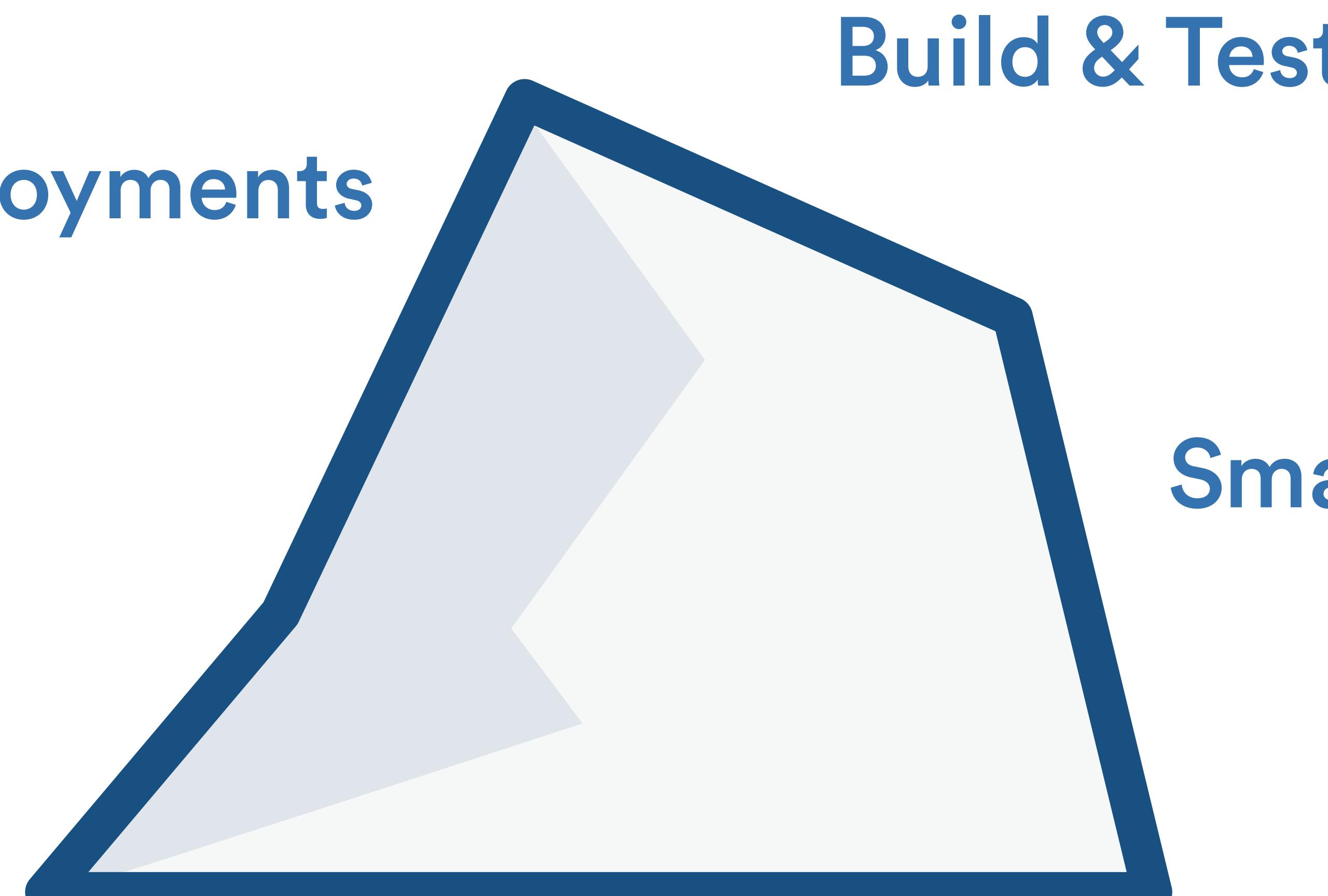
svenpet.com

 [@svenpet](https://twitter.com/svenpet)

Automation in Software Development

----- my personal story

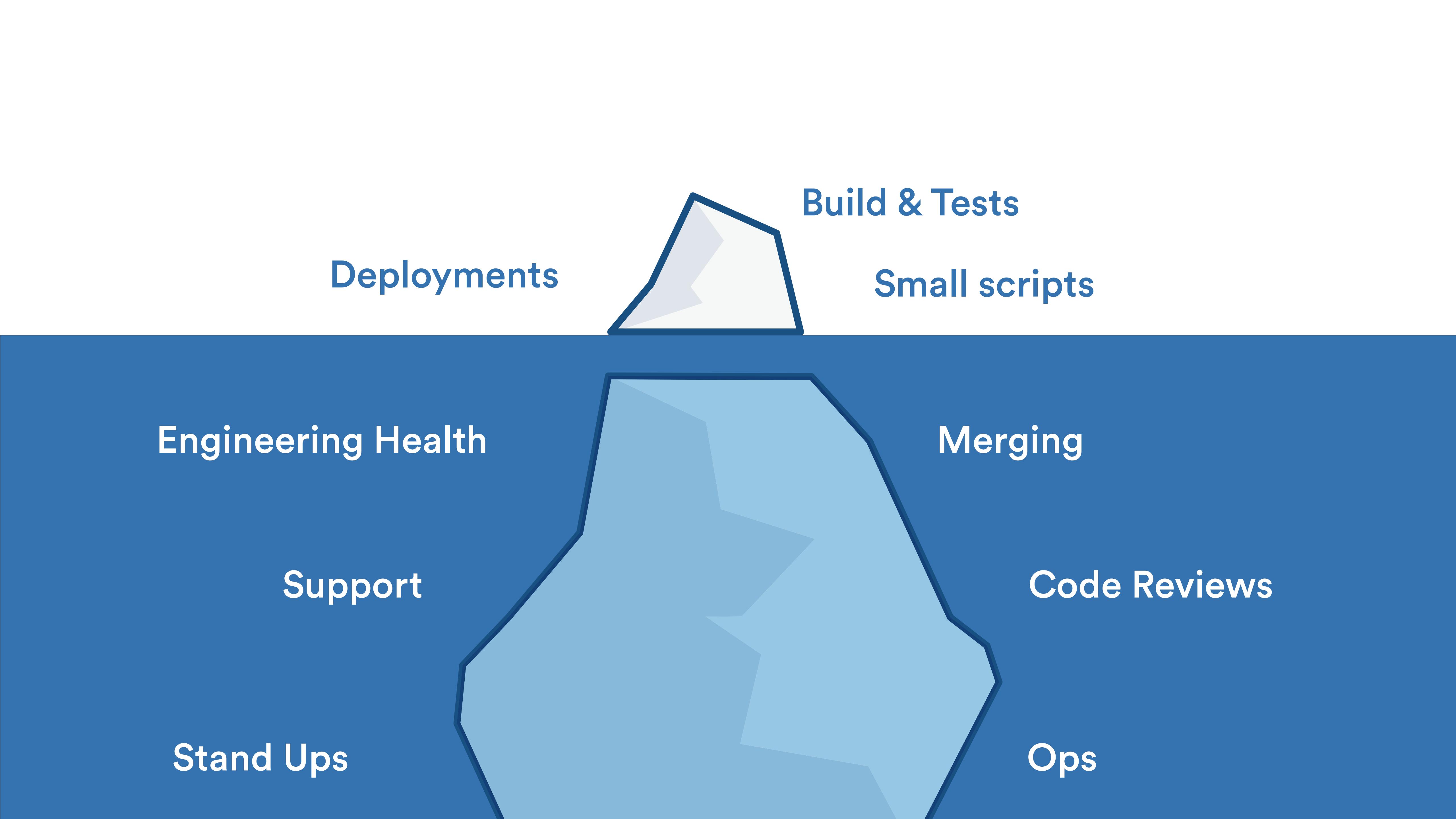




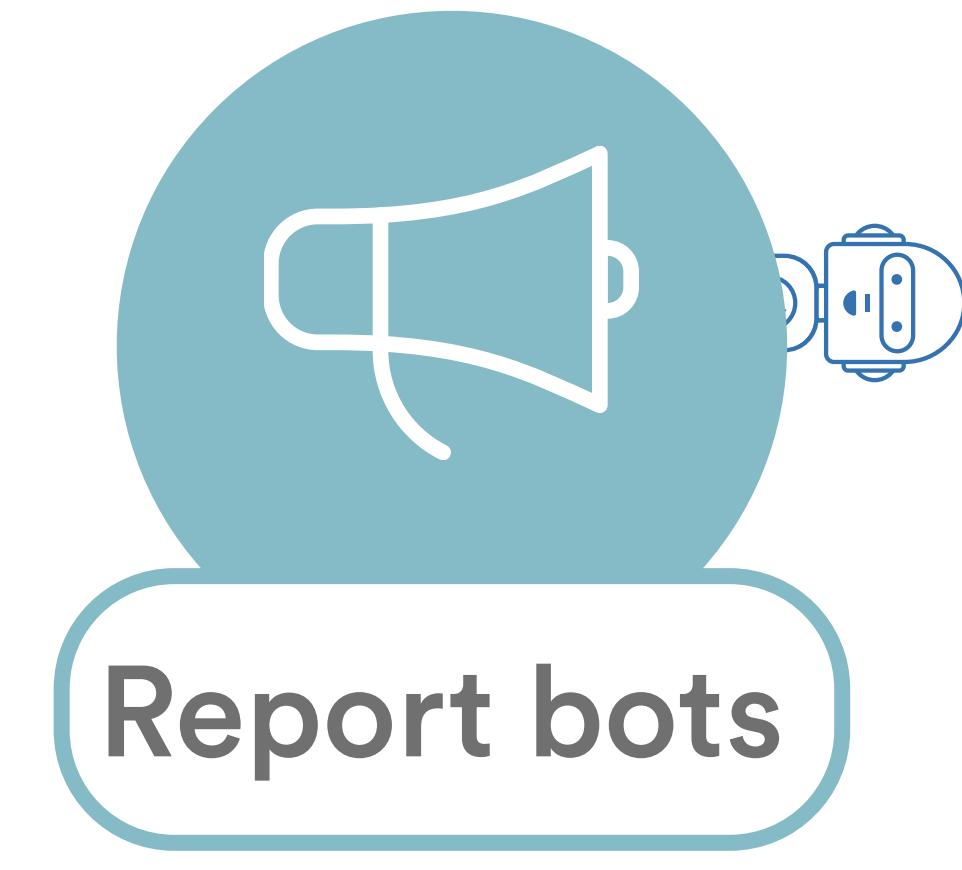
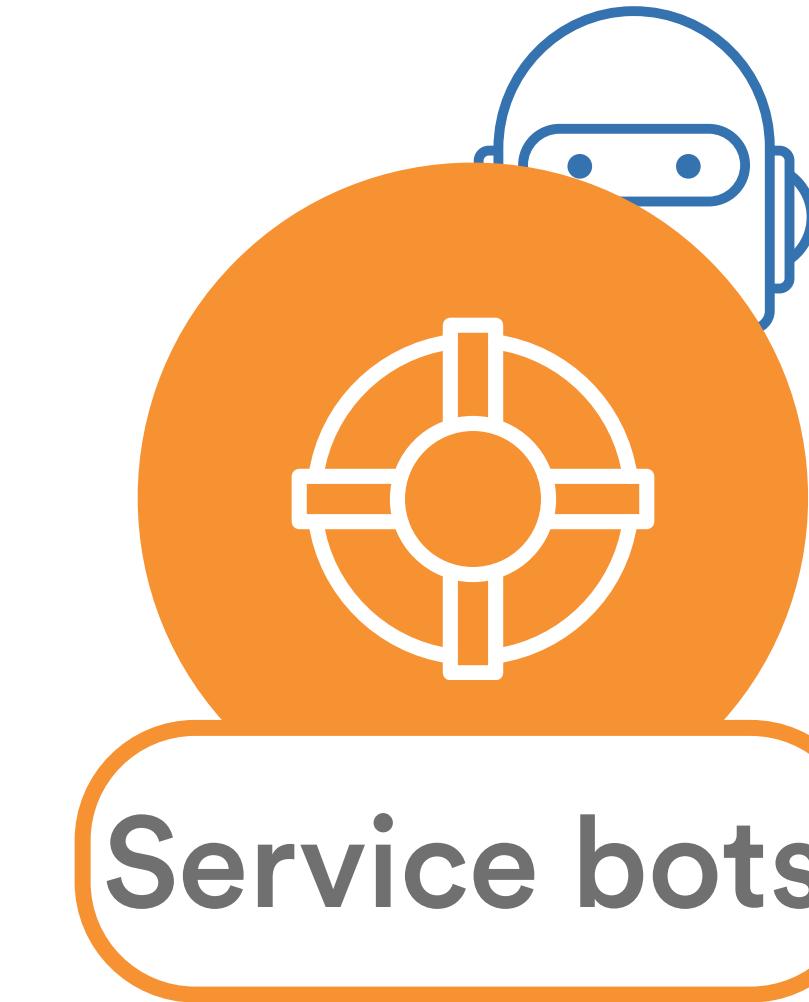
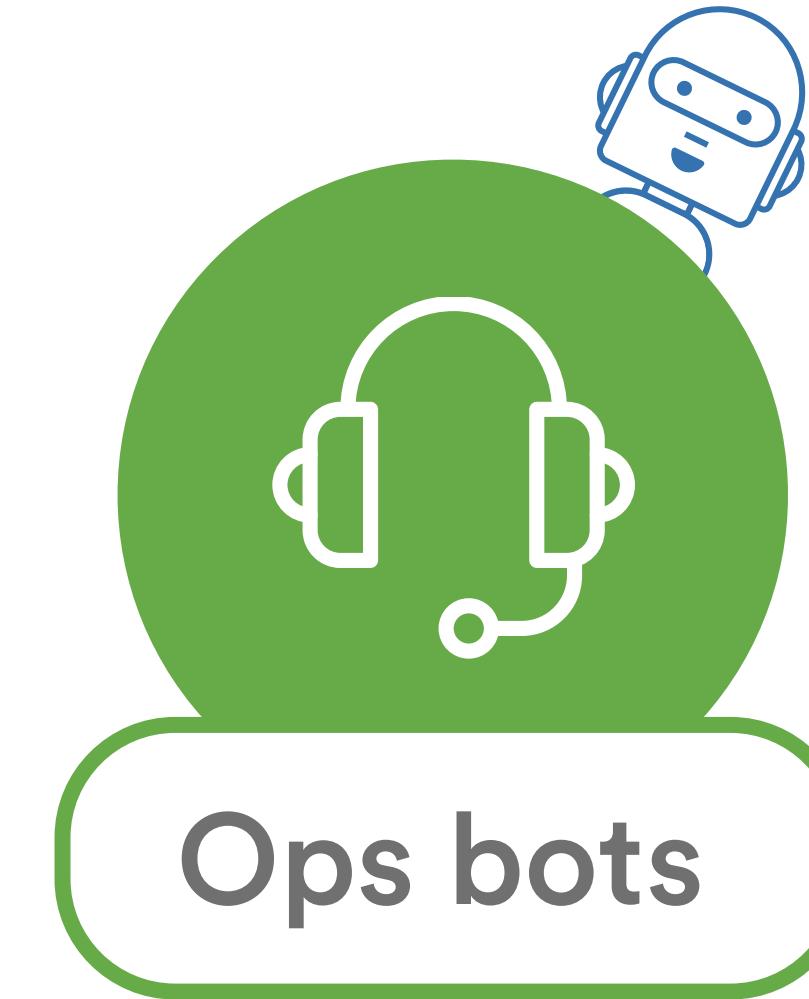
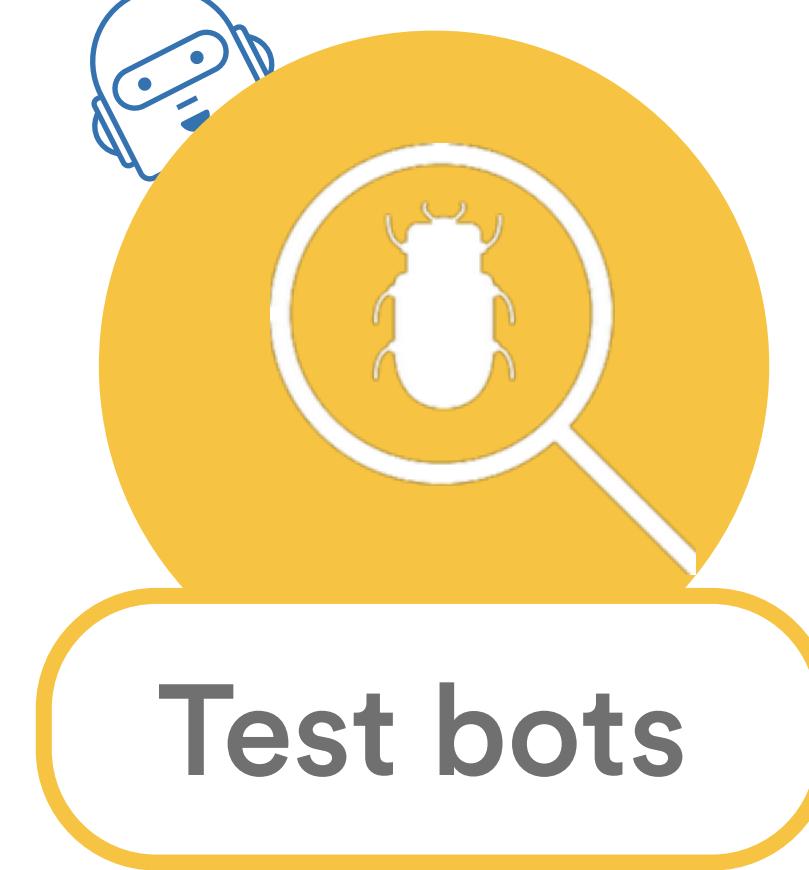
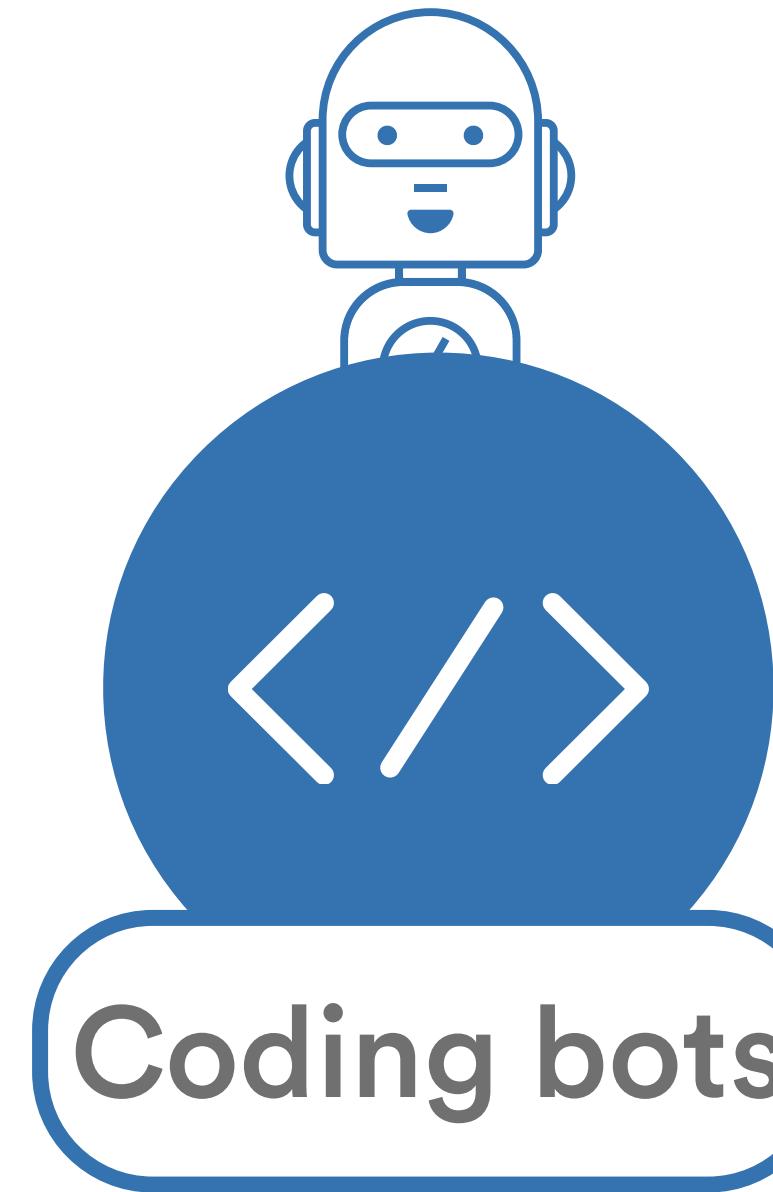
Deployments

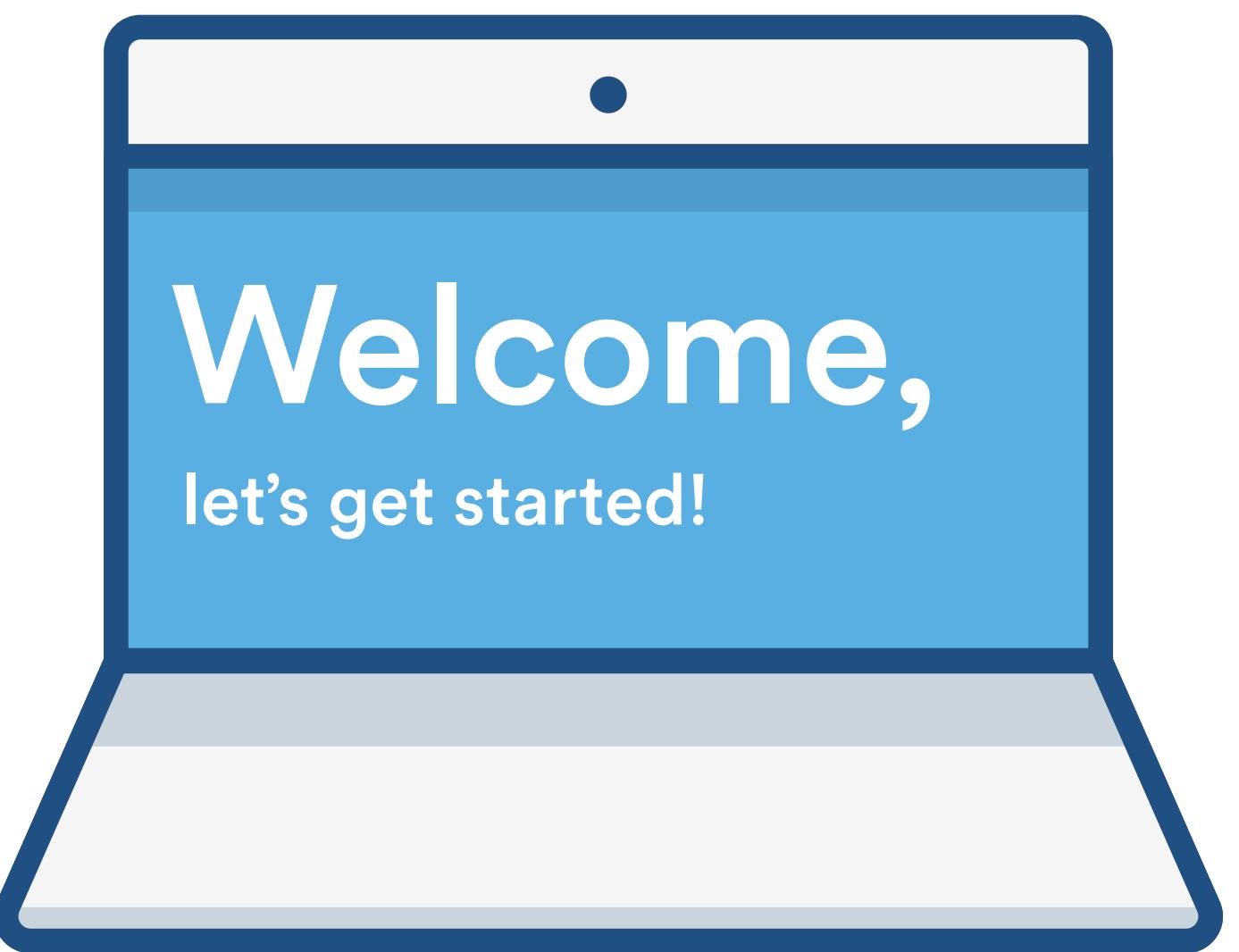
Build & Tests

Small scripts



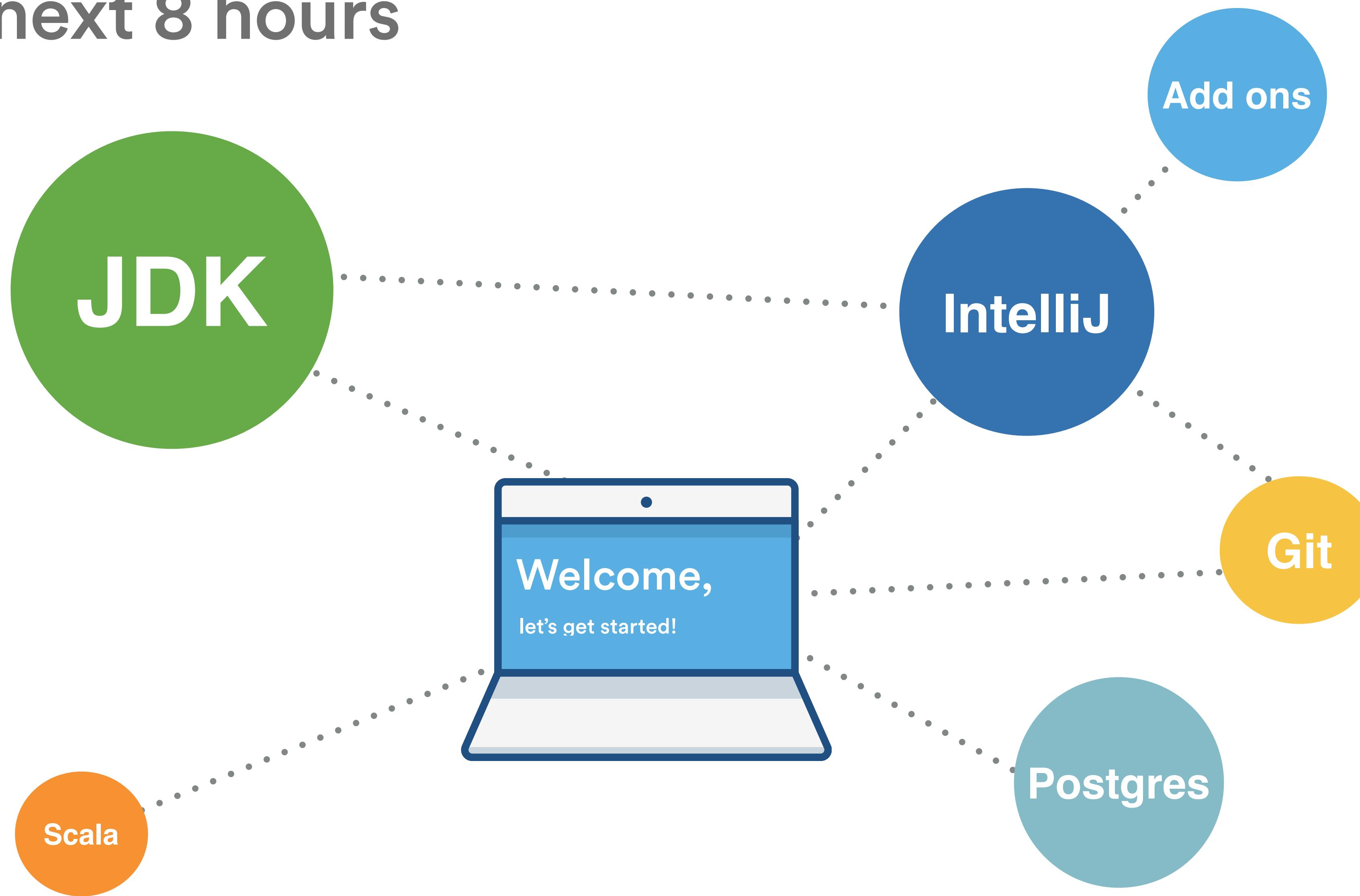
Bots everywhere

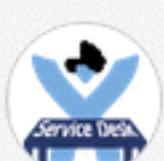




Happy installing & setup...

for the next 8 hours





Setting up a development environment from a brand new mac

Created by Edward Zhang, last modified by Peter Grasevski on Sep 29, 2015

- [Install the following programs](#)
- [Setup your Bitbucket account](#)
- [Upload your ssh key to the right places](#)
- [Install some more programs](#)
- [Configure maven](#)
 - [TODO: MaxPermSize not supported in 8.0](#)
- [Checkout the Service Desk Source code](#)
- [Install Zinc server](#)
 - [Run Zinc server](#)
- [Let maven download the internet](#)
- [Simple way of setting up postgres](#)
- [Set up postgres via command line](#)
 - [First time starting up postgres:](#)
 - [Starting up postgres every other time:](#)
 - [Working with the servicedesk database for the first time](#)
 - [Working with the servicedesk database every other time](#)
- [Setting up the IDE](#)
- [Once both maven and idea are done...](#)
- [If you are still waiting for maven or idea...](#)
- [Development Guidelines](#)
- [Some useful tips!](#)

Setup your Bitbucket account

Go to bitbucket.org and setup a login account.

- Make sure you use your Atlassian email address
- It's a good idea to use your email prefix as your username eg. if your email is jcitizen@atlassian.com, then use jcitizen as your Bitbucket username.

Upload your ssh key to the right places

1. Generate your ssh key if you don't have one:

```
ssh-keygen -t rsa -C "your_email@atlassian.com"
```

2. Visit https://bitbucket.org/account/user/<your_bitbucket_username>/ssh-keys/ and upload your ssh key
3. Visit <https://stash.atlassian.com/plugins/servlet/ssh/account/keys> and upload your ssh key
4. Raise a request here to get ssh access to ondemand instances: <https://ops.internal.atlassian.com/jira/servicedesk/customer/portal/1>

NB: you can use pbcopy command to copy to the clipboard

Install some more programs



Configure maven

› If you are in Saigon...

```
git clone git@bitbucket.org:atlassian/maven-settings.git  
cd maven-settings && ./maven-settings.sh
```

Service Desk compilation requires bunch of memory, you need to add the following to your `~/.profile` or `~/.zshrc`

```
export MAVEN_OPTS="-Xmx1600M -XX:MaxPermSize=1024m"
```

TODO: MaxPermSize not supported in 8.0

Checkout the Service Desk Source code

First checkout the qa-data like this:

```
mkdir ~/.viewport  
git clone git@bitbucket.org:atlassian/viewport-qa.git ~/.viewport/viewport-qa
```

Then check out the actual service desk source code:

```
git clone ssh://git@stash.atlassian.com:7997/jira/servicedesk.git
```

Install Zinc server

```
brew install zinc
```

Let maven download the internet

From the root of the servicedesk checkout do the following:

```
cd servicedesk  
mvn clean install -DskipTests
```

Normally, this takes about 3 minutes, but the first time takes much **LONGER** (30-40mins in Sydney, 90mins in Saigon), so while that is running we will set up all the other stuff...

Simple way of setting up postgres

1. Download and install <http://postgresapp.com/> (always latest Postgres 9.x)
2. Postgresapps give you few options to start instance on login as well storage path
3. Use brew installing pgAdmin3 (brew install pgAdmin3)
4. Login to postgres using your local machine account
5. Create sduser (with admin permission) via pgAdmin3
6. Include postgresapp path to bash path export
`PATH=$PATH:/Applications/Postgres.app/Contents/Versions/<version>/bin`
7. Enjoy

Set up postgres via command line

Setting up the IDE



1. Download it here¹: <http://www.jetbrains.com/idea/>
2. Follow the instructions to get your license here: [JetBrains Enterprise Agreement Licenses - \(IntelliJ IDEA, PyCharm\)](#)
3. Install the Scala and non-dairy soy plugin. Both can be installed in IDEA by opening a scala or soy file, or by going to preferences > plugins > browse repositories
4. Open the pom.xml file that is in the root of the service desk checkout
5. Idea will start to do a lot of things in the background. It is best to leave it alone until it sorts itself out.

Note: in case if IDEA require Java SE6, open IDEA package contents **Contents/info.plist** and modify:

```
<key>JVMVersion</key>
<string>1.6*</string>
to
<key>JVMVersion</key>
<string>1.7*</string>
```

Get ESLint checking your codebase in IntelliJ: [Enabling the ESLint intellij plugin](#)

[1] If you want to use Eclipse, you can. Instructions are here: [How to get Viewport working in Eclipse](#) I wouldn't recommend it though as you will cop a lot of slack for using it, even if it works just fine...

Once both maven and idea are done...

Run the following from the root of your servicedesk checkout to start Service Desk



If you are still waiting for maven or idea...

Read these:

[How to read the things you're supposed to read](#)

<https://extranet.atlassian.com/display/~bbaker/2007/08/29/Don%27t+Punch+The+Sheep>

Bookmark these:

<https://extranet.atlassian.com/display/SUPPORT/Support+-+License+Repository>

<https://stash.atlassian.com/projects/JIRA/repos/servicedesk/browse>

[Service Desk - All Things Licensing](#)

Download/install these:

Sublime text: <http://www.sublimetext.com/> Licenses: [Sublime Text](#)

iTerm: <http://www.iterm2.com/>

Caffeine: <http://lightheadsw.com/caffeine/> (These help with demos)

Sourcetree: <https://www.atlassian.com/software/sourcetree/overview>

17 Comments

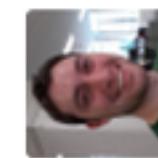


Duc Dao

brew install maven30

Would stick with maven 3.0 only, 3.1 may have some funny issues

[Reply](#) • [Delete](#) • [Like](#) • Phuong Doan likes this • Jun 09, 2014



Robert Massaioli

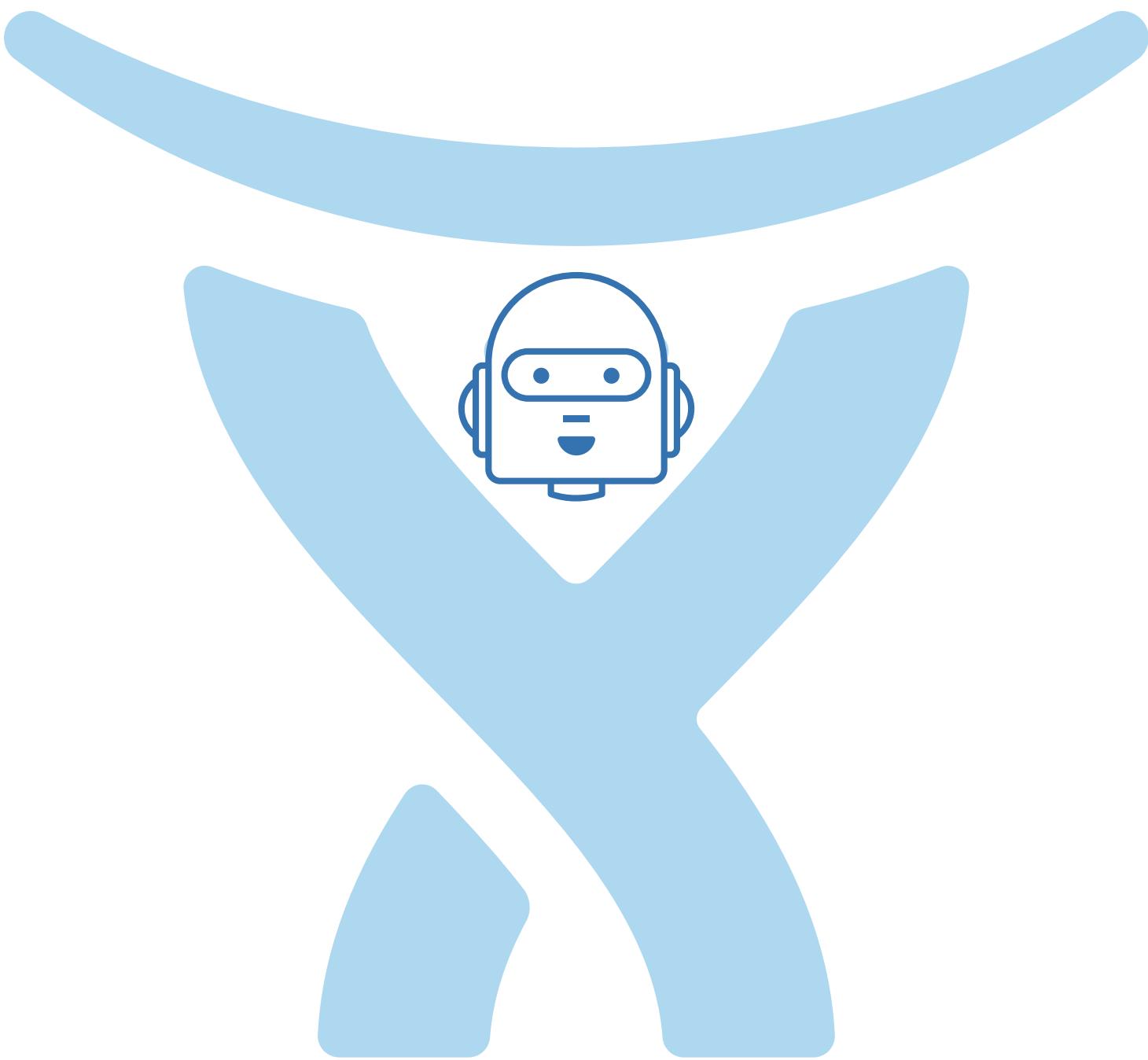
Why are you not using Agent Charlie to skip a whole bunch of these steps? <http://go.atlassian.com/agentcharlie>

That should be the first step in anybody's setup process.

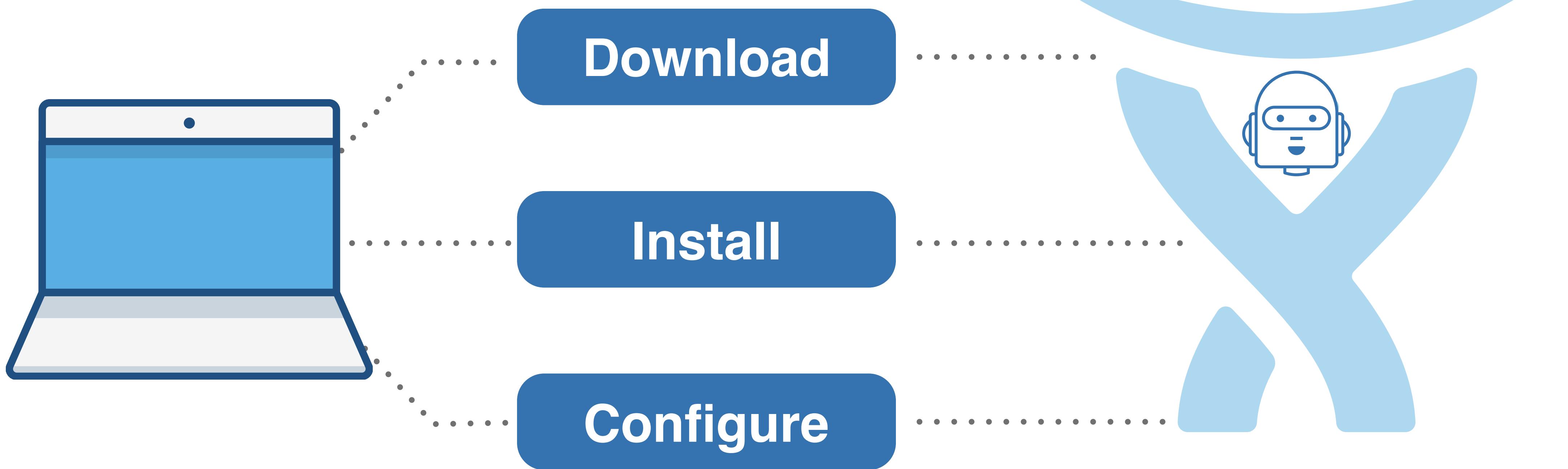
[Reply](#) • [Delete](#) • [Like](#) • Jun 10, 2014



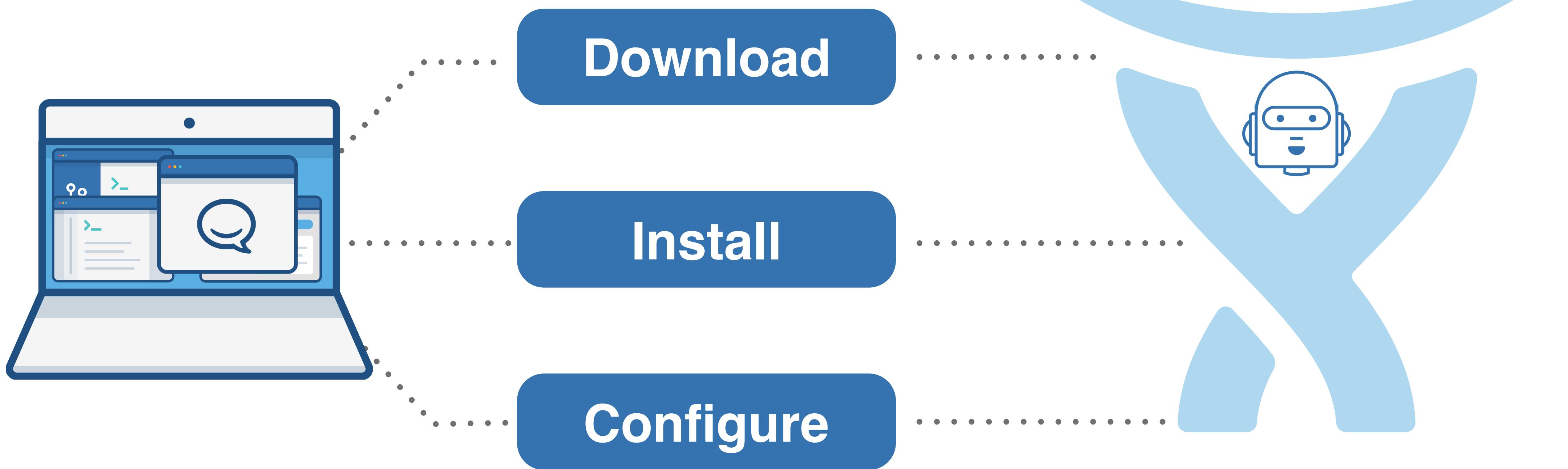
Meet **Agent Charlie**



Meet **Agent Charlie**



Meet **Agent Charlie**



Puppet, Shell & Ruby

Works with OSX & Ubuntu

IntelliJ IDEA

JDK

Maven

PostgreSQL

Stash Keys

and much more...

Atlassian Plugin SDK

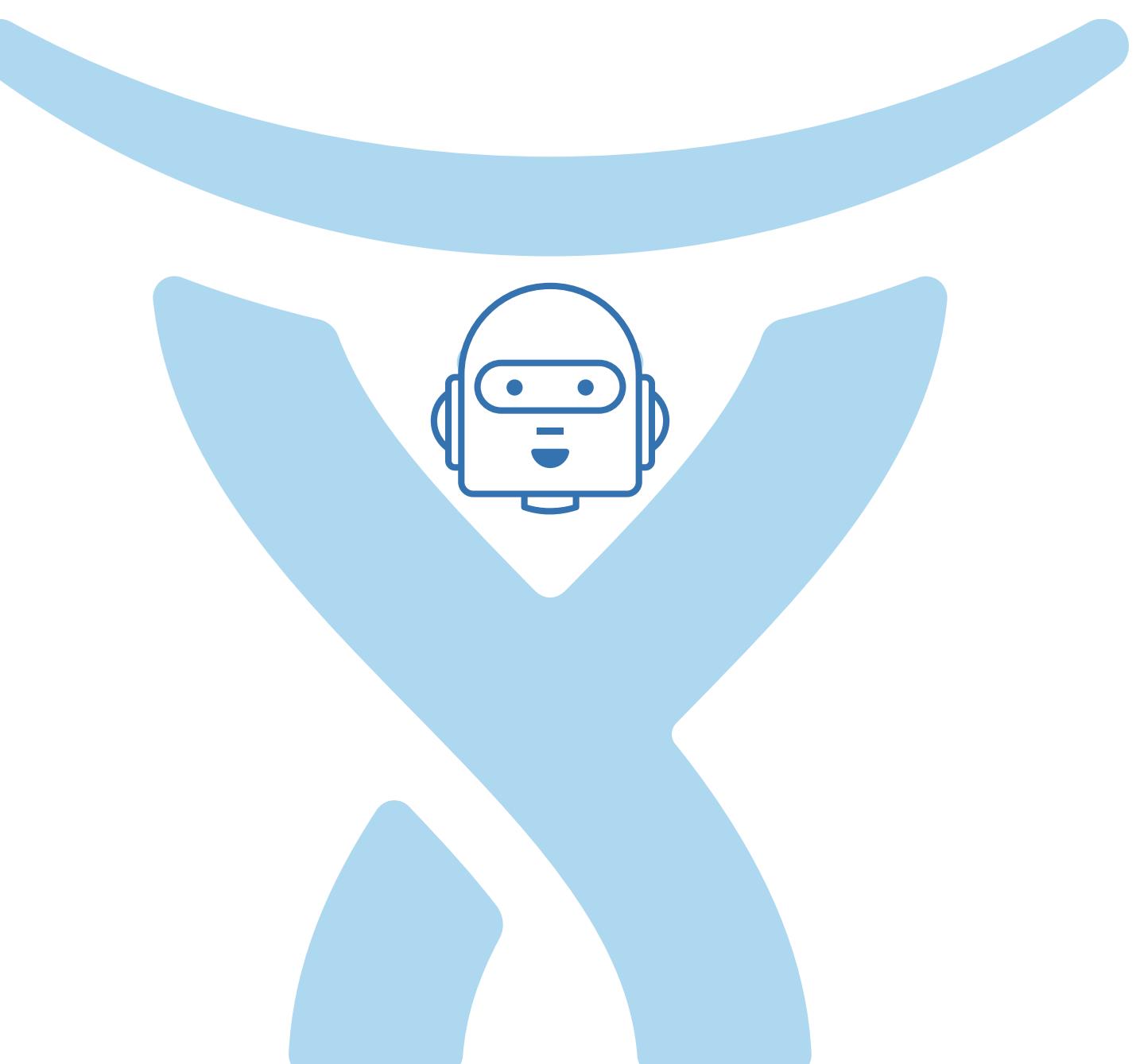
Bitbucket SSH Keys

Git

Mercurial

HipChat

HomeBrew



Without
Agent Charlie



With
Agent Charlie

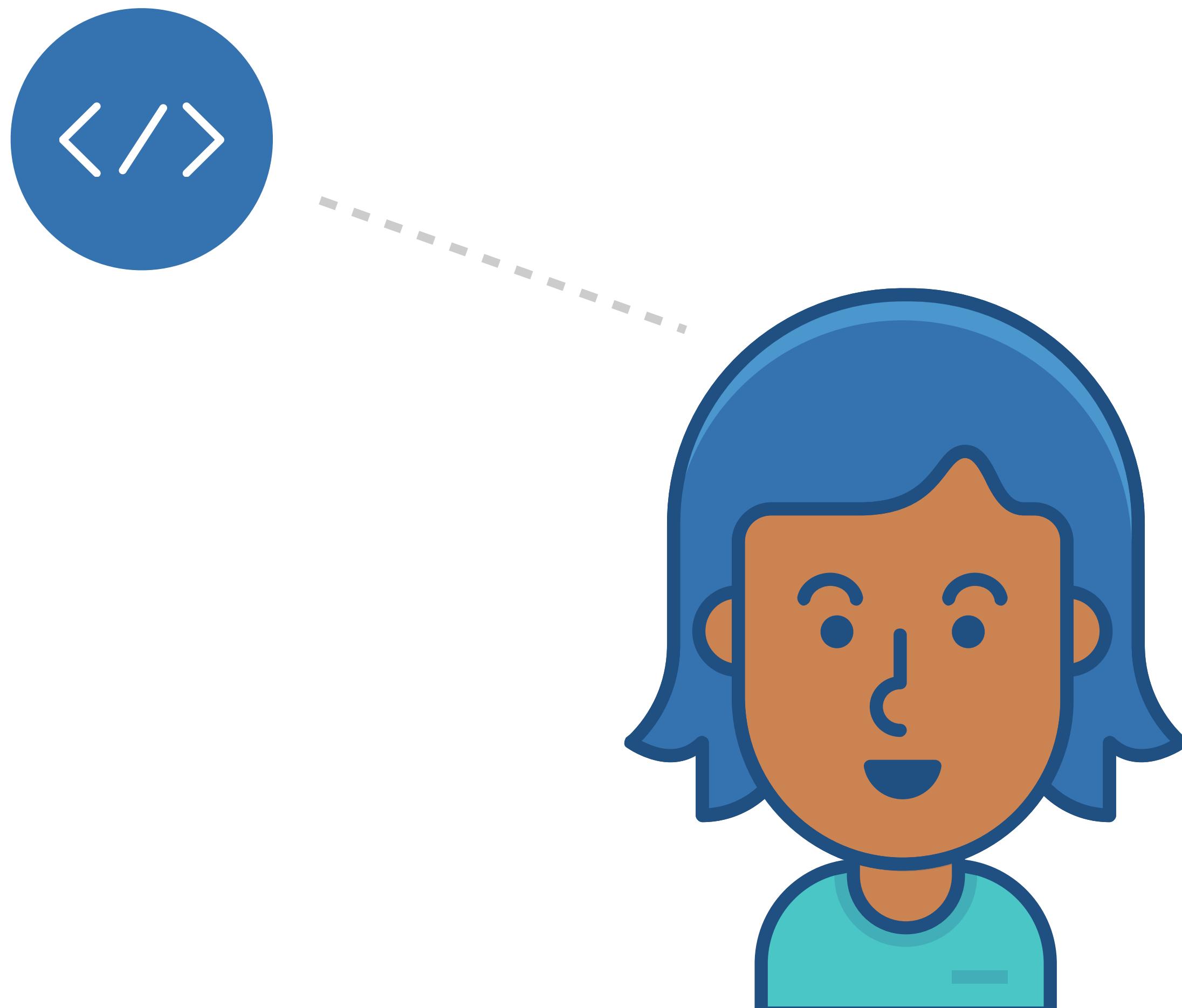


CODING BOTS

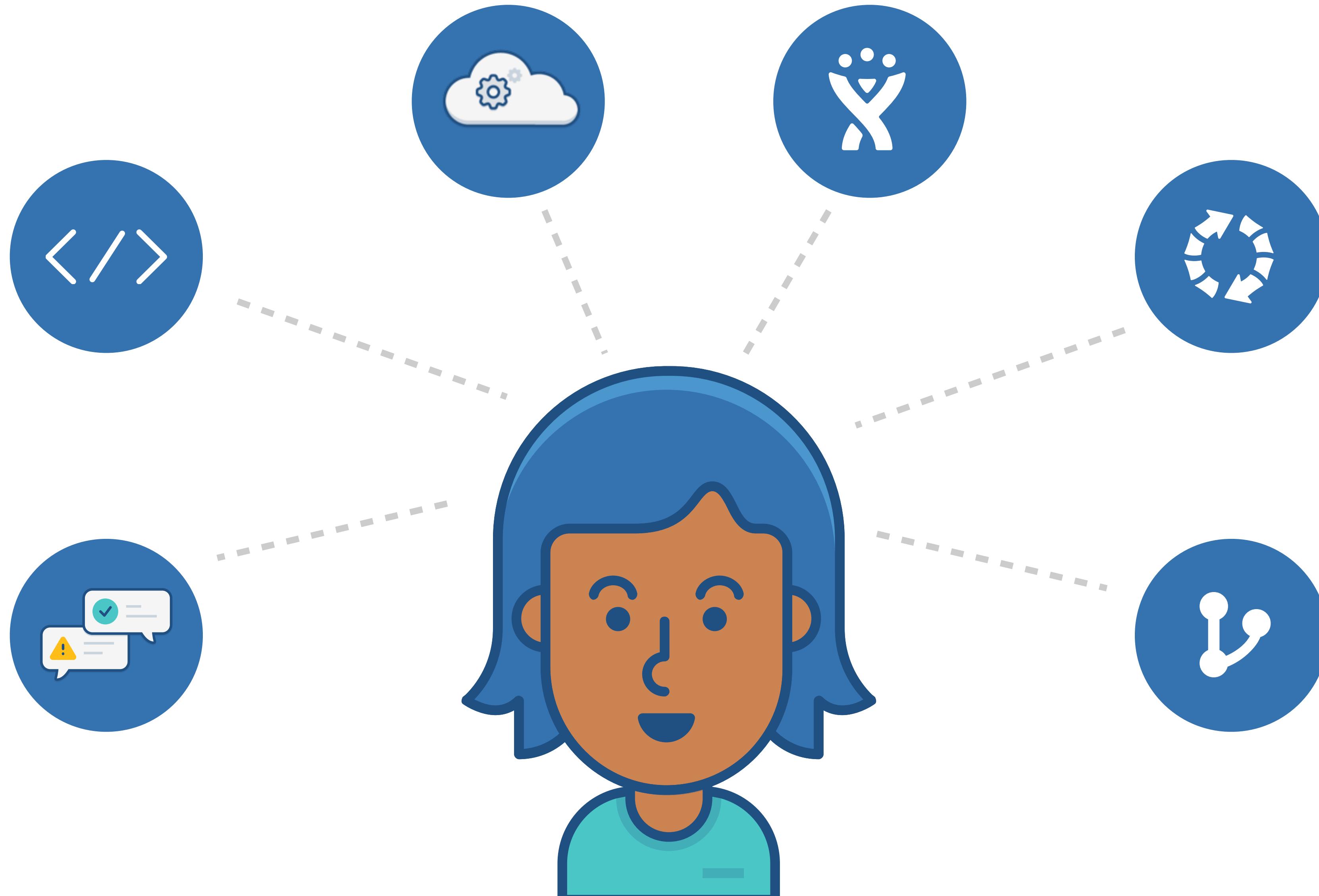
AUTOMATE YOUR CODING PHASE



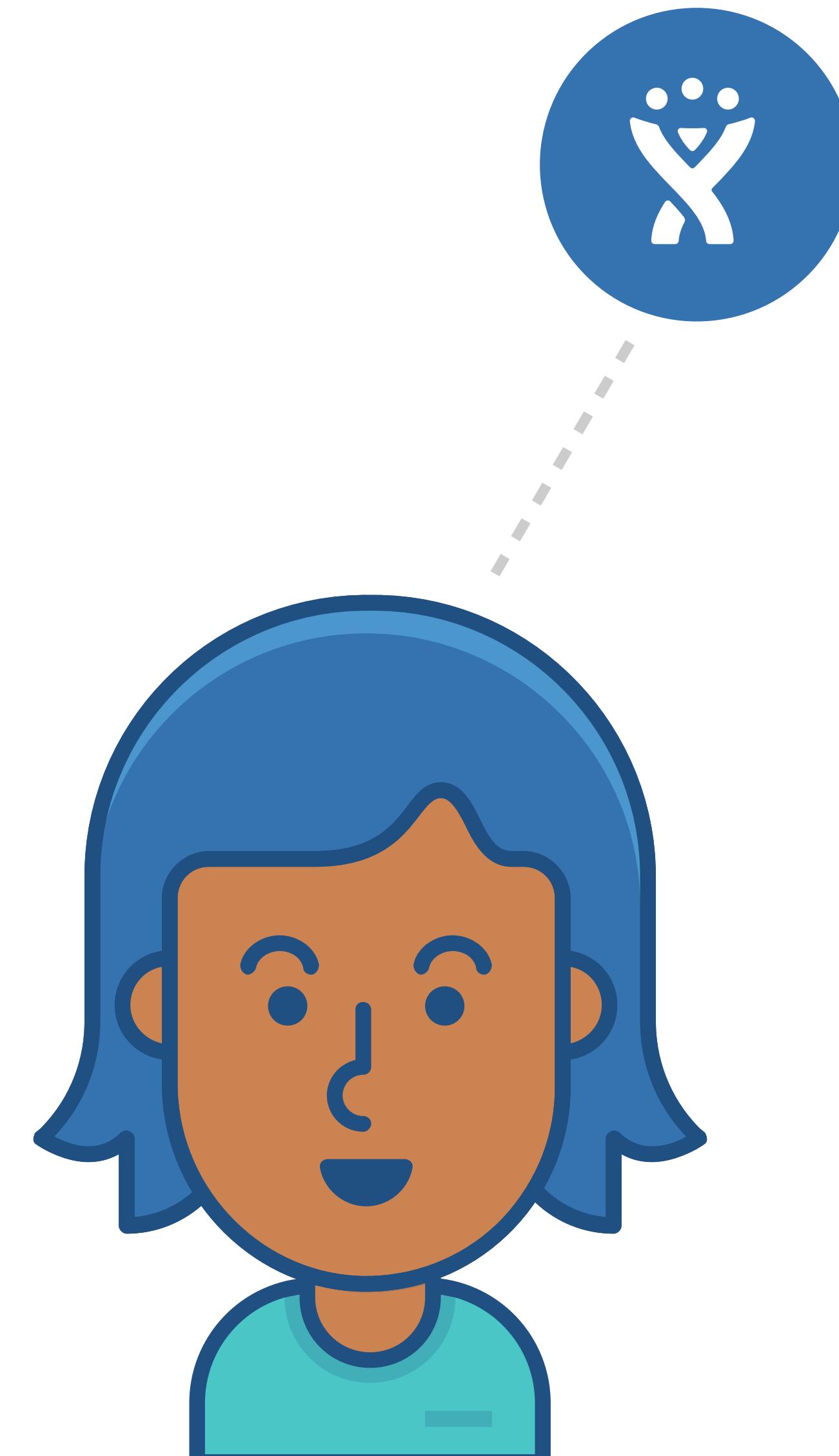
Coding...



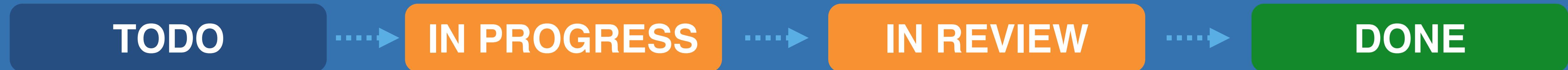
Coding...is not just coding



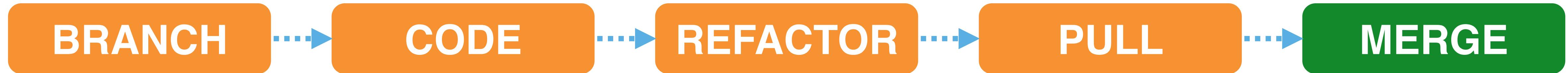
Coding...is not just coding



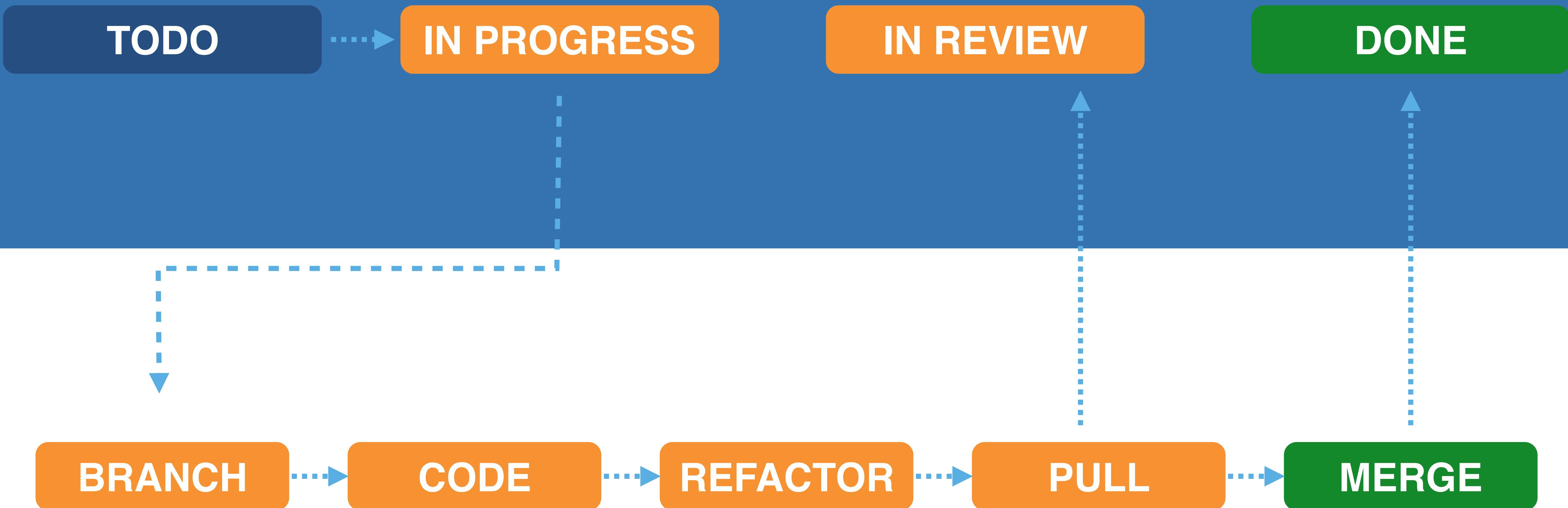
Issue tracker workflow



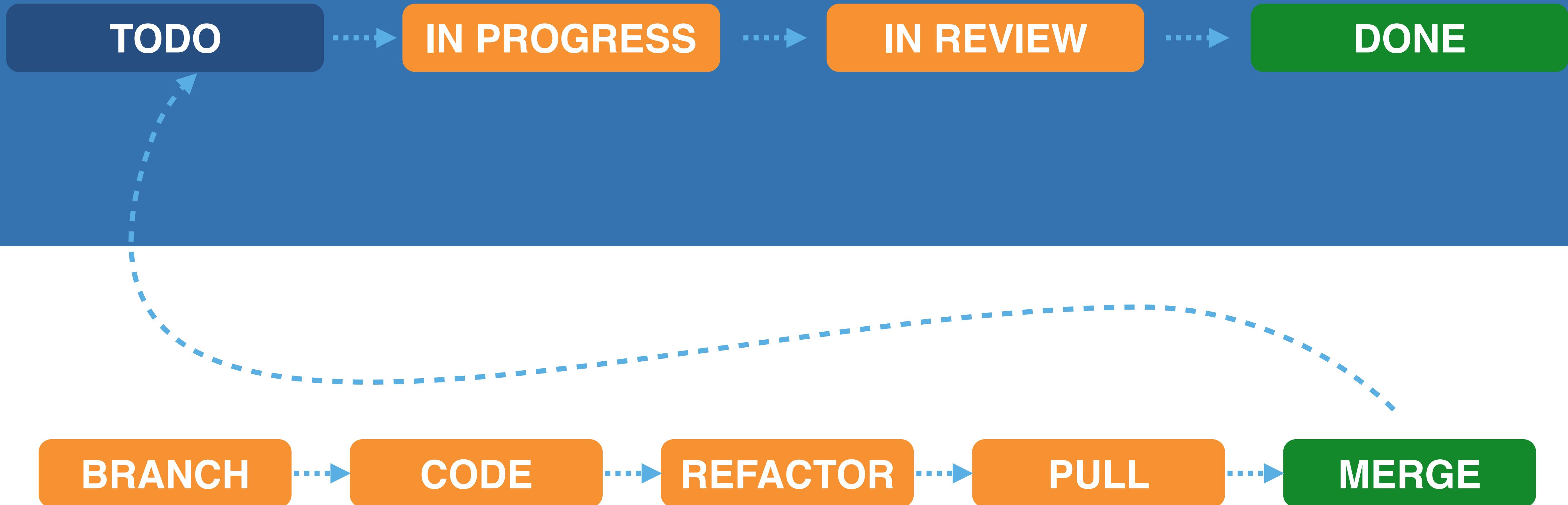
Developer workflow



What you should do



What you do



Keep the **team** updated!



CHANGE
INTO A TRUCK



Smart 🧠 commits

mention issue_key and #trigger the issue tracker

Github JIRA YouTrack Trello Bitbucket



Control the issue by commits

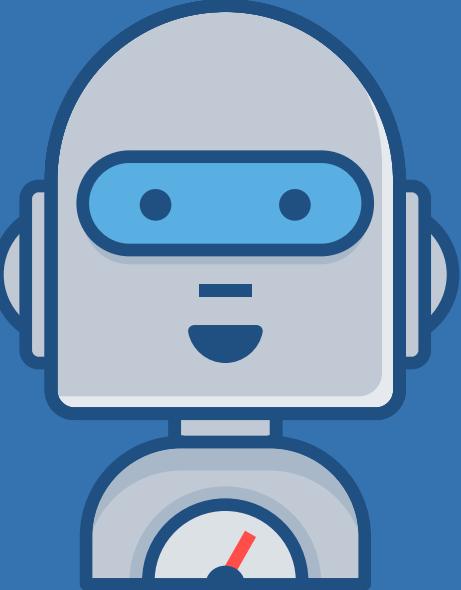


JRA-566 #start-Progress

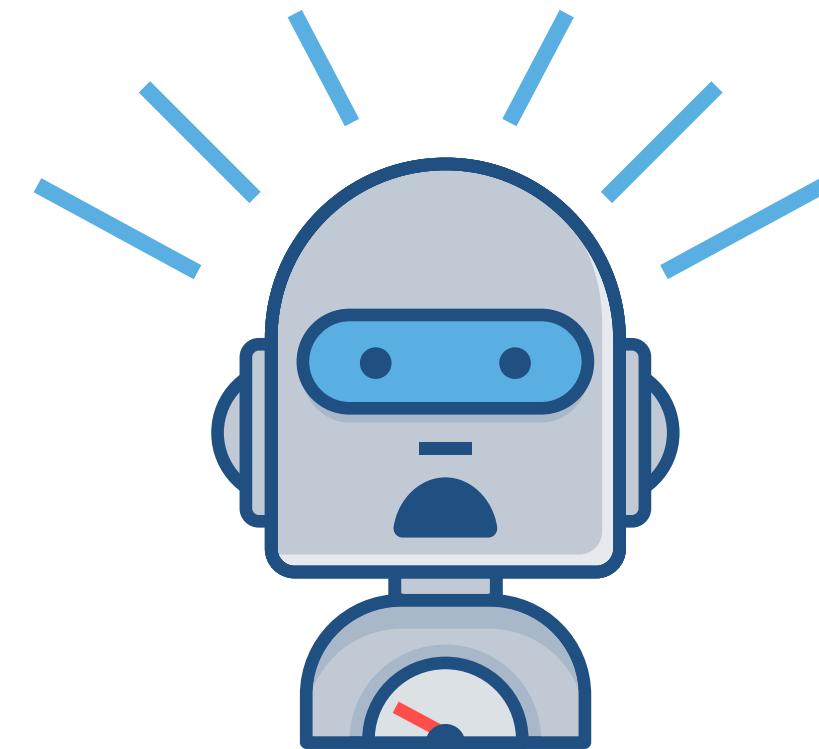
JRA-566 #start-review

fixes #566





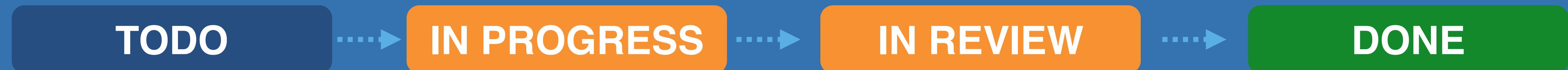
No
tool switching



Robot is just
receiving
commands



Controlled by action



branch
commit

pull request
create review

merge
close review





Little workflow helper

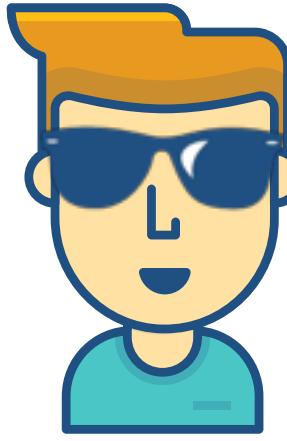


branch

pull

merge



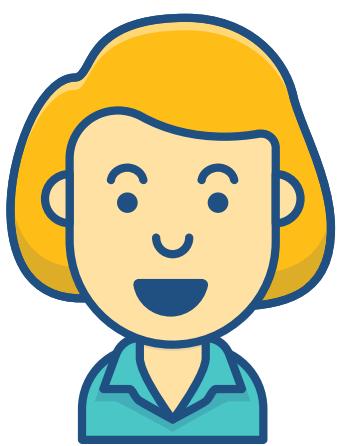


commits code directly to the master branch!

master

</>





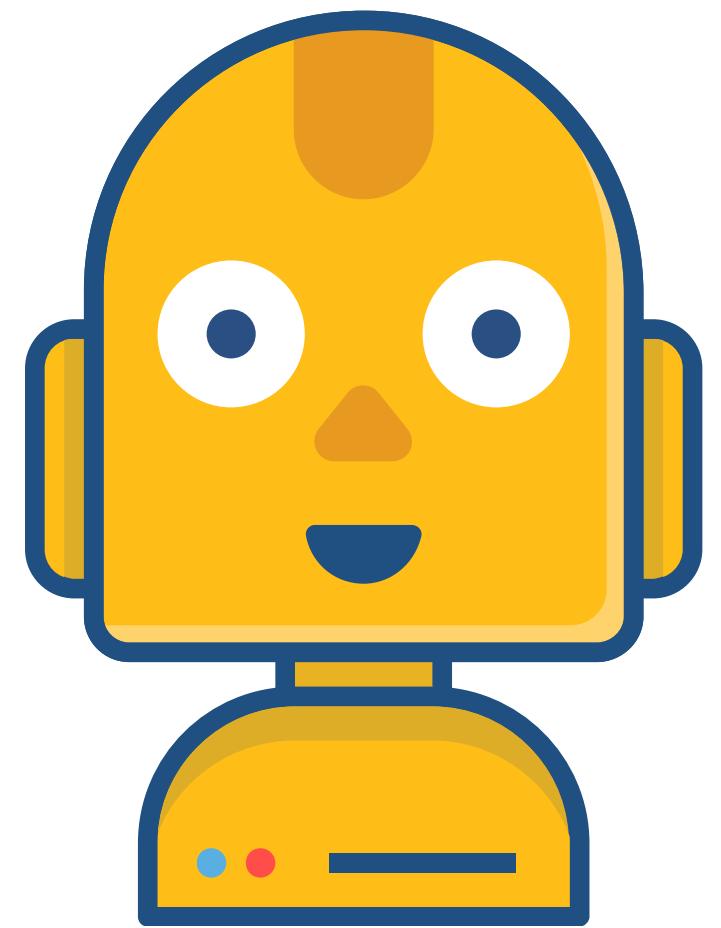




bad surprise

sh*t happens, but can be avoided





no bad surprise
sh*t doesn't happen that often

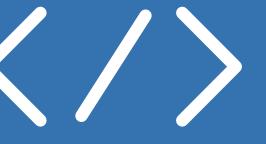


Workflow helper

Don't branch from a **red build**



Who should review my pull request?



Source

 development ▾

crappie / src / js / app / hipchat-client.js

[Source](#) [Diff](#) [History](#)

Author	Commit	Message	Date	Builds
 Clifton Hensley	357e38b	HC-22709: Migrating HJC into crappie	2 days ago	
 Andrew Sokolov	edb0b59 M	Merge branch 'development' into bug/new-user-chat-not-opened-after-page-reload ...	2015-10-01	
 Andrew Sokolov	62a623f M	Merge branch 'development' into bug/HC-21709 # Conflicts: # src/js/app/hipchat-cl... ...	2015-09-30	
 Andrew Sokolov	961a68c M	Merge branch 'development' into bug/new-user-chat-not-opened-after-page-reload	2015-09-30	
 Andrew Sokolov	71c5dc8 M	Merged in bug/HC-22251 (pull request #1237) HC-22251 Switching rooms shouldn't...	2015-09-30	
 Mark Lozano	c9d3a3d M	Merged in bugfix/HC-22186-npe-internal-token-events (pull request #1238) HC-221...	2015-09-29	
 Keegan Watkins	b035cca M	Merged in task/fix-hot-loader-import (pull request #1241) Dynamically `require()` the...	2015-09-29	
 Keegan Watkins	c7c504c	Adding `HC_HOT_RELOAD` definition for linting.	2015-09-29	
 Keegan Watkins	c7a1d36	Dynamically `require()` the hot-loader, if the environment variable is set. The 'react-...	2015-09-28	
 Nikolay Petrov	16e6fd5	HC-22186 Notify spi on internal token refresh	2015-09-28	
 Andrew Sokolov	feac8ff	bug/HC-22251	2015-09-28	
 Andrew Sokolov	fc354da M	Merge branch 'development' into bug/HC-21709	2015-09-25	
 Marcus Ellis	ce0952c	HC-20586 removing readstate from the web client and moving it to HJC	2015-09-22	

Source

development ▾



crappie / src / js / app / hipchat-client.js

Source Diff History

Author	Commit	Message	Date	Builds
Clifton Hensley	357e38b	HC-22709: Migrating 'development' to crappie	2 days ago	
Andrew Sokolov	edb0b59 M	Merge branch 'development' into bug/new-user-chat-not-opened-after-page-reload ...	2015-10-01	
Andrew Sokolov	62a623f M	Merge branch 'development' into bug/HC-21709 # Conflicts: # src/js/app/hipchat-cl... 2015-09-30		
Andrew Sokolov	961a68c M	Merge branch 'development' into bug/new-user-chat-not-opened-after-page-reload ... 2015-09-30		
Andrew Sokolov	71c5dc8 M	Merged in bug/HC-22251 (pull request #1237) HC-22251 Switching rooms shouldn't ... 2015-09-30		
Mark Lozano	c9d3a3d M	Merged in bugfix/HC-22186-npe-internal-token-events (pull request #1238) HC-221... 2015-09-29		
Keegan Watkins	b035cca M	Merged in task/fix-hot-loader-import (pull request #1241) Dynamically `require()` the... 2015-09-29		
Keegan Watkins	c7c504c	Adding `HC_HOT_RELOAD` definition for linting. 2015-09-29		
Keegan Watkins	c7a1d36	Dynamically `require()` the hot-loader, if the environment variable is set. The 'react-... 2015-09-28		
Nikolay Petrov	16e6fd5	HC-22186 Notify spi on internal token refresh 2015-09-28		
Andrew Sokolov	feac8ff	bug/HC-22251 2015-09-28		
Andrew Sokolov	fc354da M	Merge branch 'development' into bug/HC-21709 2015-09-25		
Marcus Ellis	ce0952c	HC-20586 removing readstate from the web client and moving it to HJC 2015-09-22		

recent committers or author

 STASHDEV-5102-upperc...

Charles O'Farrell committed [9a613ae](#) 4 days ago
STASHDEV-5102 Add missing upgrade.xml

 master

Xu-Heng Tjhin committed [944e2de](#) 2 days ago
Merge pull request #2344 in STASH/stash from STASHDEV-
5061-copybranch-noflash-fallback to master * commit
['5fdd21b88072911ee4ebacc3de29c40b44e...](#)

Pull request details

Title *

STASHDEV-5102 uppercase jira key

Description

* STASHDEV-5102 Uppercase indexed JIRA keys for performance
* STASHDEV-5102 Use Locale US when converting to uppercase
* STASHDEV-5102 Add missing upgrade.xml

Reviewers

 Michael Heemskerk ×

Suggestions: [Charles O'Farrell](#), [Bryan Turner](#), [Pierre Etienne-Poirot](#), [Michael Studman](#)

Create pull request

Cancel

Previously contributed to files that
were modified.

auto suggest reviewer





Workflow helper

Invite the **right** reviewers



Has everyone approved the pull request?





Workflow helper

Minimum amount of approvers



Reset approvals on code changes





Workflow helper

Never merge unapproved code



Patching older Versions

Version 1.0

Version 1.1

Version 1.2

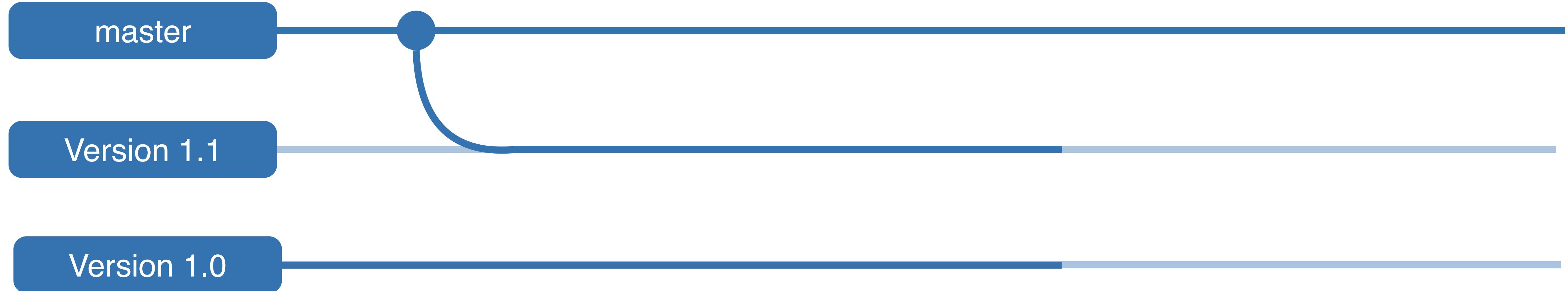
Version 1.3

Version 1.4

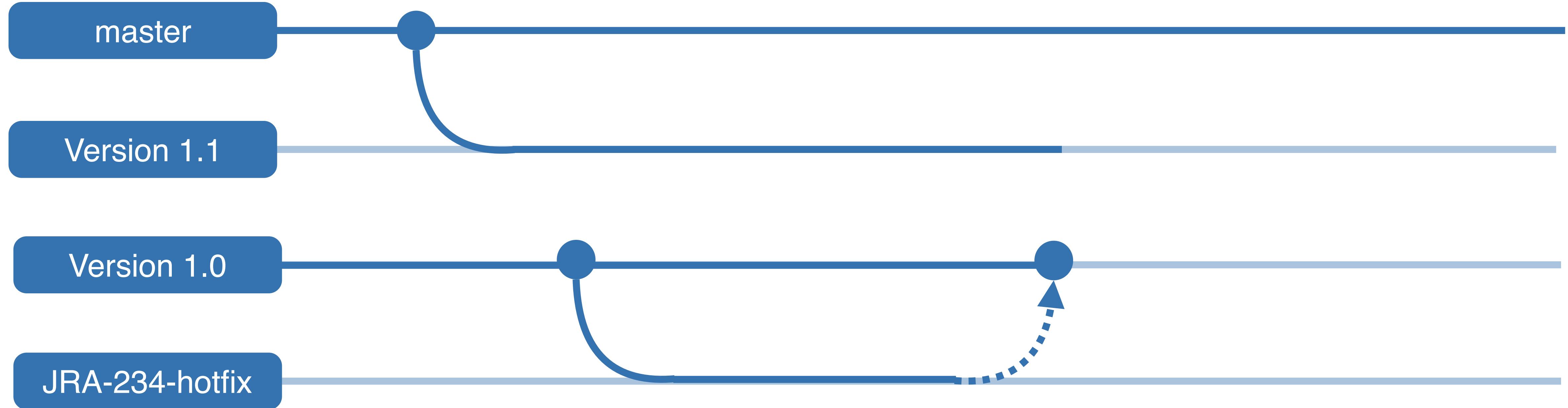
Version 1.5



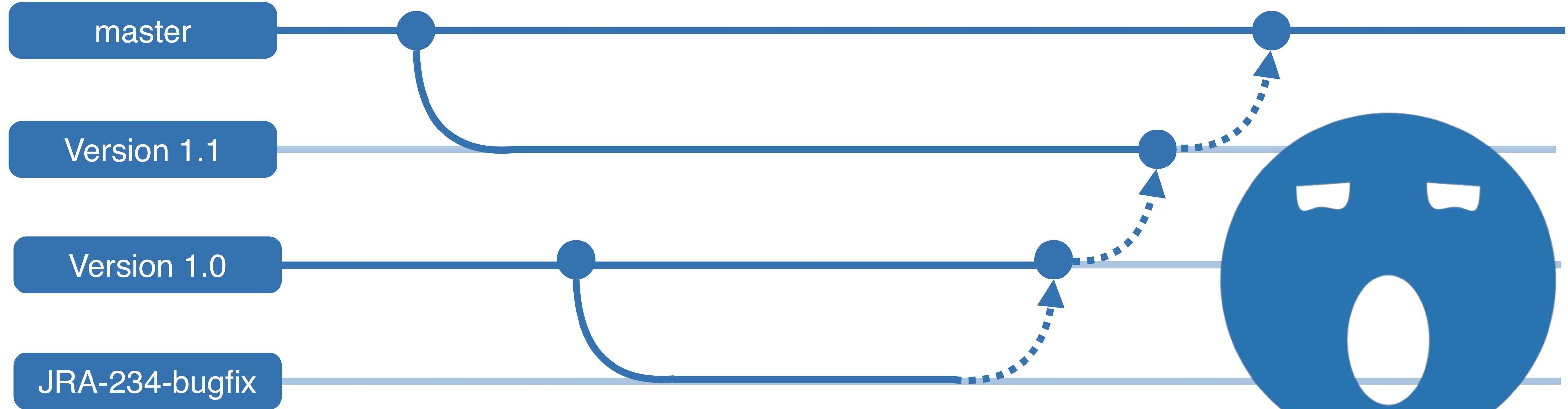
Patching older versions



Patching older versions



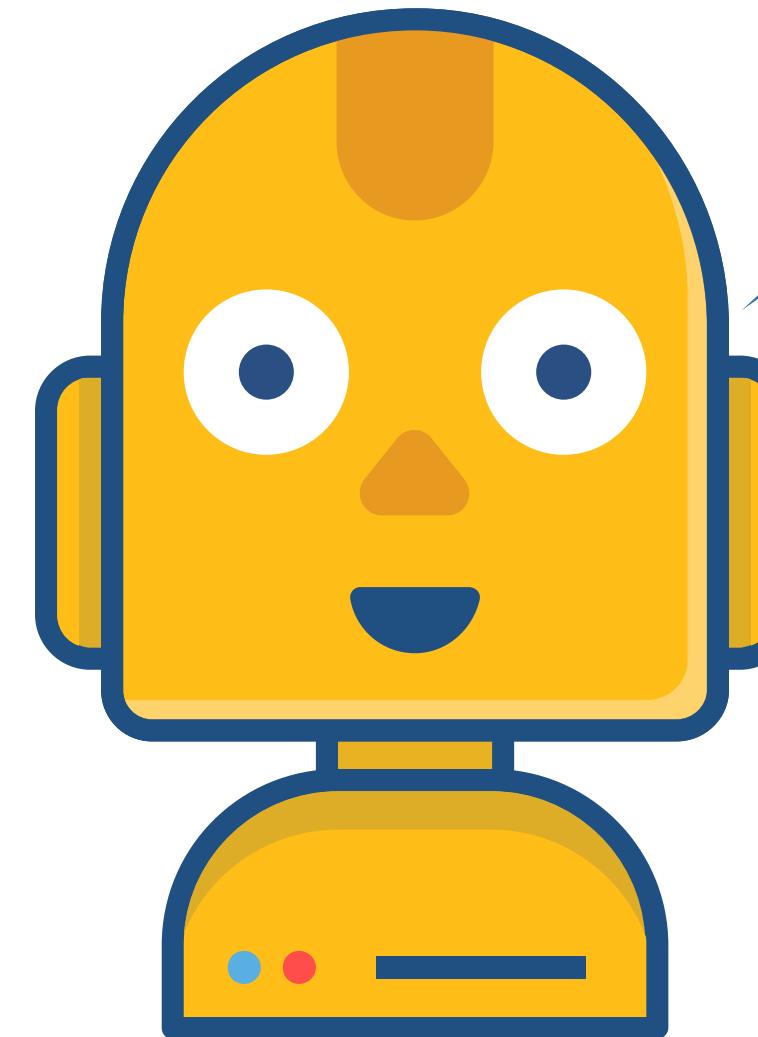
Patching older versions



boring!

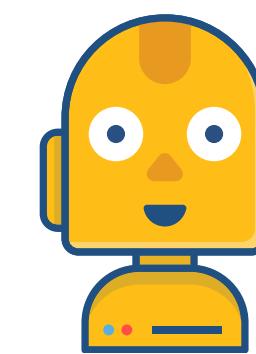


</>

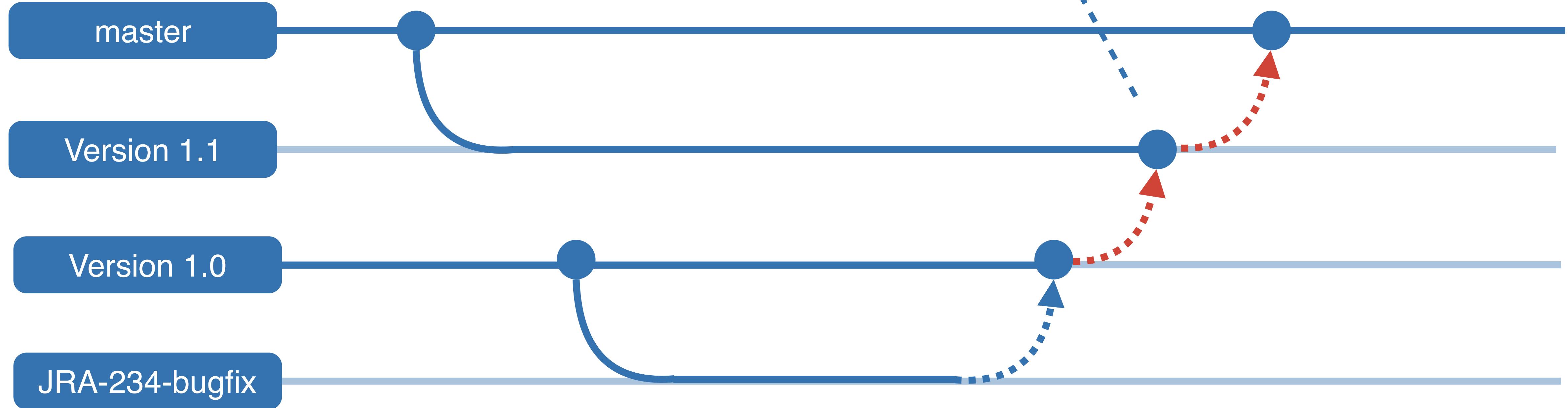


Huhu
I can do it!

XY



auto merges





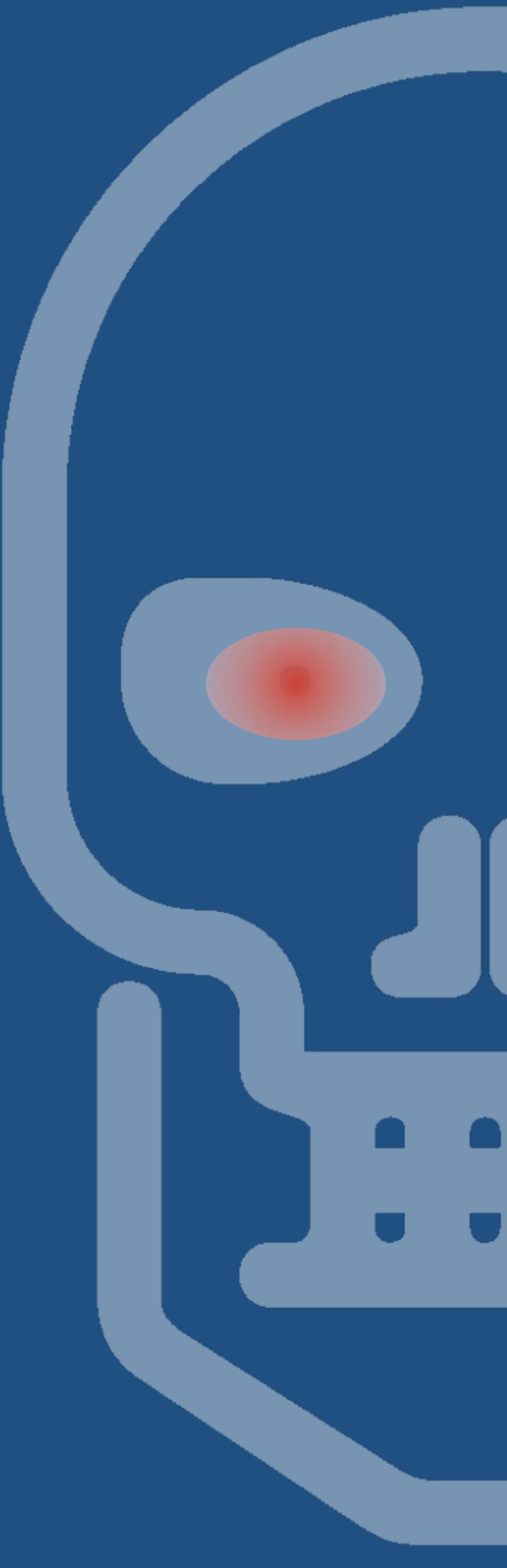
Workflow helper

Get some help with **merge jobs**



TEST BOTS

SMARTER TEST AUTOMATION





We are trying hard to write
beautiful code



MyAwesomeClass

LOC: 32

```
package com.miguelcatalan.materialsearchview;

import android.app.Activity;
import android.widget.ListView;
import android.widget.RelativeLayout;
import android.widget.TextView;

import java.lang.reflect.Field;
import java.util.List;

/**
 * @author Miguel Catalan Bañuls
 */

public class MaterialSearchView extends FrameLayout implements Filter.FilterListener {

    private MenuItem mMenuItem;
    private boolean mIsSearchOpen = false;

    public MaterialSearchView(Context context) {
        this(context, null);
    }

    public MaterialSearchView(Context context, AttributeSet attrs) {
        this(context, attrs, 0);
    }

    @Override
    public void onTextChanged(CharSequence s, int start, int before, int count) {
        mUserQuery = s;
        startFilter(s);
        MaterialSearchView.this.onTextChanged(s);
    }
}
```





One month later

MyAwesomeClass

LOC: counting....

...one month later

```
package com.miguelcatalan.materialsearchview;

import android.app.Activity;
import android.content.Context;
import android.content.Intent;
import android.content.pm.PackageManager;
import android.content.pm.ResolveInfo;
import android.content.res.TypedArray;
import android.graphics.Rect;
import android.graphics.drawable.Drawable;
import android.os.Build;
import android.os.Parcel;
import android.os.Parcelable;
import android.speech.RecognizerIntent;
import android.text.Editable;
import android.text.TextUtils;
import android.text.TextWatcher;
import android.util.AttributeSet;
import android.util.Log;
import android.view.KeyEvent;
import android.view.LayoutInflater;
import android.view.MenuItem;
import android.view.View;
import android.view.inputmethod.InputMethodManager;
import android.widget.AdapterView;
import android.widget.EditText;
import android.widget.Filter;
import android.widget.Filterable;
import android.widget.FrameLayout;
import android.widget.ImageButton;
import android.widget.ListAdapter;
import android.widget.ListView;
import android.widget.RelativeLayout;
import android.widget.TextView;

import com.miguelcatalan.materialsearchview.utils.AnimationUtil;
```



MyAwesomeClass

LOC: 986

...one month later

```
mSearchSrcTextView.setText(null);
mSearchSrcTextView.requestFocus();

if (animate) {
    AnimationUtil.fadeInView(mSearchLayout, AnimationUtil.ANIMATION_DURATION_MEDIUM, new AnimationUtil.AnimationListener() {

        @Override
        public boolean onAnimationStart(View view) {
            return false;
        }

        @Override
        public boolean onAnimationEnd(View view) {
            if (mSearchViewListener != null) {
                mSearchViewListener.onSearchViewShown();
            }
            return false;
        }

        @Override
        public boolean onAnimationCancel(View view) {
            return false;
        }
    });
} else {
    mSearchLayout.setVisibility(VISIBLE);
    if (mSearchViewListener != null) {
        mSearchViewListener.onSearchViewShown();
    }
}
mIsSearchOpen = true;
}

/**
 * Close search view.
 */
public void closeSearch() {
```





Code quality

86%

test coverage

20

deprecated methods

1045

old unit test framework

27

compiler warnings





Code quality

83%

test coverage

23

deprecated methods

1136

old unit test framework

36

compiler warnings





Code quality

75%

test coverage

32

deprecated methods

1289

old unit test framework

45

compiler warnings





**Developers don't write
bad code on purpose**

**Developers are trying to
solve problems**



Calling **Dr. Code**

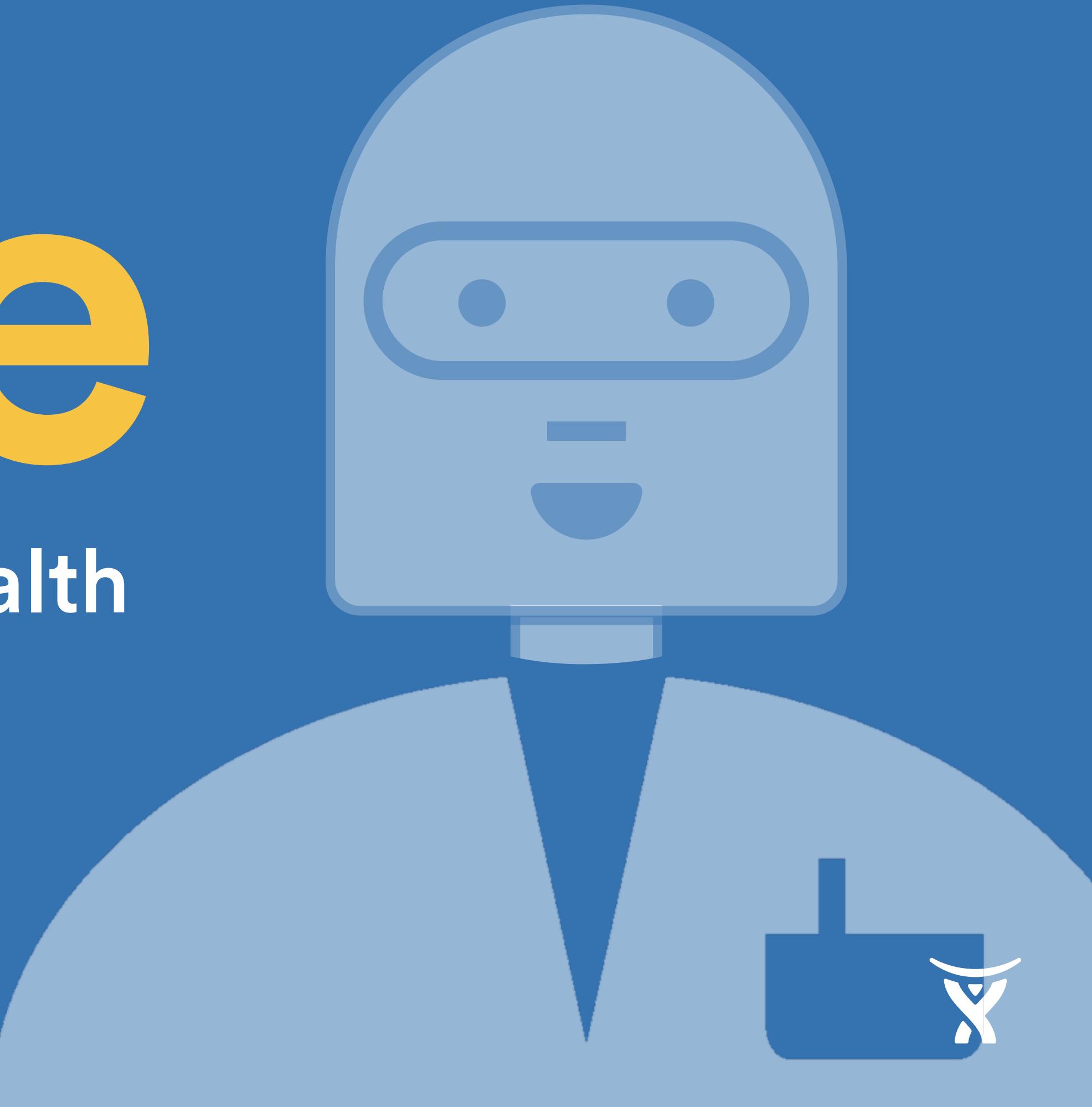
measure constantly the engineering health



Calling

Dr. Code

measure constantly the engineering health



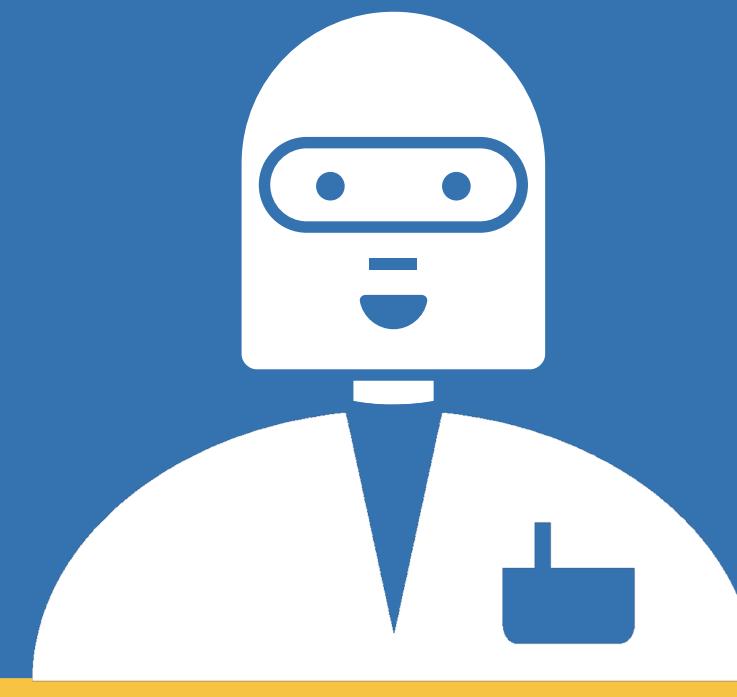


JUnit 3 → JUnit 4

No more JUnit 3 tests!

jira.stats.tests.junit.3.count





Inspect all the things



jira.stats.tests.junit.3.count
jira.stats.bundled.jars.in.plugins



Caught by Dr Code?



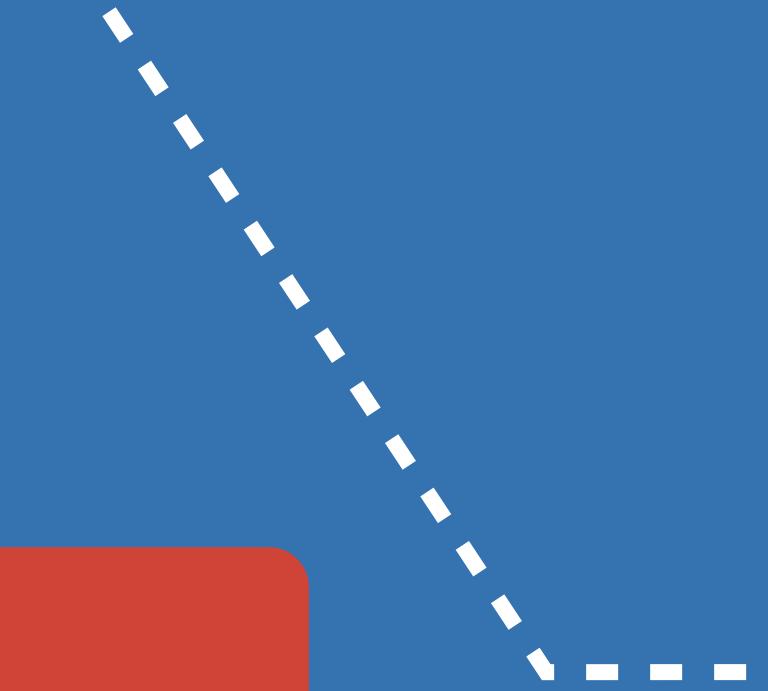
API compatibility :(



New JUnit3 test



JS not minified



You'll enter the
Hall of Shame!



BUILD OVERVIEW

7/19 RED

HALL OF SHAME

QUnit Integration Tests, Chrome 22 (Java 6) ¹ 

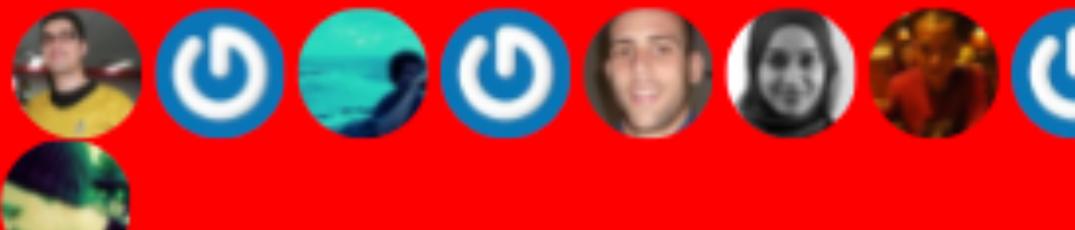
Selenium, Firefox 3.6, Documentation Theme (Java 6) ² 

Selenium, Firefox 3.6 ² 

WebDriver Chrome ¹

QUnit Firefox 17.0.1 (PT) ¹ 

Selenium Tests (Java 6) OD À la carte ²⁶ 

WebDriver Firefox Tests OD Standalone + À la carte ¹ 


You'll enter the
Hall of Shame!

Wallboard - so everyone sees it!



Fixed a matrix?



You'll enter the
Hall of Fame!





Old version

```
public abstract class Task {  
  
    public final void executeWith(Callback callback) {  
  
        execute();  
  
        if (callback != null) {  
  
            callback.call();  
  
        }  
    }  
  
    public abstract void execute();  
}
```

New version

```
public abstract class Task {  
  
    public final void executeWith(Callback callback) {  
  
        execute();  
  
        if (callback != null) {  
  
            callback.call(20);  
        }  
    }  
  
    public abstract void execute();  
}
```



Old version

```
public abstract class Task {  
  
    public final void executeWith(Callback callback) {  
  
        execute();  
  
        if (callback != null) {  
  
            callback.call();  
  
        }  
    }  
  
    public abstract void execute();  
}
```

New version

```
public abstract class Task {  
  
    public final void executeWith(Callback callback) {  
  
        execute();  
  
        if (callback != null) {  
  
            callback.call(20);  
        }  
    }  
  
    public abstract void execute();  
}
```



Old version

Create Issue Configure Fields ▾

Project * Field Marketing (FM)

Issue Type * Speaking Opportunity (?)

Some issue types are unavailable due to incompatible field configuration and/or workflow associations.

Summary

Event Link

Speaking Date Calendar icon

When are you speaking or when is the event?

Create another Create Cancel

New version

Create Issue Configure Fields ▾

Project * Field Marketing (FM)

Issue Type * Speaking Opportunity (?)

Some issue types are unavailable due to incompatible field configuration and/or workflow associations.

Summary

Event Link

Speaking Date Calendar icon

When are you speaking or when is the event?

Create another Create Cancel



Old version

Create Issue Configure Fields ▾

Project *

Issue Type * ?

Some issue types are unavailable due to incompatible field configuration and/or workflow associations.

Summary

Event Link

Speaking Date
When are you speaking?

Create another Create Cancel

New version

Create Issue Configure Fields ▾

Project *

Issue Type * ?

Some issue types are unavailable due to incompatible field configuration and/or workflow associations.

Summary

Event Link

Speaking Date
When are you speaking?

Create another Create Cancel

-----Hard to spot?-----



Image Compare Bot



Compare images
(on build)



Alert on differences
(build warning)



Easy reporting
(build report)





Report

Two identical "Create Issue" forms are displayed side-by-side. Both forms have a light gray header bar with the title "Create Issue" and a "Configure Fields" button.

The first form has a "Project" dropdown set to "Field Marketing (FM)". The "Issue Type" dropdown is set to "Speaking Opportunity". Below these are three input fields: "Summary", "Event Link", and "Speaking Date" (with a calendar icon). A note below the Speaking Date field says "When are you speaking or when is the event?". At the bottom are "Create another" and "Create" buttons.

The second form is identical to the first, except the "Speaking Date" field is highlighted with a red rectangular box.





Our functional tests ran for
hours



so we ran them parallel





waiting for the longest test block



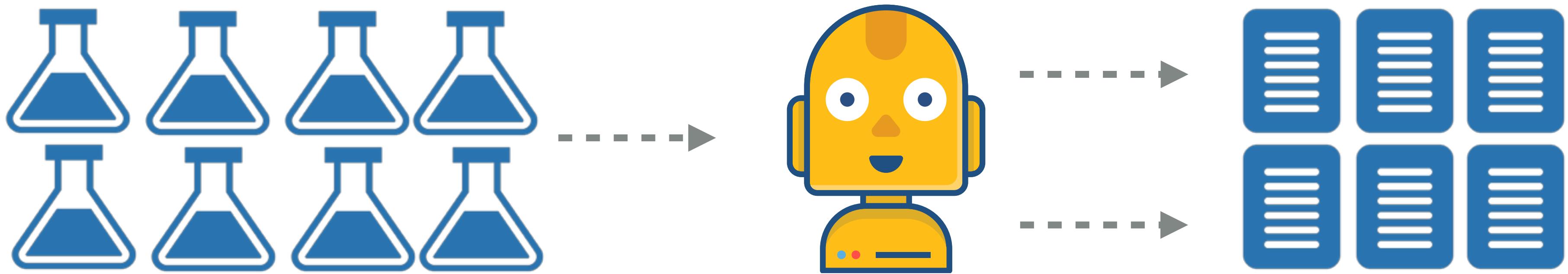
statically sized test blocks





Hallelujah

Functional Test Balancer



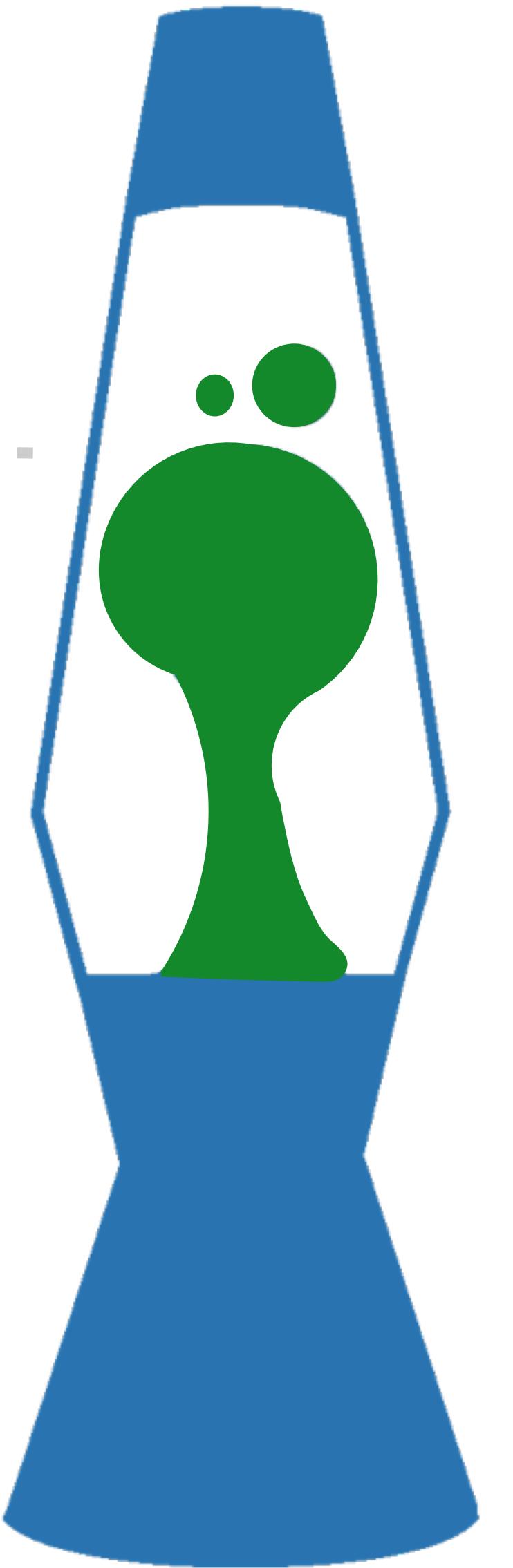


Hallelujah



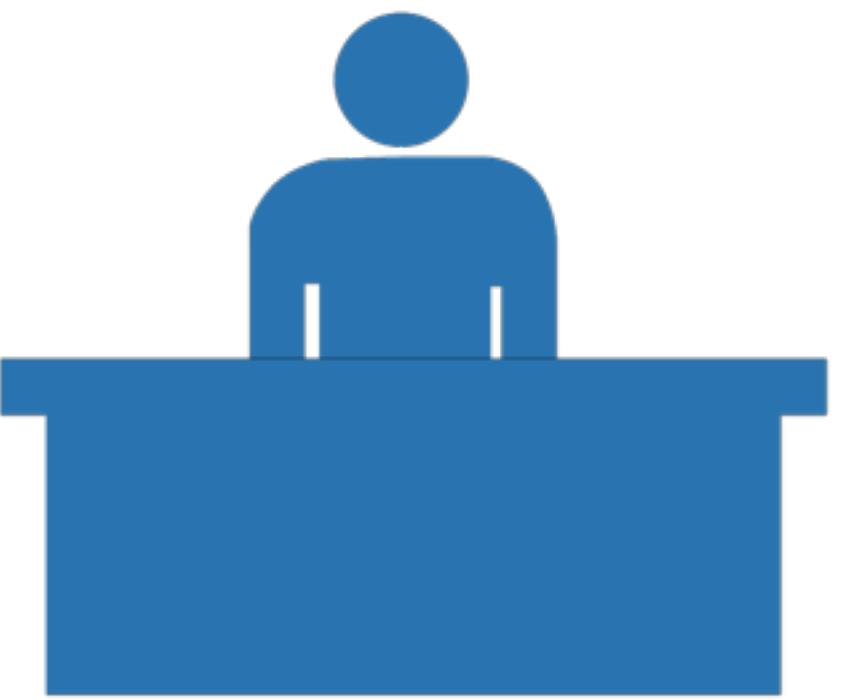
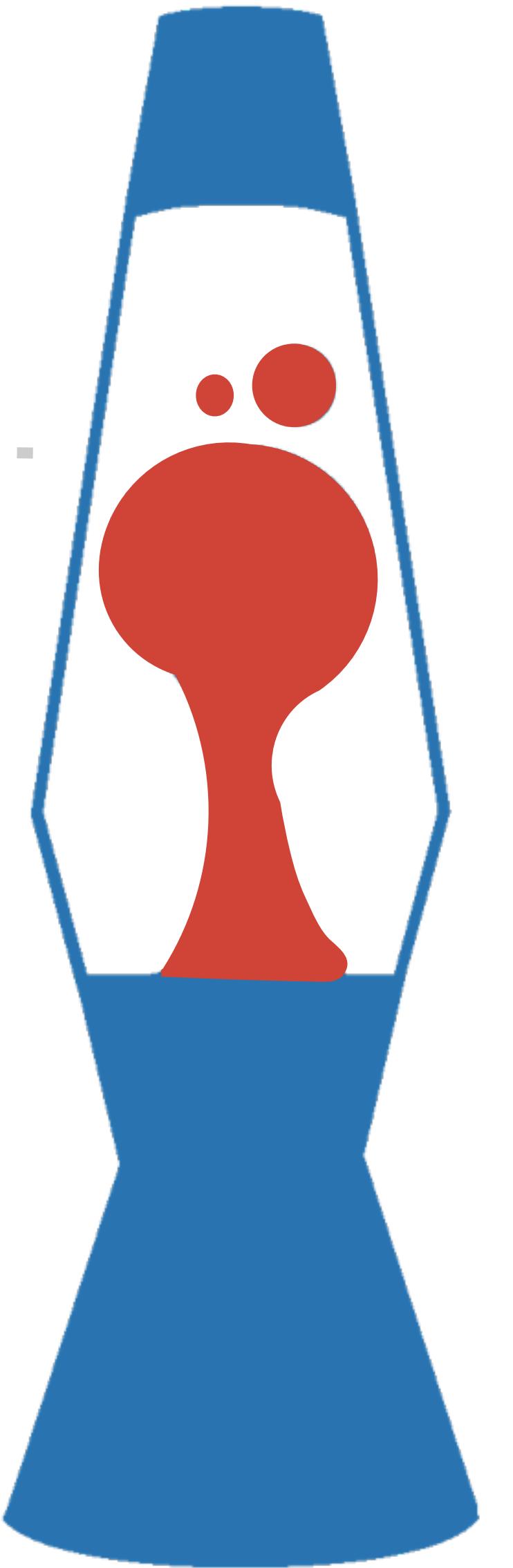


build status



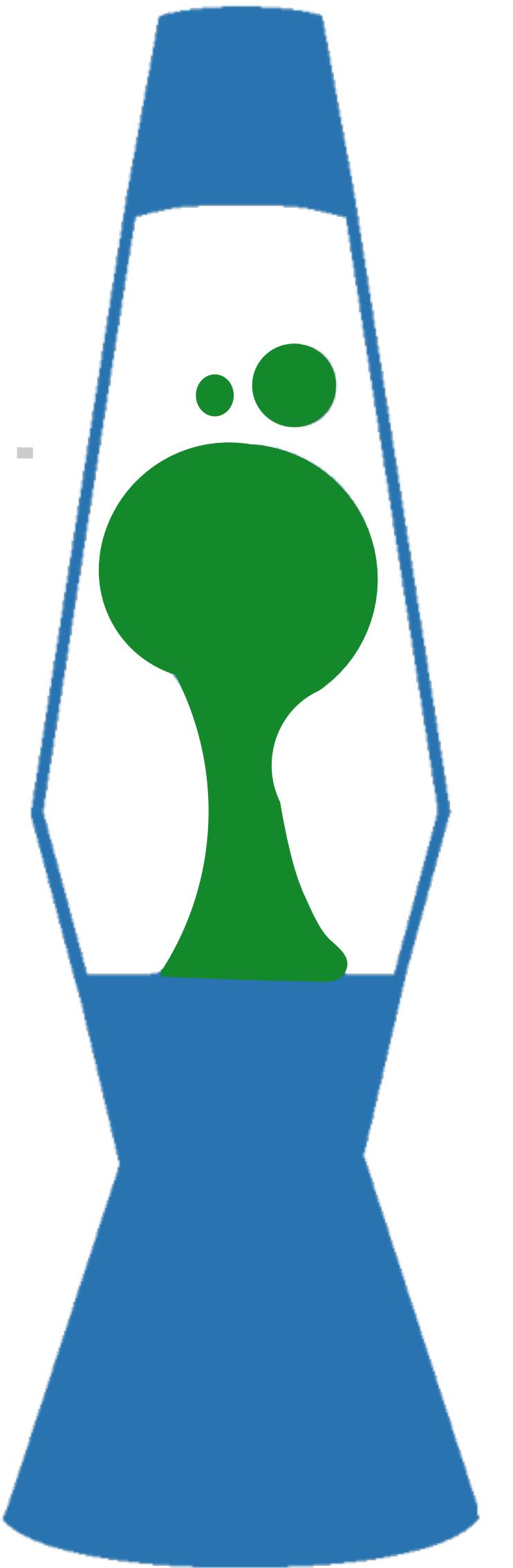


build status

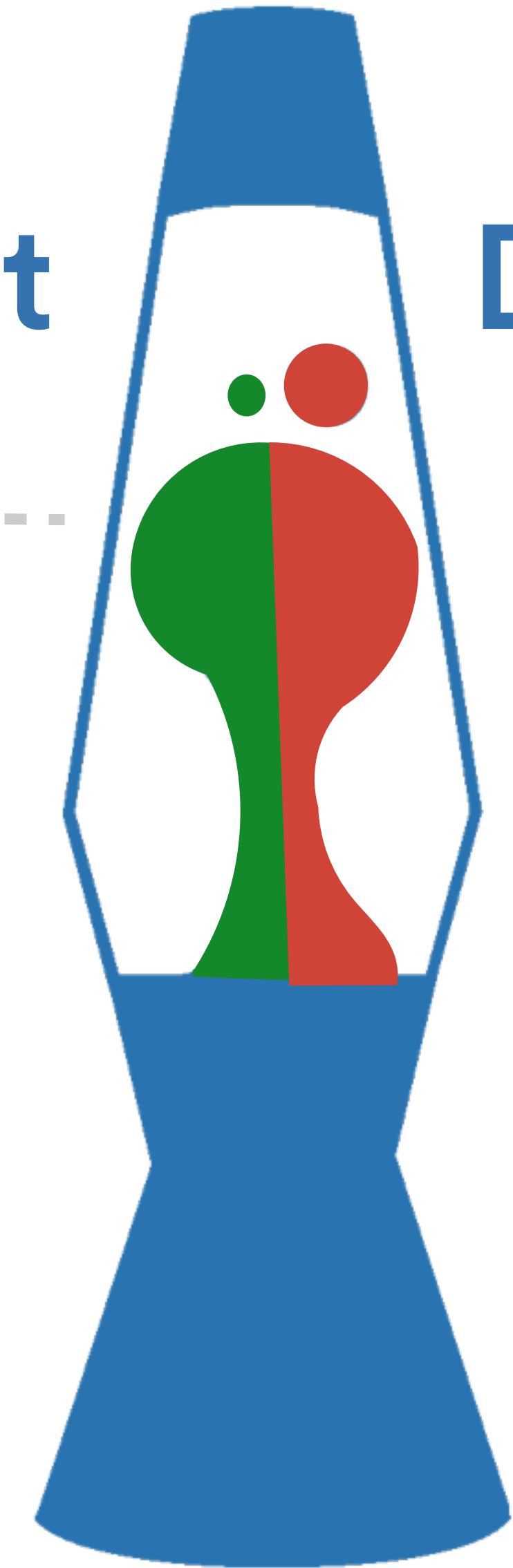




build status



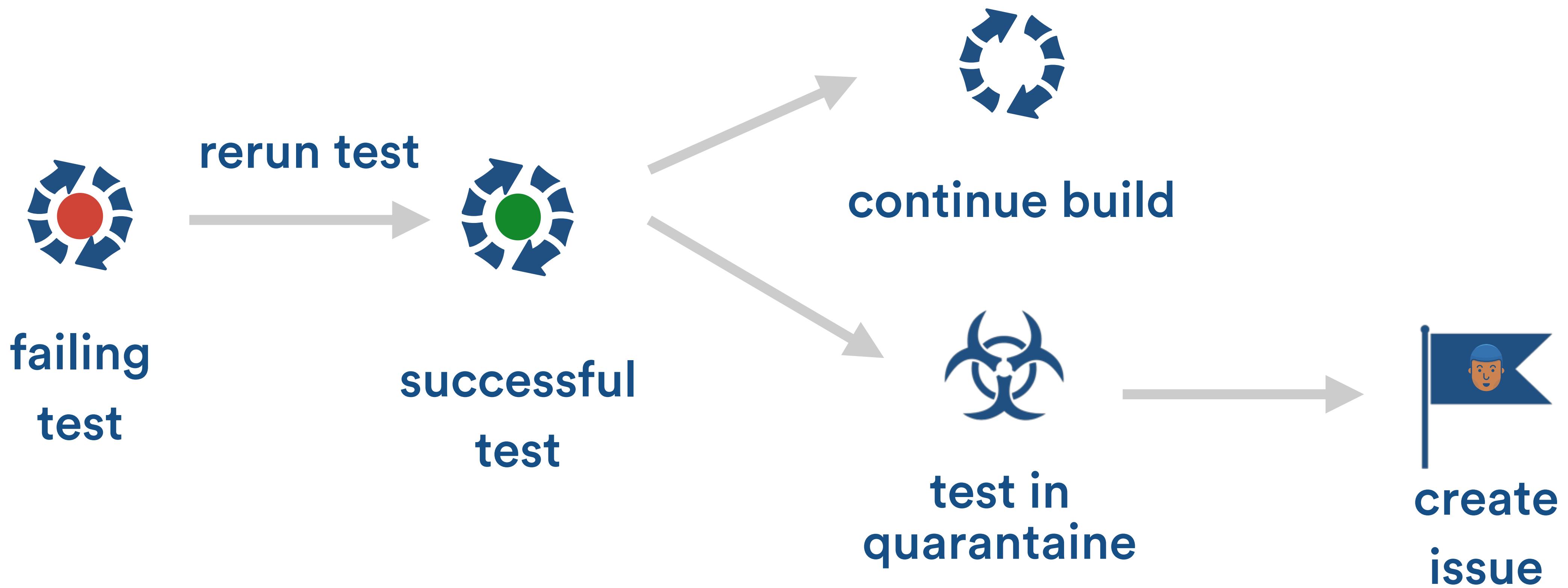
Flaky Test Detector



Flaky Test



Detector





817

quarantined
tests





no more ‘this one again’ moments

Flaky Test



Detector

no log file searching

no manual reruns

forces fixing flaky tests



OPS BOTS

AUTOMATED OPERATIONS





Ops problem now



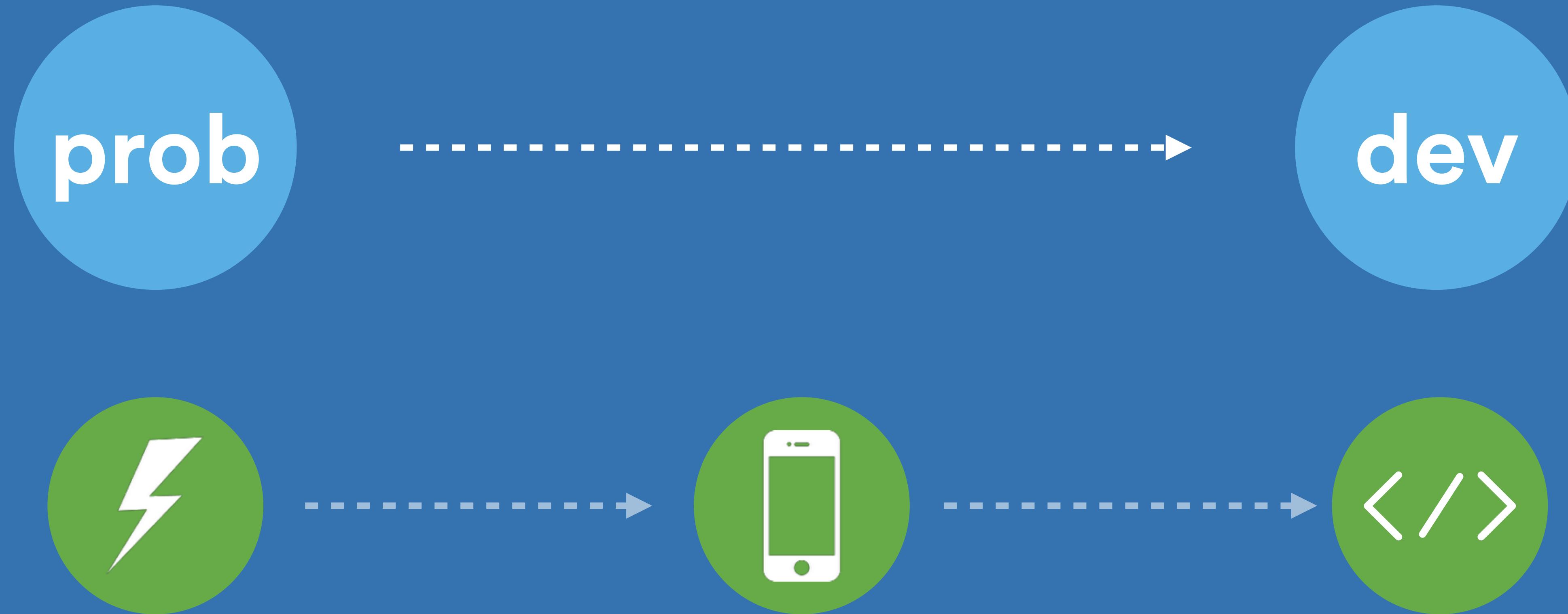


Slow feedback loop



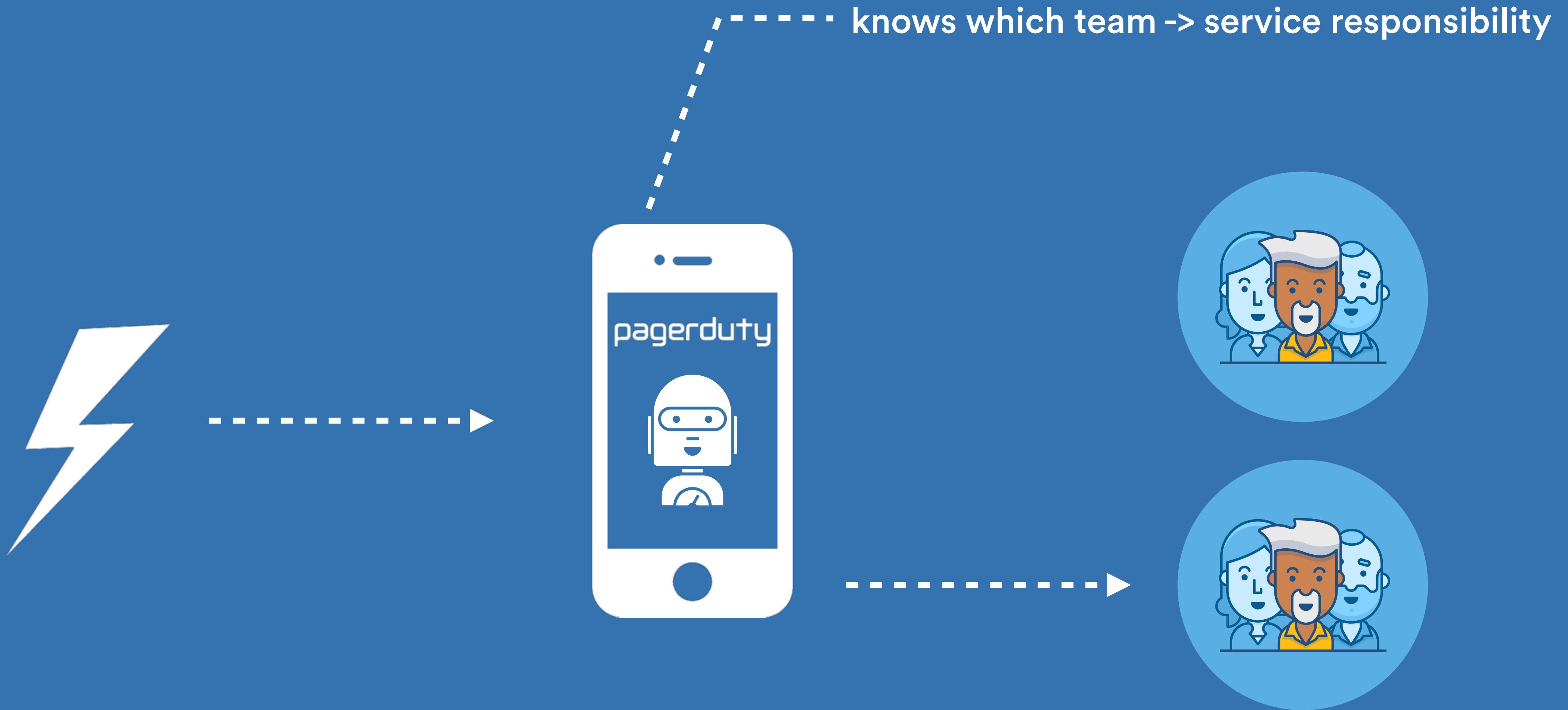


Faster feedback loop





Faster feedback loop





Faster feedback loop

But that's a lot of configuration!

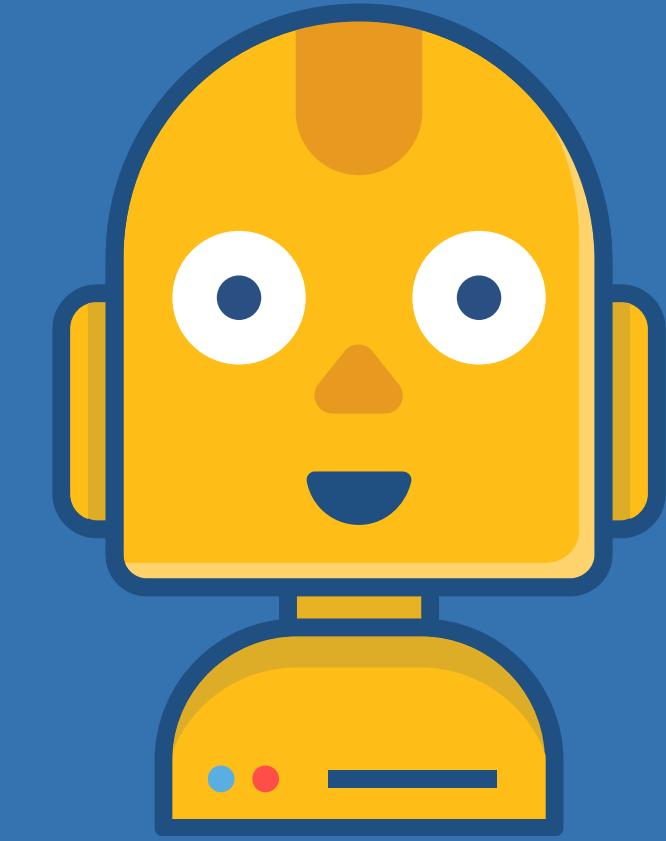




Faster feedback loop



add team in
deployment
descriptor



add
connection to
pager duty



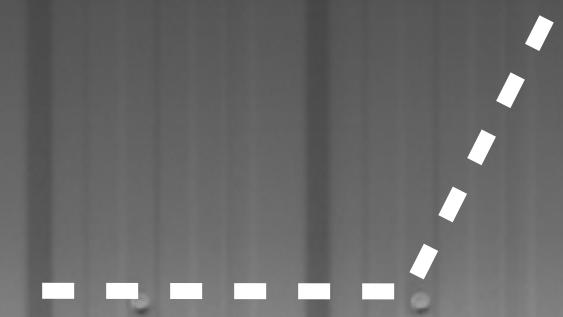


Own your code

end-to-end

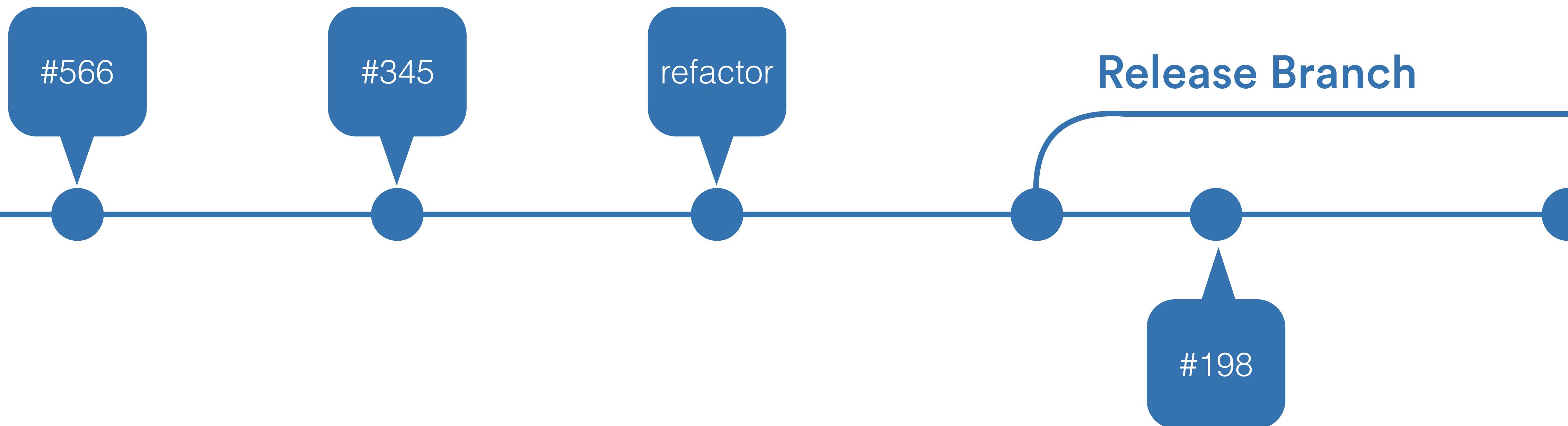


Prepared for the release?



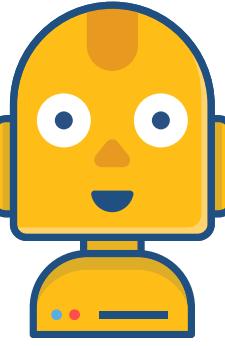
WAIT...
Release Notes?

Do you know which features really ship?

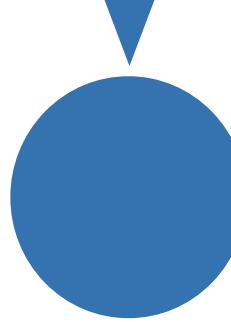




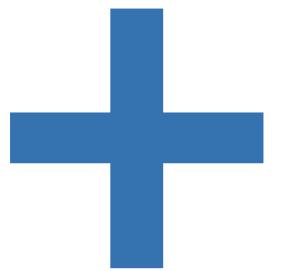
Release Notes Bot



Merged
JRA-345



Commit
messages



Issue
information



Release
notes



Branch: master ▾

hazelcast / hazelcast / src / main / resources / release_notes.txt

Serdar Release Notes for 3.5 re-updated

91004e on Jun 9

2 contributors



133 lines (101 sloc) | 11.8 KB

[Raw](#)[Blame](#)[History](#)

1 In this Release Notes document, you will find the new features, enhancements and fixes of the Hazelcast 3.5 release.
2 The numbers in the square brackets refer to the number of the issues in Hazelcast's GitHub repository. You can reach
3 to the full descriptions of the issues at <https://github.com/hazelcast/hazelcast/issues/<issue number>>.
4

5

6 1. New Features

7 This section provides the new features introduced with Hazelcast 3.5 release.

8

9 - Async Back Pressure: The Back Pressure introduced with Hazelcast 3.4 now supports async operations.

10

11 - Client Configuration Import: Hazelcast now supports replacing variables with system properties in the declarative configuration

12

13 - Cluster Quorum: This feature enables you to define the minimum number of machines required in a cluster for the cluster to remain

14

15 - Hazelcast Client Protocol: Starting with 3.5, Hazelcast introduces the support for different versions of clients in a cluster. P

16

17 - Listener for Lost Partitions: This feature notifies you for possible data loss occurrences.

18

19 - Increased Visibility of Slow Operations: With the introduction of the `SlowOperationDetector` feature, slow operations are logge

20

21 - Enterprise WAN Replication: Hazelcast Enterprise implementation of the WAN Replication.

22

23 Sub listeners: Tolerances for Map listeners: This feature enables you to listen to map wide or entry-based events. With this new fe

37
38
39 2. Enhancements -----

Label in GitHub Issues

40 This section lists the enhancements performed for Hazelcast 3.5 release.
41
42

- Eventing System Improvements: RingBuffer and Reliable Topic structures are introduced.
- XA Transactions Improvements: With this improvement, you can now obtain a Hazelcast XA Resource instance through `HazelcastInsta
- Query and Indexing Improvements

43
44
45
46 The following are the other improvements performed to solve the enhancement issues opened by the Hazelcast customers.
47
48

- While configuring JCache, duration of the `ExpiryPolicy` can be set programmatically but not declaratively [#5347].
- Since near cache is not supported as embedded but only at client, at the moment, there is no need for `NearCacheConfig` in `Cach
- `SlowOperationDetector` should have an option to not to log the stacktraces to the log file. There is no need to have the stackt
- There are no Spring tags available for Native Memory configuration [#4772].
- In the class `BasicInvocationFuture`, there is no need to create an additional `AtomicInteger` object. It should be replaced wit
- There is no need to use the class `IsStillExecutingOperation` to check if an operation is running locally. One can directly acce
- Configuring NearCache in a Client/Server system only talks about the programmatic configuration of NearCache on the clients. The
- The JavaDoc for the methods `KeyValueSource.hasNext/element/key` and `Iterator.hasNext/next` should emphasize the differences be
- While migration is in progress, the nodes will have different partition state versions. If the query is running at that time, it
- XML Config Schema does not allow to set a `SecurityInterceptor` Implementation [#4118].
- Currently, certain types of remote executed calls are stored into the `executingCalls` map. The key (and value) is a `RemoteCall
- The class `TcpIpJoinerOverAWS` fails at AWS' recently launched eu-central-1 region. The reason for the fail is that the region r
- The `hazelcast-spring-<`*version*`>.xsd` should include the User Defined Services (SPI) elements and attributes [#3565].
- Map wildcard matching is confusing. There should be a pluggable wildcard configuration

63 resolver [#2431].
64
65

66 3. Fixes -----

Label in GitHub Issues

67 *3.5 Fixes*

68 This section lists issues solved for **Hazelcast 3.5** release.
69
70

- Operation timeout mechanism is not working [#5468].
- `MapLoader` exception is not logged: Exception should be logged and propagated back to the client that triggered the loading of

71
72
73



JREBEL

XREBEL

REBELLABS

BLOG

FORUM

COMPANY



JRebel

WHY JREBEL

FEATURES

PRICING

DOCUMENTATION

DOWNLOAD

TRY JREBEL FOR FREE

[Home](#) > [JRebel](#) > [JRebel Download](#) > [JRebel Changelogs](#) > [JRebel 6.x Changelog](#)

JRebel changelog

[JRebel Agent](#)

[JRebel for Eclipse](#)

[JRebel for IntelliJ](#)

[JRebel for NetBeans](#)

[JRebel for JDeveloper](#)

JRebel Agent

6.2.5 (1st October 2015)

JRebel Agent

6.2.5 (1st October 2015)

- Added support for **Tomcat** 7.0.64 and 8.0.26.
- Added support for **WildFly** 8.2.1 and 9.0.1.
- Added support for **Jetty** 9.2.13 and 9.3.3.
- Added support for **Google App Engine** 1.9.25.
- Added support for **Liferay** 6.2.3 GA4.
- Added support for **Virgo** 3.6.4.
- Added support for **Struts** JSON Plugin.
- Added support for adding new **Spring @ManagedResource** beans.
- Improved **Spring** re-scanning speed.
- Improved **JVM startup speed** when using multiple paths in **rebel.xml**.
- Improved **MyFaces** reloading reliability.
- Fixed an issue where the **JRebel 6 Agent** caused a **VerifyError** when the ternary operator was used to initialize a static field.
- Fixed an NPE on **JBoss 7.x** when using the **Infinispan CDI** module.
- Fixed a RebelSourcesWatcher **ConcurrentModificationException** on **JBoss 7.x**.
- Fixed an issue with JRebel not preserving a **CDI @SessionScoped** beans context on **JBoss 7.1**.
- Fixed an issue where having more than one **persistence unit** with the same name caused deployment issues on **JBoss EAP 6.1**.
- Fixed a potential **deadlock** on first use of **EJBs** that depended on each other in **WebLogic**.
- Fixed an issue with adding a new method to an **EJB** that was retrieved via **InitialContext#lookup** on **WebLogic**.

Contact us!



JRebel Agent

6.2.5 (1st October 2015)

- Added support for **Tomcat** 7.0.64 and 8.0.26.
- Added support for **WildFly** 8.2.1 and 9.0.1.
- Added support for **Jetty** 9.2.13 and 9.3.3.
- Added support for **Google App Engine** 1.9.25.
- Added support for **Liferay** 6.2.3 GA4.
- Added support for **Virgo** 3.6.4.
- Added support for **Struts** JSON Plugin.
- Added support for adding new **Spring @ManagedResource** beans.
- Improved **Spring** re-scanning speed.
- Improved **JVM startup speed** when using multiple paths in `rebel.xml`.
- Improved **MyFaces** reloading reliability.

Contact us!

New features

- Fixed an issue where the **JRebel 6 Agent** caused a **VerifyError** when the ternary operator was used to initialize a static field.
- Fixed an NPE on **JBoss 7.x** when using the **Infinispan CDI** module.
- Fixed a RebelSourcesWatcher **ConcurrentModificationException** on **JBoss 7.x**.
- Fixed an issue with JRebel not preserving a **CDI @SessionScoped** beans context on **JBoss 7.1**.
- Fixed an issue where having more than one **persistence unit** with the same name caused deployment issues on **JBoss EAP 6.1**.
- Fixed a potential **deadlock** on first use of **EJBs** that depended on each other in **WebLogic**.
- Fixed an issue with adding a new method to an **EJB** that was retrieved via **InitialContext#lookup** on **WebLogic**.

Fixed bugs



No surprises



Human readable
issue descriptions

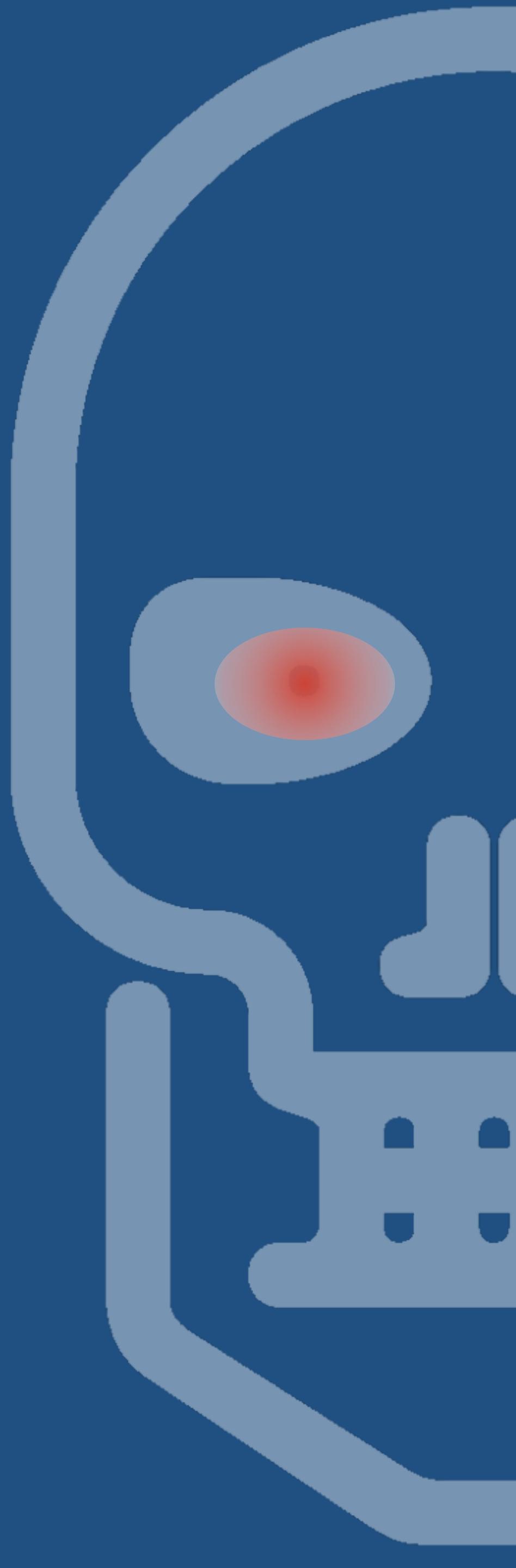


Think about
customer value

Issue Description — as — Release Notes

SERVICE BOTS

AUTOMATE YOUR SERVICE

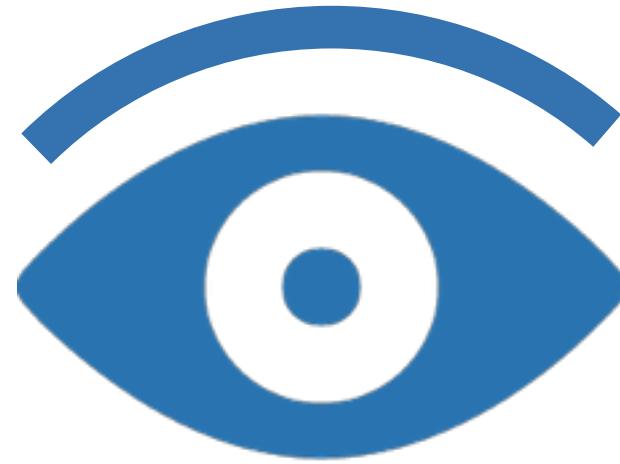


Support



ask for log file

Developer



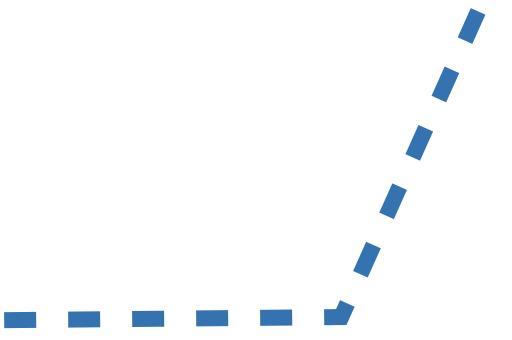
scanning log files



system knowledge



pause work

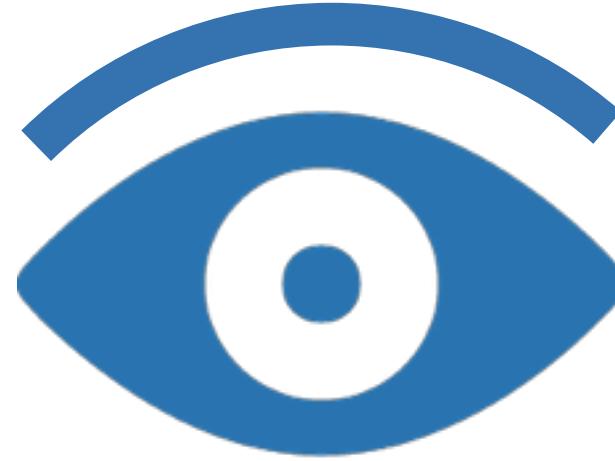


Support



ask for log file

Developer



scanning log files



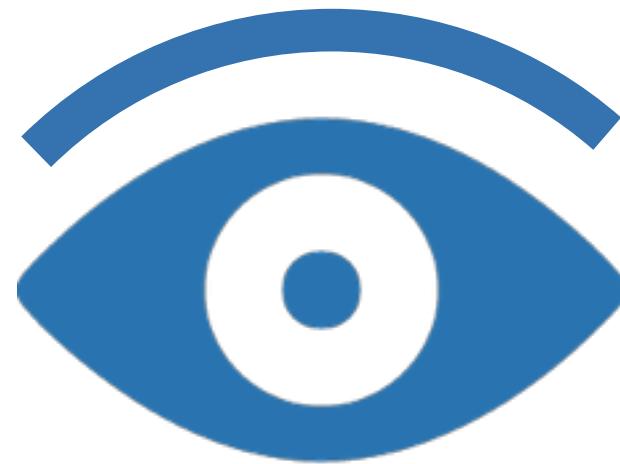
system knowledge

Support



ask for log file

Hercules



scanning log files



system knowledge

Symptoms

ERROR: Invalid Credentials

Unable to connect to Confluence. Make sure that Confluence is running at <http://<your confluence url>> and that the SharePoint Plugin is installed properly (see below).

Diagnosis

To help you troubleshoot this issue, you can run the [Sharepoint Diagnostic tool](#). Please run this tool from the machine where Sharepoint is installed.



Cause

This can be caused by the following:

1. Confluence is not running.
2. Wrong user name and password.
3. Remote API (XML-RPC & SOAP) is not turned on in Confluence administration console.
4. Using other form of authentication than NTLM, eg. NTLMv2.

Resolution

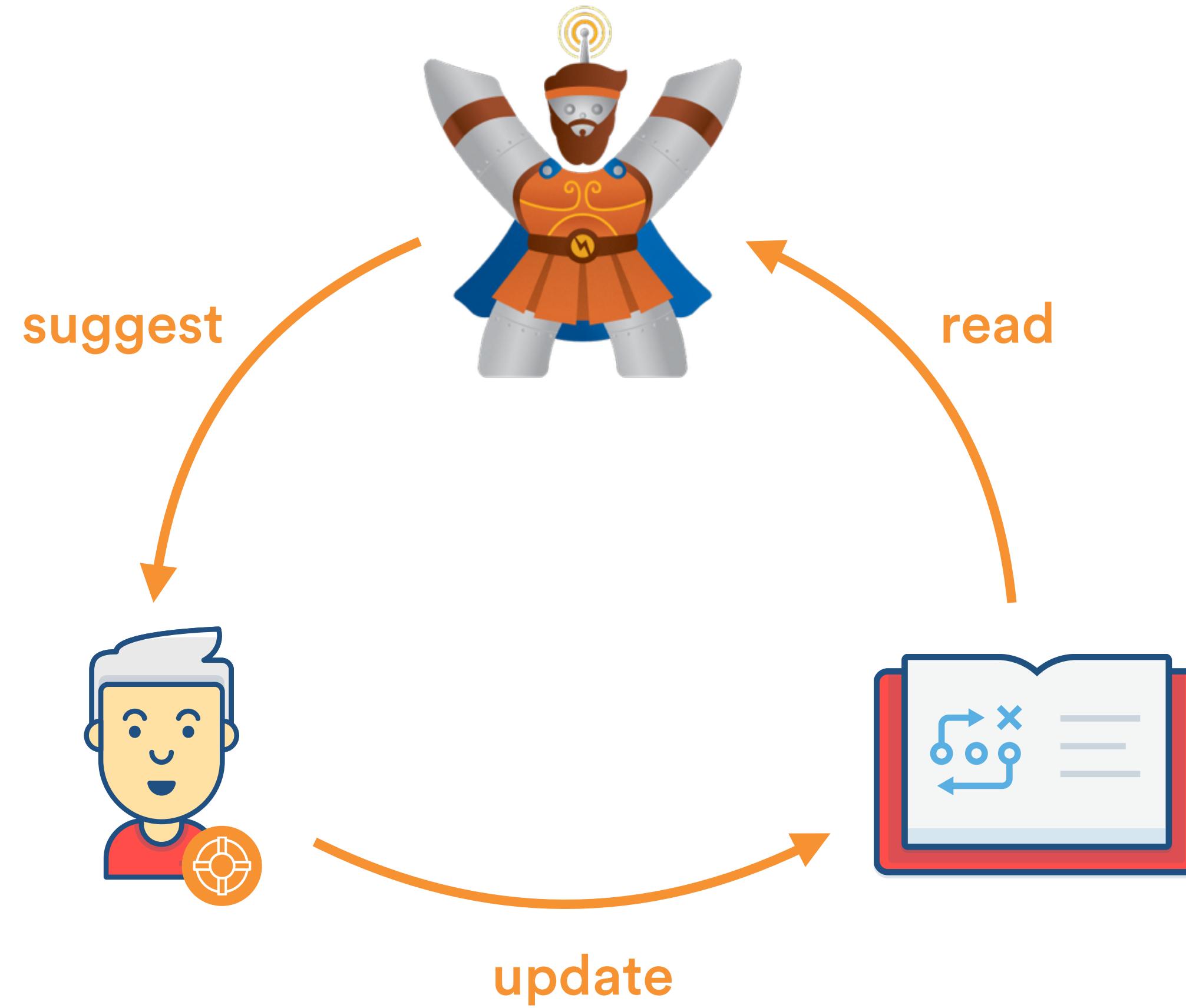
1. Make sure that Confluence is running and accessible.
2. Make sure the same username and password can be used to log into Confluence.
3. Go to <http://<your confluence url>/admin/viewgeneralconfig.action> and turn on **Remote API (XML-RPC & SOAP)**.
4. If SharePoint Connector plugin version is older than 1.2 or Confluence is hosted on a non-Windows environment, make sure that you are using NTLMv1.

Teaching the robot

RELATED TOPICS



Hercules get's smarter





All Comments History Activity Hercules

▼ mike forbes added a comment - 19/Sep/11 10:44 PM

Well, fuck me.

THE ROBOT WAS RIGHT.

I increased the memory available to confluence / JIRA and things worked.

Today is truly a magical day.





```
for(int i=0;i< names.length;i++){
    if (zipFile.getEntry(name[i]) !=null){
        return true;
    }
}
return false;
```





```
for(int i=0;i< names.length;i++){
    if (zipFile.getEntry(name[i]) !=null){
        return true;
    }
}
return false;
```







Welcome to the IT Spot!

Please select your issue type

- | | | |
|------------------|-------------------|-------------------|
| ACCESS REQUEST | HARDWARE PURCHASE | SOFTWARE PURCHASE |
| MAILING LIST | HARDWARE PROBLEM | SOFTWARE PROBLEM |
| NETWORK ISSUE | PRINTING ISSUE | EMPLOYEE PREMIUM |
| LEAVING EMPLOYEE | AV OR EVENT | MOBILE PHONE |
| OTHER | | |

We're away on a mission
But we'll be back shortly. In the meantime, please submit your issue and we'll be in touch as soon as possible.

Spotify



for

With chat you can reach everyone immediately





How do I set up
a build for my
feature branch?

How do I
download the
Sprint report?

All these questions!

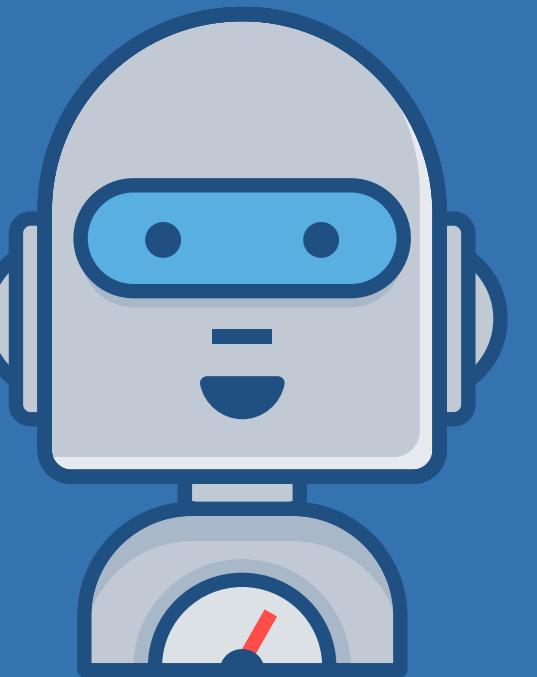
What Java
versions do we
support?





I'll look it up for you

!ask



Self service for chat



Lobby



Build Engineering

Need help? <http://go/buildeng-help> :: Have a question? !ask <your-question> or <http://>

ROOMS

Build Engineering

PEOPLE

Ken Olofsen

Eric Wittman

Jay Simons

Bryan Rollins [Atlassian]

Sven Peters

Grace Francisco

Minh Tran !ask how to ssh to agent

Jan-28 9:13 AM

Buildeng Bot How about: [How can I SSH to an elastic build agent that uses VPC?](#) (or [see more results.](#))

Jan-28 9:13 AM

**!ask the knowledge base first!**

- Adam Jakubowski
- Ahmad Faisal
- Alex "No Forks" Courtis
- Anund McKague
- Buildeng Bot
- Duy Luong
- Esther Asenjo
- Francesco Salbaroli
- Glenn Martin
- Grzegorz Tanczyk
- Levi Lovelock
- Marcin Kempa
- Marek Went
- Michael Minns
- Pete de Zwart
- Przemek Bruski
- Seth Gholson
- Sigge Birgisson
- Steve Haffenden



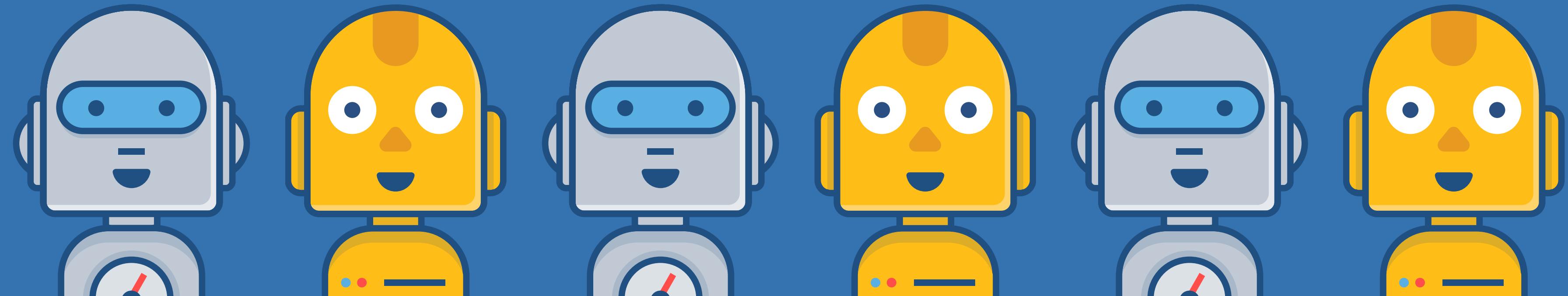
REPORT BOTS

MANUAL REPORTING SUCKS





Automating Stand Ups ?





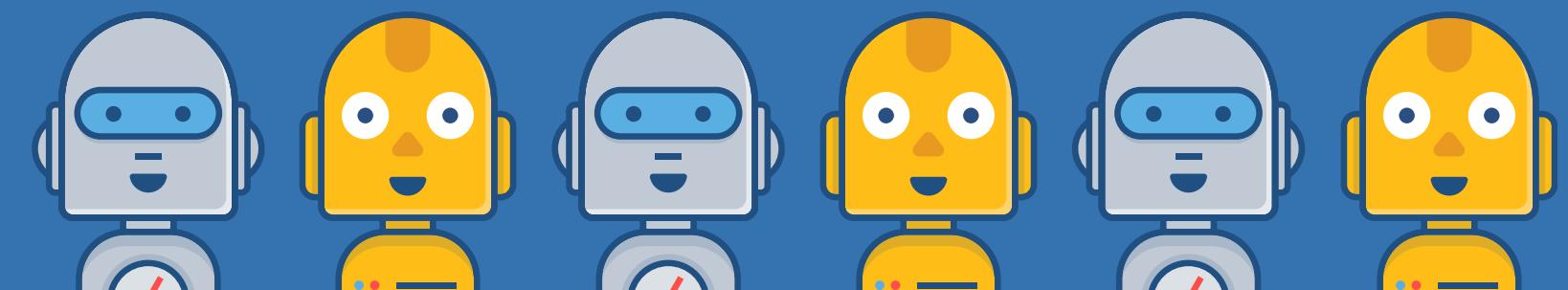
Stand Up Problems

timezones

too long

setup VC calls

remind people





Music - Start at 09:29:00

Tab URL
www.pandora.com/station/play/1334545692

Open at 09:29 Close at 09:30

Days of the week
 Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Crontab!

Never miss a stand up

Video - Open at 09:30

Tab URL

<https://hipchat.me/meeting/68ea4e77d35f4cee91f91cbea1c65b7d>

Open at

09:30

Close at

09:40

Days of the week

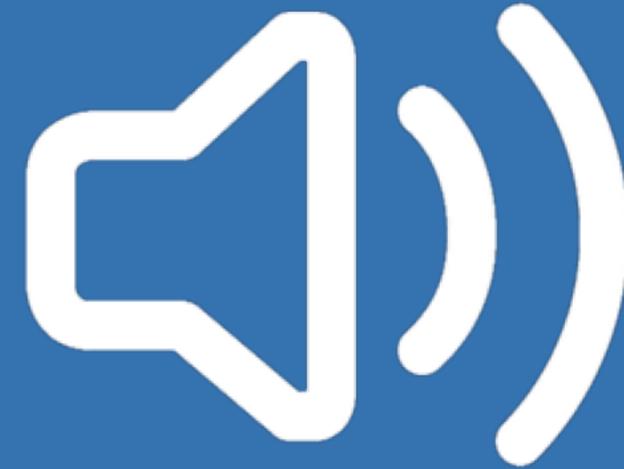
Monday Tuesday Wednesday Thursday Friday Saturday Sunday



No video set up time



Stand up report bots



----- colocated -----

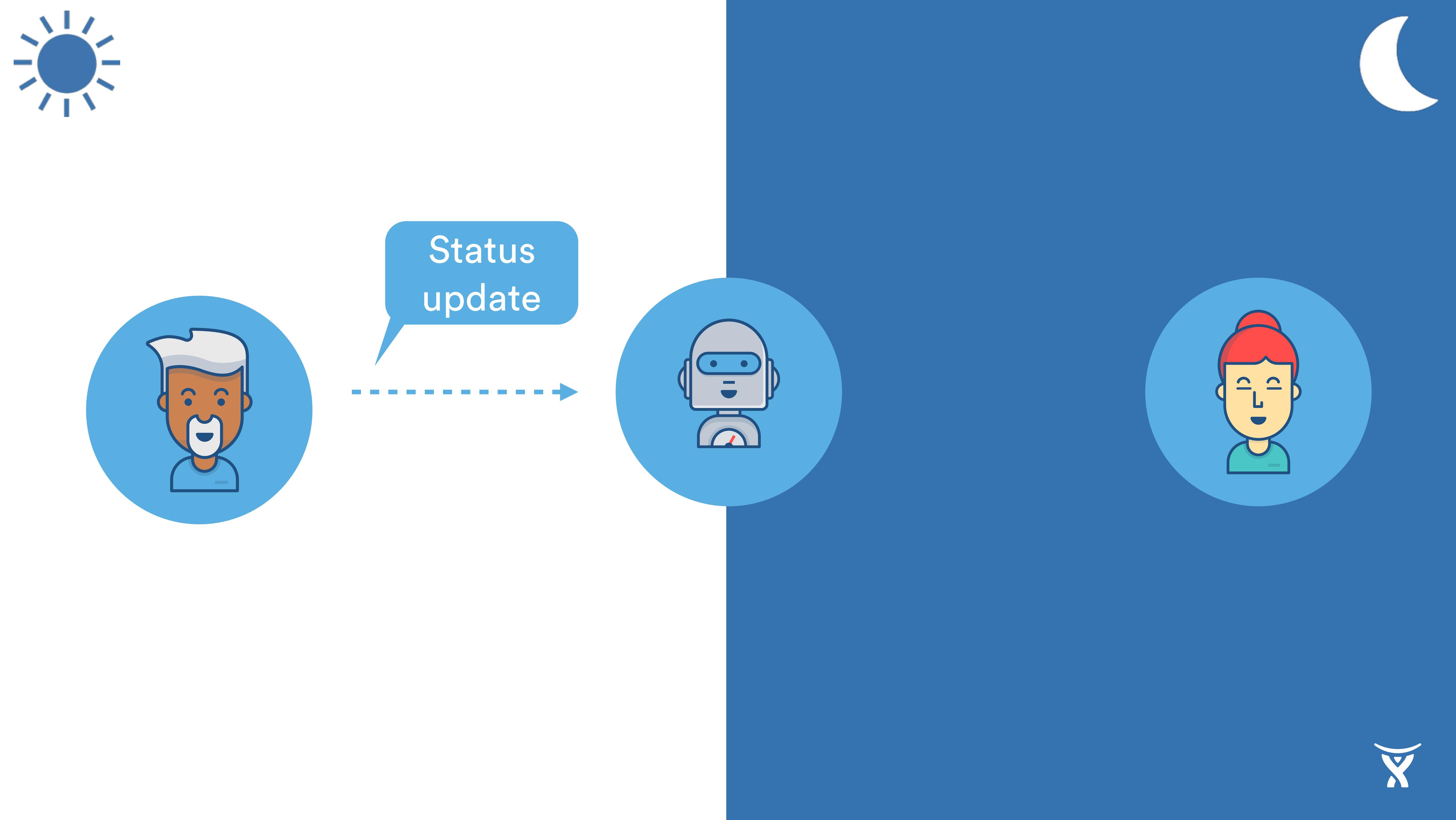


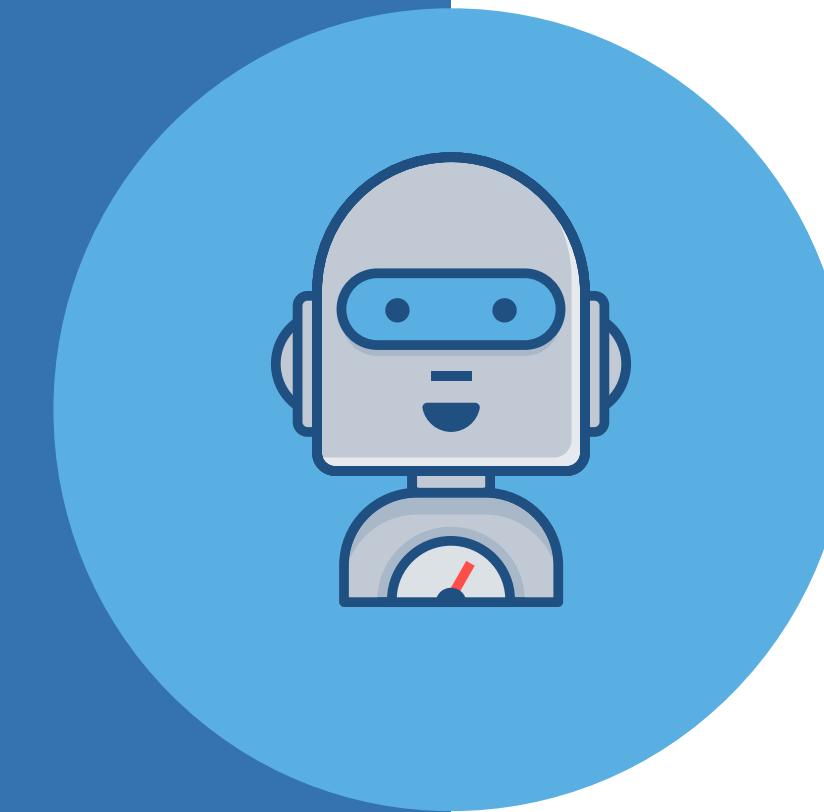
----- distributed -----



----- different timezones -----



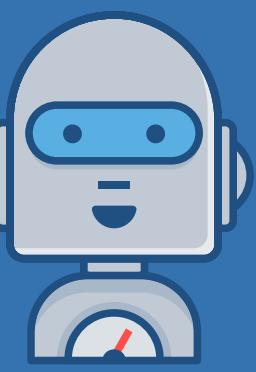




Team
update



Stand up bot



New chat

HipChat

Search history

Rooms

- Winter is Coming
- TIS HOT Issues
- Running Club
- Dev Team
- Build Engineering

People

- Alana Grant
- Jennifer Evans
- William Smith
- Kevin Campbell
- Harvey Jennings
- Mitch Davis

Dev Team
We're in the home stretch!

William Smith /standup Yesterday - completed the upgrade of our unit testing framework. Today I'm spiking on JIRA issue TIS-853 and will report back to the team on the work involved. Note, I am blocked on TIS-700 as we don't have the new version of the framework in place. Thoughts on how to work around this @jennifer?

Standup Status recorded. Type '/standup' to see the full report.

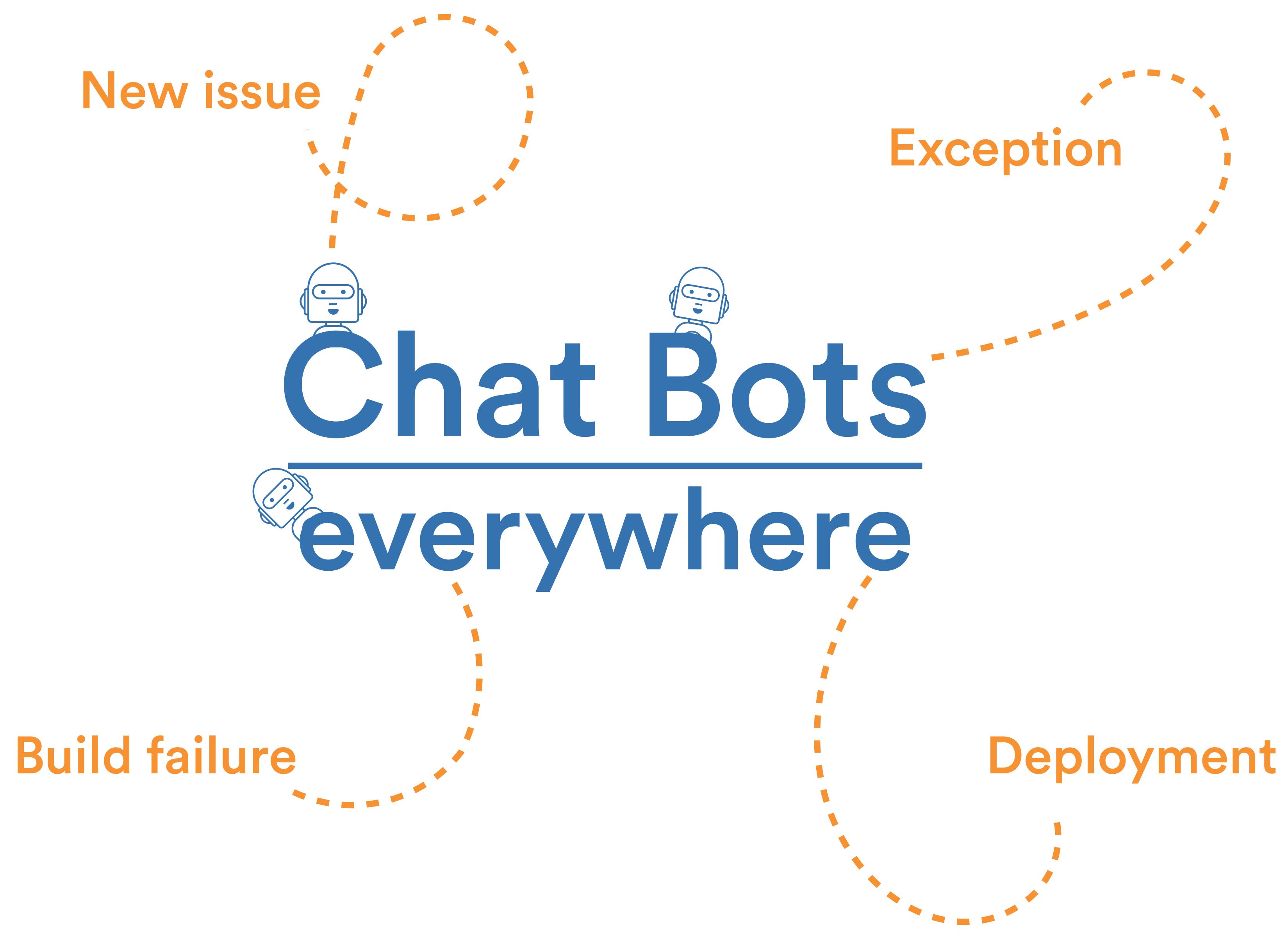
William Smith /standup

Standup **Mitch Davis:** Yesterday I checked in the latest changes to the JSON API for our hotel integration. (success). Today I'm going to work on the performance of space travel APIs. *No blockers* -- 4 minutes ago
Alana Grant:

- On vacation! Loving my time in Hawaii!

-- 6 minutes ago
Jennifer Evans: Yesterday I pushed the latest TIS software to production. Today I'm going to be working on some of our active support tickets. No blockers! -- 7 minutes ago
William Smith: Yesterday - completed the upgrade of our unit testing framework. Today I'm spiking on JIRA issue TIS-853 and will report back to the team on the work involved. Note, I am blocked on TIS-700 as we don't have the new version of the framework in place. Thoughts on how to work around this @jennifer? -- just now

Alana Grant
Jennifer Evans
Mitch Davis
William Smith



Lobby



HipChat

Emergency Contact: wake-up-ops-team@hipchat.pagerduty.com Status: <https://status>

ROOMS

Portfolio Marketing T...

AtlasCamp Track 2

Summit Content 2015

HipChat

+ Create a room

PEOPLE

Ken Olofsen

Sven Peters

Jens Schumacher

Bamboo JIRA Projects › Freezer 2 - Qualify jira-projects-plugin:jira,jira-projects-issue-navigator:jira › jirastudio-dev › #95 failed. Code changes detected

Jan-20 2:43 AM

Sergio Cinos looks like infra problem ^

Jan-20 3:06 AM

 Bamboo JIRA Projects › Freezer 2 - Qualify jira-projects-plugin:jira,jira-projects-issue-navigator:jira › jirastudio-dev › #96 failed.
Manual run by [Sergio Cinos](#)

Jan-20 3:13 AM

- Ahmad Maziz
- Ahmad bin Mohammad ...
- Aleksander Mierzwicki
- Alexander Minozhenko
- Athan Zikou
- Bradley Ayers
- Chris Darroch
- Conor MacNeill
- Craig Petchell
- Daniel Navarro
- David Black
- David Mason
- Edwin Ho
- Henk Kleynhans
- Herman Chow
- James Hatherly
- Jason Birch
- Joshua Nelson (rainbow...)...
- Julien Brillard

Builds



Lobby



HipChat

Emergency Contact: wake-up-ops-team@hipchat.pagerduty.com Status: <https://status.hipchat.com>

ROOMS

Portfolio Marketing T...

AtlasCamp Track 2

Summit Content 2015

HipChat

+ Create a room

PEOPLE

Ken Olofsen

Sven Peters

Jens Schumacher

Fabfile evzijst is deploying staging (status available in Bitbucket Deployments room)

Fabfile evzijst's staging deployment is complete

- Ahmad Maziz
- Ahmad bin Mohammad ...
- Aleksander Mierzwicki
- Alexander Minozhenko
- Athan Zikou
- Bradley Ayers
- Chris Darroch
- Conor MacNeill
- Craig Petchell
- Daniel Navarro
- David Black
- David Mason
- Edwin Ho
- Henk Kleynhans
- Herman Chow
- James Hatherly
- Jason Birch
- Joshua Nelson (rainbow...)
- Julien Brillard

Deployments



Lobby

ROOMS

Portfolio Marketing T...

AtlasCamp Track 2

Summit Content 2015

HipChat

+ Create a room

PEOPLE

Ken Olofsen

Sven Peters

Jens Schumacher



HipChat

Emergency Contact: wake-up-ops-team@hipchat.pagerduty.com Status: <https://status.hipchat.com>Sentry [ERROR] **Crappie** this.connection is null [\[view\]](#) Jan-19 12:51 AMSentry [ERROR] **Crappie** Invariant Violation: getDOMNode(): A component must be mounted to have a DOM node. [\[view\]](#) Jan-19 1:42 AMSentry [ERROR] **Crappie** Invariant Violation: getDOMNode(): A component must be mounted to have a DOM node. [\[view\]](#) Jan-19 2:05 AM

Herman Chow File transfers broken? Jan-19 6:06 AM

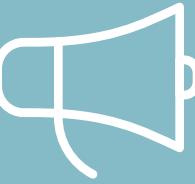
```
Uncaught SecurityError: Failed to read the
'contentDocument' property from 'HTMLIFrameElement':
Blocked a frame with origin
"https://atlassian.hipchat.com" from accessing a frame
with origin "https://platform.twitter.com". Protocols,
domains, and ports must match.
```

Clifton Hensley @HermanChow I'm removing the twitter card renderer in the next release, so don't worry about that Jan-19 6:10 AM

Herman Chow alright... no worries Jan-19 6:10 AM

Exceptions

- Ahmad Maziz
- Ahmad bin Mohammad ...
- Aleksander Mierzwicki
- Alexander Minozhenko
- Athan Zikou
- Bradley Ayers
- Chris Darroch
- Conor MacNeill
- Craig Petchell
- Daniel Navarro
- David Black
- David Mason
- Edwin Ho
- Henk Kleynhans
- Herman Chow
- James Hatherly
- Jason Birch
- Joshua Nelson (rainbow...
- Julien Brillard



Chat Bots everywhere



Fast feedback loops

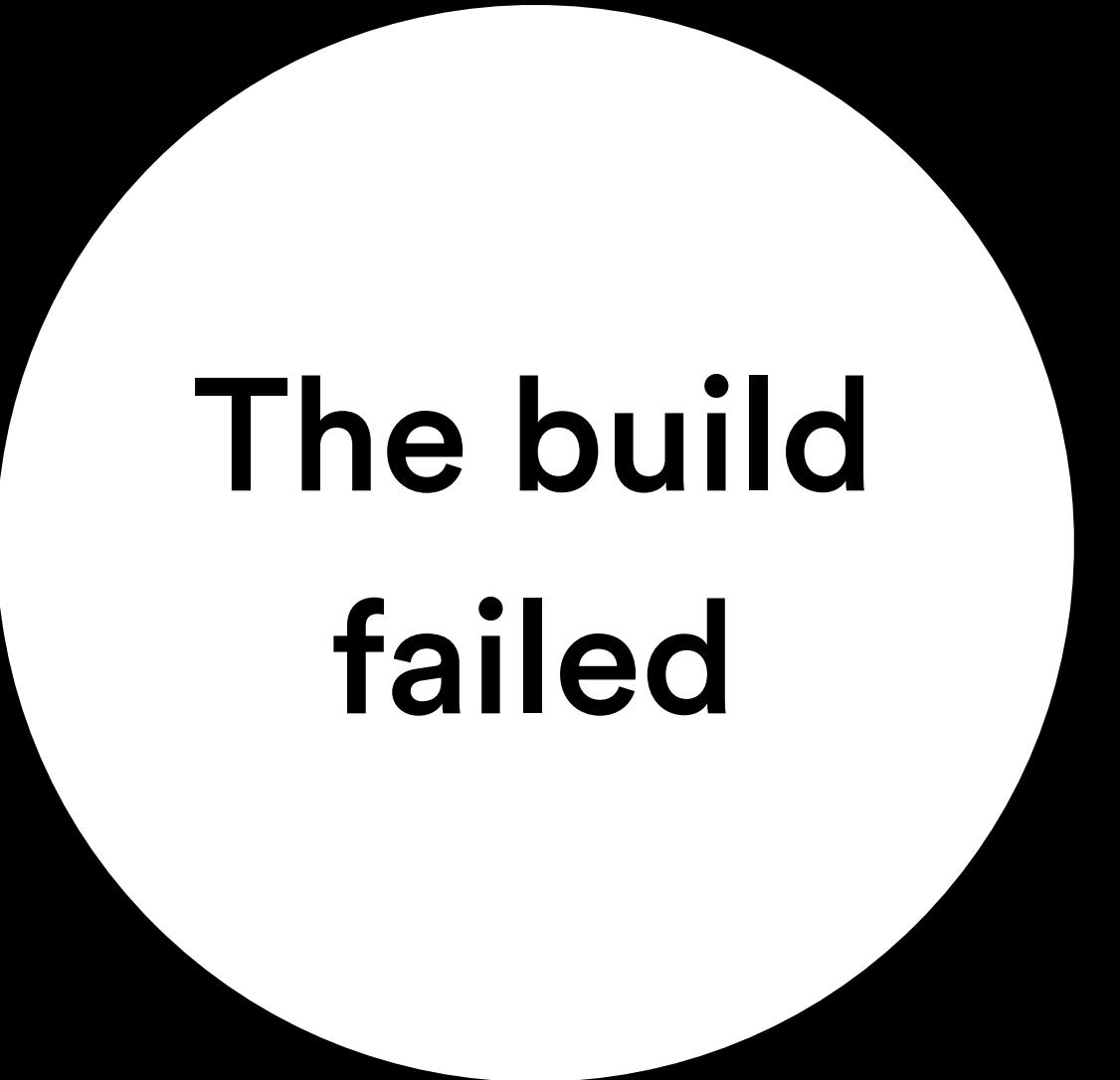


Team knowledge



Start discussions





The build
failed

New
deployment

New
important
issue



Get the big picture





Get the big picture

6 BLOCKERS

- CONFDEV-24079** Business Teams
Workbox tasks deprecation feature ...
- CONFDEV-24033** External Development
5.5 [5.5] Support Healthcheck fina...
- CONFDEV-23983** Enterprise
5.5 Confluence has performance r...
- CONFDEV-23977** Confluence Questions
5.5 [5.5] Result filters are now ign...
- CONFDEV-23702** Notifications
T23 [T23] Blank notification email ...
- CONFDEV-22851** Business Blueprints
T23 [T23] Introduction ("About ..." ...)

1 BRANCH ON CODE FREEZE

CONFLUENCE-PROJECT-5.5-STABLE

BUILD OVERVIEW

7/19 RED

HALL OF SHAME

- QUnit Integration Tests, Chrome 22 (Java 6)** 1
- Selenium, Firefox 3.6, Documentation Theme (Java 6)** 1
- Selenium, Firefox 3.6** 1
- WebDriver Chrome** 1
- QUnit Firefox 17.0.1 (PT)** 1
- Selenium Tests (Java 6) OD À la carte** 1
- WebDriver Firefox Tests OD Standalone + À la carte** 1

OD-RELEASES

NEXT RELEASE

thunder 22

CODE FREEZE ON: N/A
ON SDOG ON: 9/04/14
RELEASE ON: 14/04/14

Based off Thunder 21, no code freeze required.

PREV RELEASE

thunder 21

RELEASED ON: 07/04/14

Notes for the last release here.

WIKI MARKDOWN ANALYTICS

Feb 13 Feb 20 Feb 27 Mar 6 Mar 13 Mar 20 Mar 27 Apr 3

102 204 1

QUICK EDIT LOADING FAILED

Dec Jan Feb Mar Apr

856 1711 8

BUILD NUMBERS

PUG 2 DAYS AGO 5.6-DEV-4344

EAC 13 DAYS AGO 5.5-DEV-4226

SDOG 2 DAYS AGO 5.5-OD-4008

CAC 12 DAYS AGO 5.5

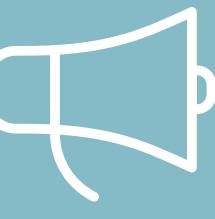
MACRO BROWSER ERRORS

Feb 13 Feb 20 Feb 27 Mar 6 Mar 13 Mar 20 Mar 27 Apr 3

1 714

SPRINT ACTIONS

- This action is a test for the atlasboard widget
- Action 2
- Get a fix for decision plan on tinymce 4 integration
- Fix the builds



http://atlasboard.bitbucket.org/

Atlasboard

Every team has one or more

6 BLOCKERS

- CONFDEV-24079 Business Teams Workbox tasks deprecation feature ...
- CONFDEV-24033 External Development 5.5 [5.5] Support Healthcheck fina...
- CONFDEV-23983 Enterprise 5.5 Confluence has performance r...
- CONFDEV-23977 Confluence Questions 5.5 [5.5] Result filters are now ign...
- CONFDEV-23702 Notifications T23| [T23] Blank notification email ...
- CONFDEV-22851 Business Blueprints T23| [T23] Introduction ("About ..." ...

1 BRANCH ON CODE FREEZE

CONFLUENCE-PROJECT-5.5-STABLE

09:46
10-04-2014

PENDING-PR

3 3 2

BUILD OVERVIEW

7/19 RED

HALL OF SHAME

- QUnit Integration Tests, Chrome 22 (Java 6) 1
- Selenium, Firefox 3.6, Documentation Theme (Java 6) 2
- Selenium, Firefox 3.6 3
- WebDriver Chrome 4
- QUnit Firefox 17.0.1 (PT) 5
- Selenium Tests (Java 6) OD À la carte 6
- WebDriver Firefox Tests OD Standalone + À la carte 7

OD-RELEASES

NEXT RELEASE: thunder 22
CODE FREEZE ON: N/A
ON SDOG ON: 9/04/14
RELEASE ON: 14/04/14

Based off Thunder 21, no code freeze required.

PREV RELEASE: thunder 21
RELEASED ON: 07/04/14

Notes for the last release here.

WIKI MARKDOWN ANALYTICS

204 102 1

QUICK EDIT LOADING FAILED

1711 856 8

BUILD NUMBERS

PUG	2 DAYS AGO	5.6-DEV-4344
EAC	13 DAYS AGO	5.5-DEV-4291
SDOG	12 DAYS AGO	5.5-OD-23-008
CAC	12 DAYS AGO	5.5

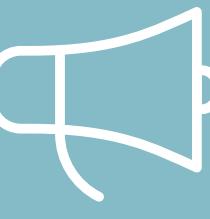
MACRO BROWSER ERRORS

714 357 1

SPRINT ACTIONS

- This action is a test for the atlasboard widget
- Action 2
- Get a final decision / plan on tinymce 4 upgrade.
- Fix the builds

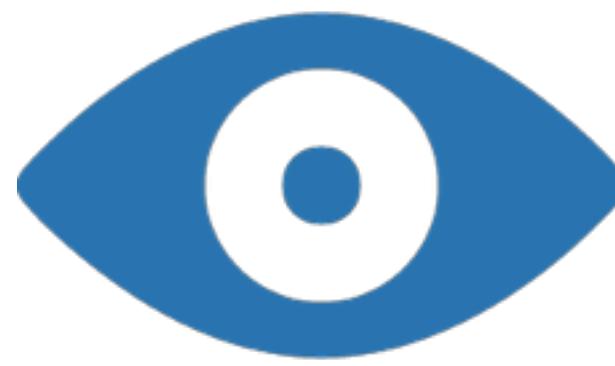




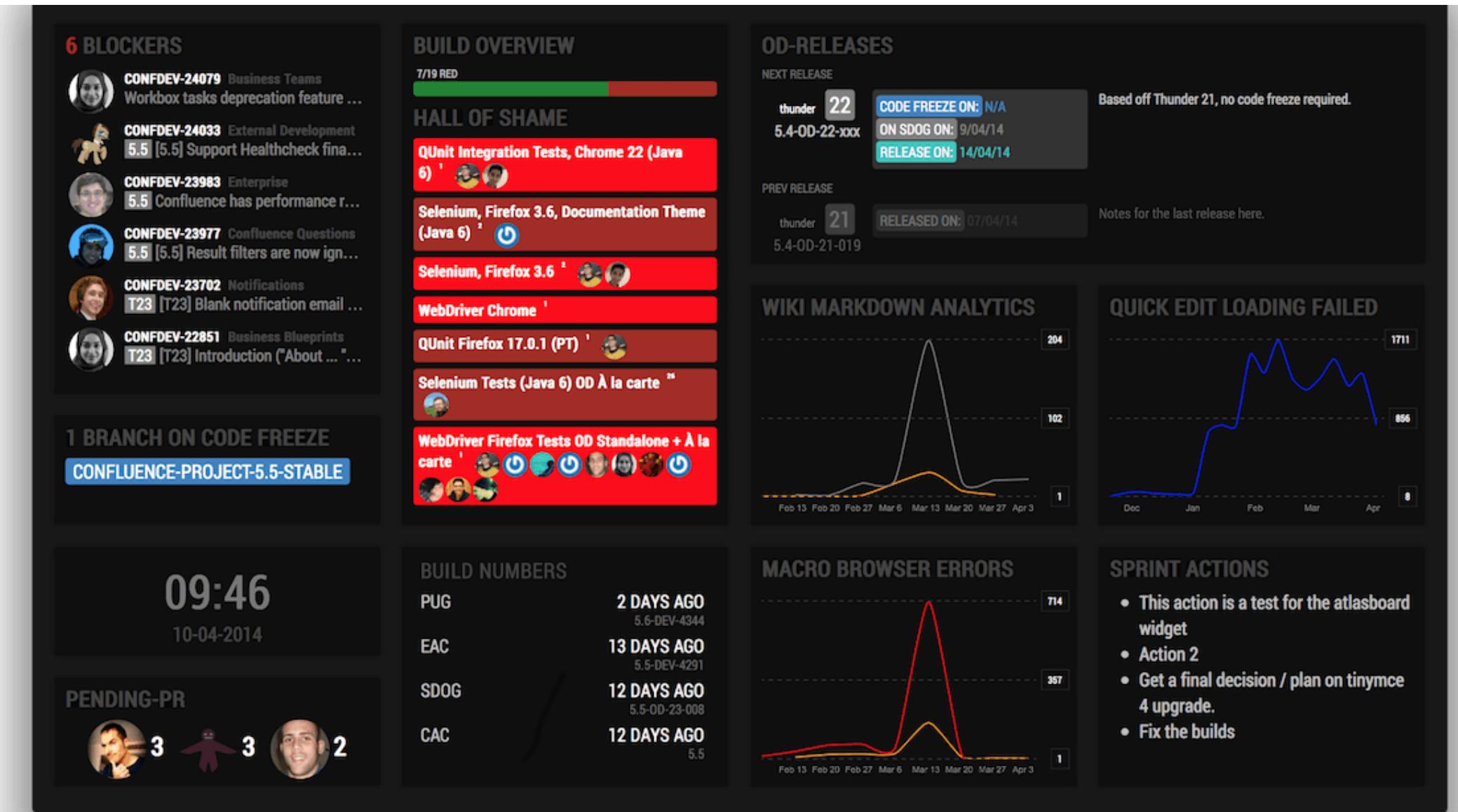
http://atlasboard.bitbucket.org/

Atlasboard

Every team has one or more



see what's going on



point directly





All kind of boards

Developer Dashboard:

- Critical Builds - Fix Now:** 2/13 RED. Includes a chart for '+core+ Bamboo - A WebDriver M - A WebDriver' with a duration of 47 mins and a 'A Freezer SLAT' with 162 mins.
- World-Times:** SYD 8:23am, GDN 10:23pm, SF 2:23pm.
- Dev. On Support:** Krystian, Queue:@todo.
- Review "Leaderboard":**

User	Created	Escalations	Σ
Marek	4	3	7
Przemek	2	1	3
Daniel	1	1	2
Kristian	1	1	2
Suren	1	0	1
- 5.7-M6 Task Burndown:** A line graph showing task progress over time.
- Important Builds:** 15 BUILDS GREEN.
- NO BROKEN BUILDS**
- 2 BLOCKERS:** BDEV-6591 Bamboo team, Release 5.7 Server; BDEV-6634 Bamboo team build was marked as queued but was no...

Support Dashboard:

- Created:** 8 Unassigned: 17. Last updated at 10:22.
- Global:**
 - Unassigned: 37
 - Breached: 1
 - APAC: 1
 - EMEA: 4
 - America East: 1
 - America West: 1
Last updated at 10:22.
- Criticals:** 0. Last updated at 10:24.
- Escalations:** 0. Last updated at 10:24.
- Assigned today:**

User	Count
Suren	5
Sean	4
Jing	8
Miranda	1
Monique	1
Der	6
Miranda	5
Alex	5
Wayne	4
Septa	4
Samuel	4
Foogie	4
Suren	3

Total: 59. Last updated at 10:22.
- Existing:**

User	Count
Sean	8
Jing	8
Monique	6
Der	6
Miranda	5
Alex	5
Wayne	4
Septa	4
Samuel	4
Foogie	4
Suren	3

Total: 59. Last updated at 10:22.

Advocates Dashboard:

- Dev Advocacy Dashboard KPIs for FY16:** Tracks only data for the DA team. For overall nrs refer to GA.
- Users FY16:** 137.0K Unique Users in FY16. Last updated at 15:09.
- Cumulative BAC:** 91,364. Last updated at 10:22.
- DA Articles on DAC:**

Article	Views
the-power-of-git-subtree/	9249
force-with-lease/	5339
git-horror-story-loose-nonces/	4992
golang-flashcards-and-spaced-repet	3873
a-better-pull-request/	3869
bithound-Integrating-with-bitbucket	1438
realtime-requests-psql-elasticsearch	1388

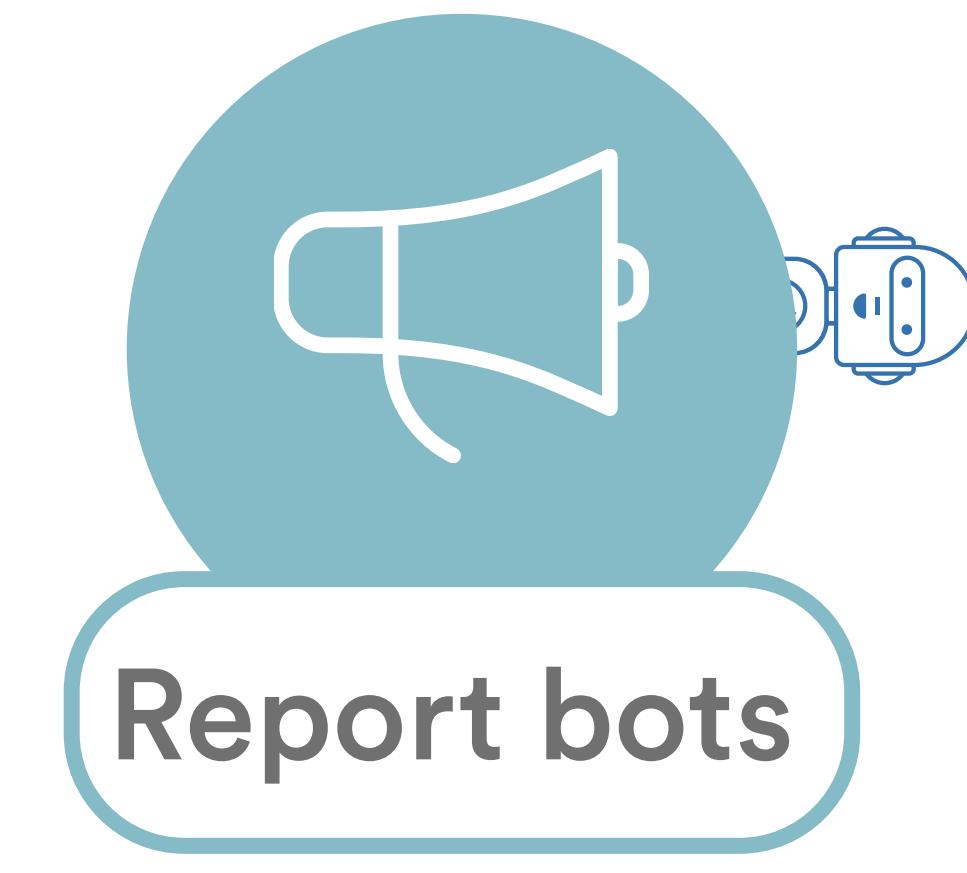
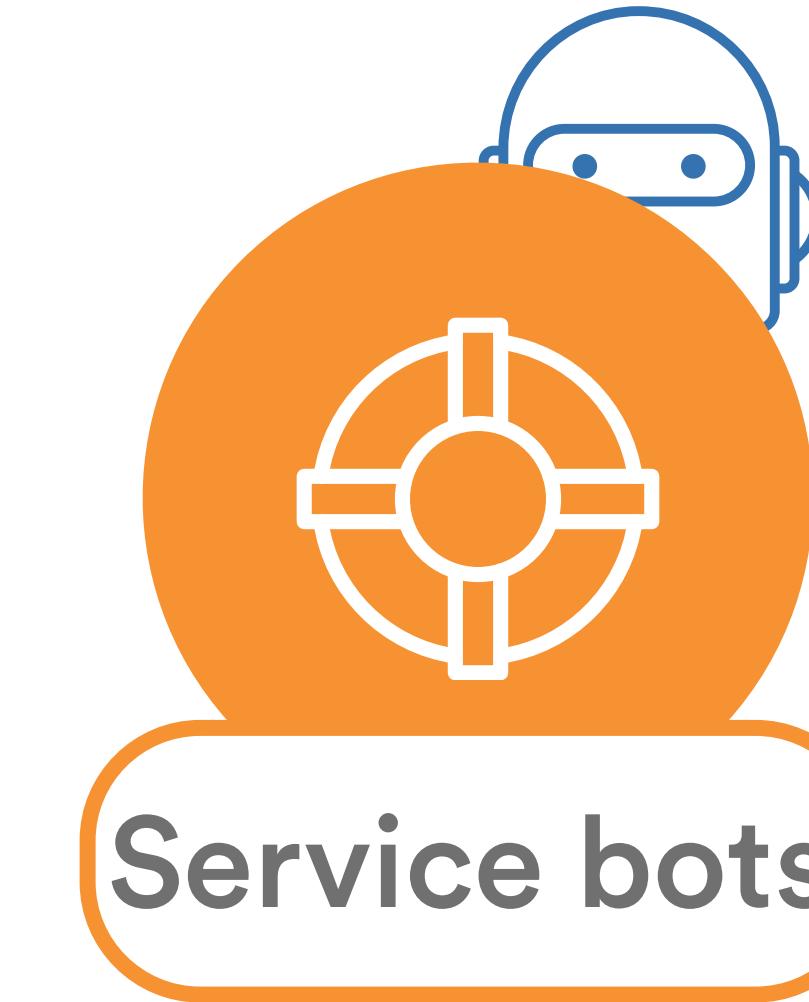
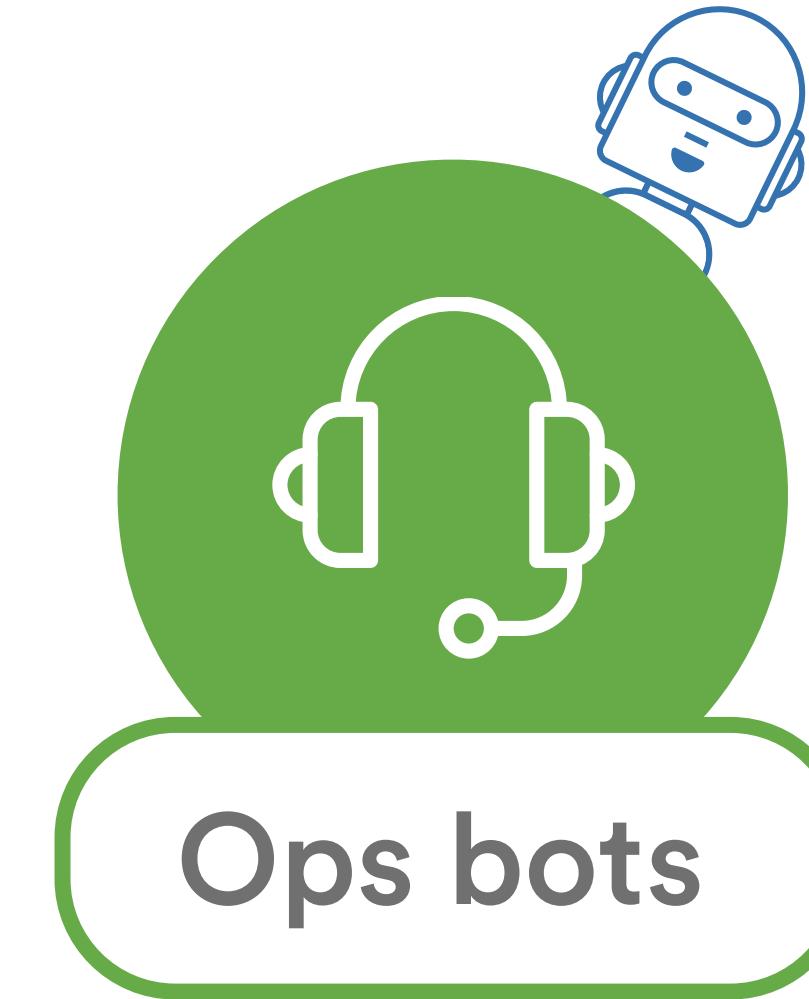
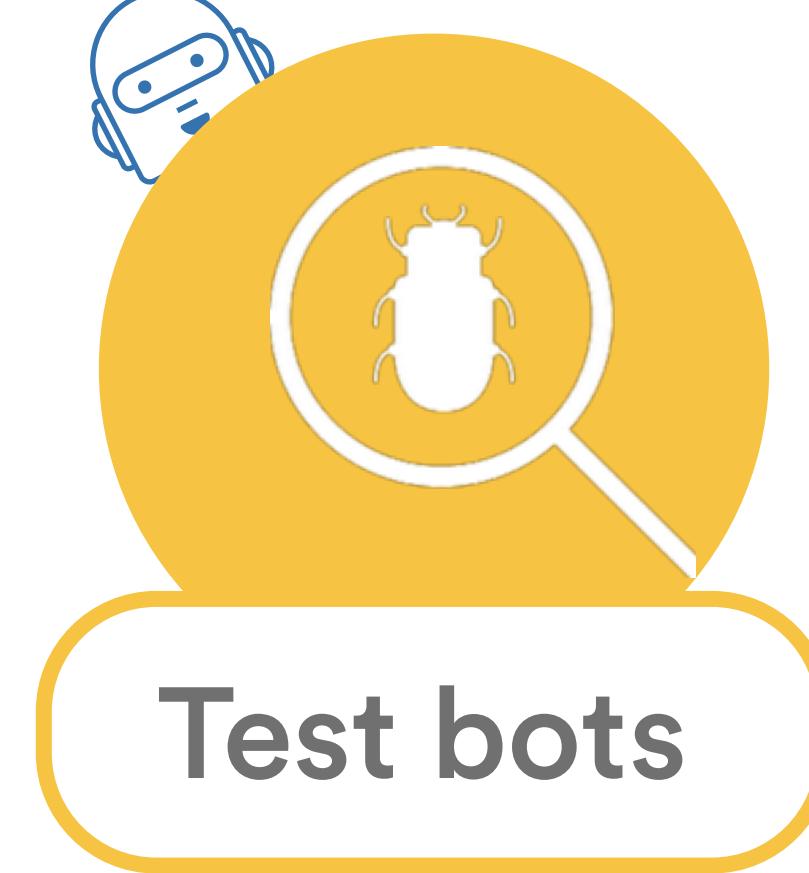
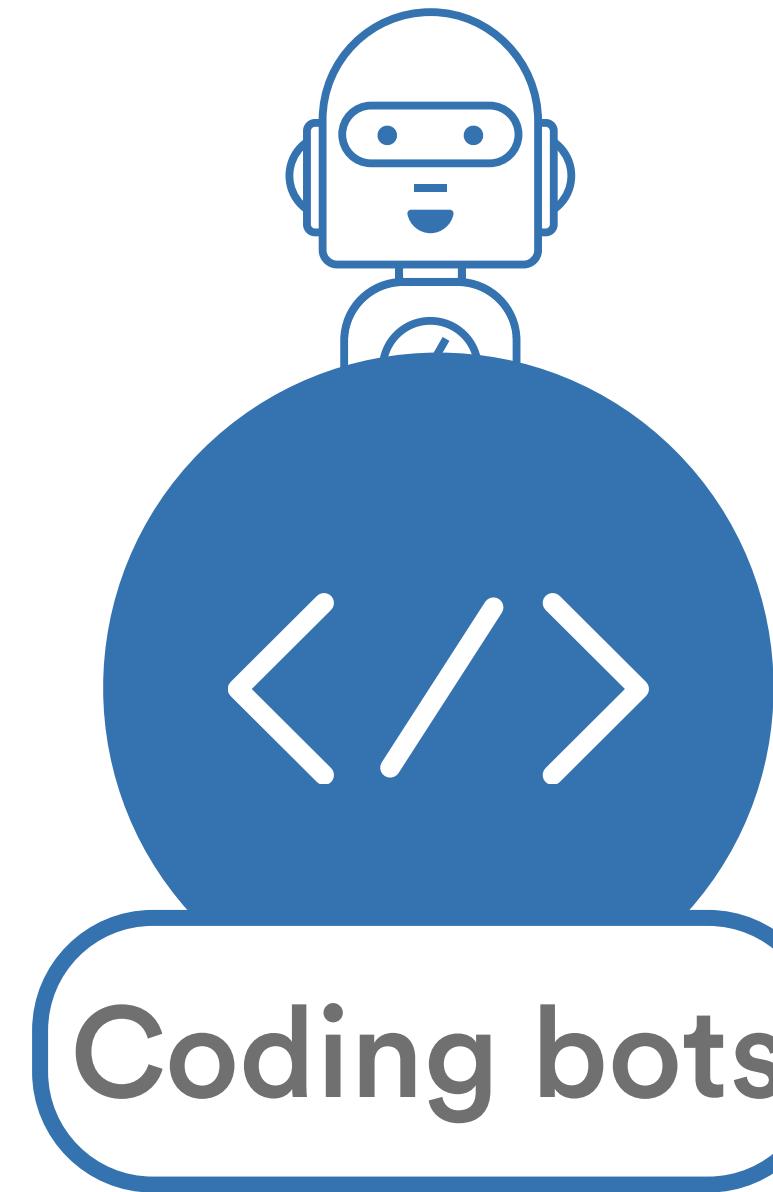
Last updated at 15:09.
- DA Articles on BAC:**

Article	Views
alternatives-to-git-submodule-git-	16990
handle-big-repositories-git	13406
deploy-java-apps-with-docker-aweso	9098
practical-continuous-deployment	6356
flux-architecture-step-by-step	5453
git-submodules-workflows-tips	5151
git-project-dependencies	3193

Last updated at 10:22.

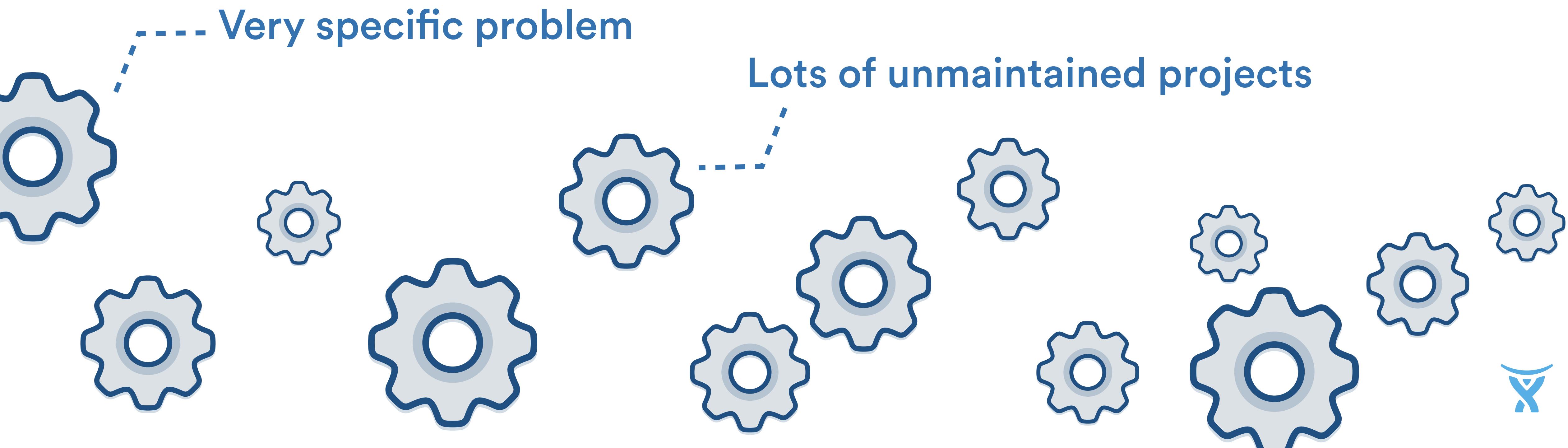


Bots everywhere



Writing automation code

Reinvent the wheel?



No. 1 Problem



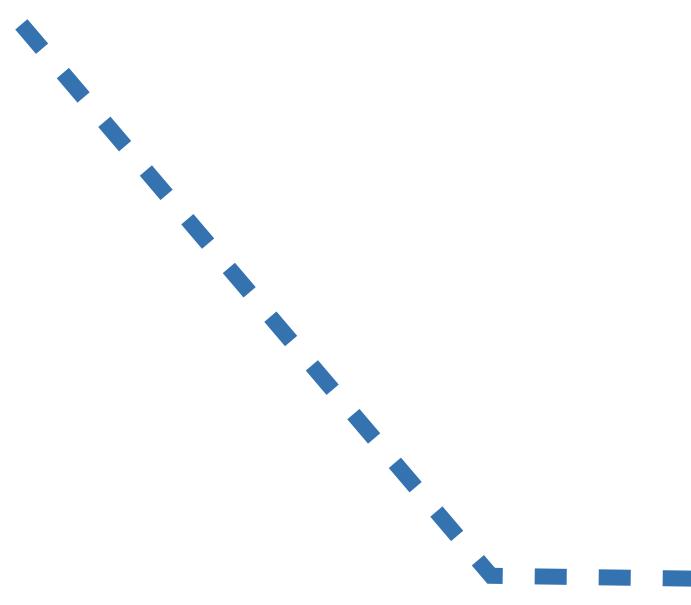
Technical debt



10%

sprint time

for better engineering health





10%
sprint time

for automating engineering health

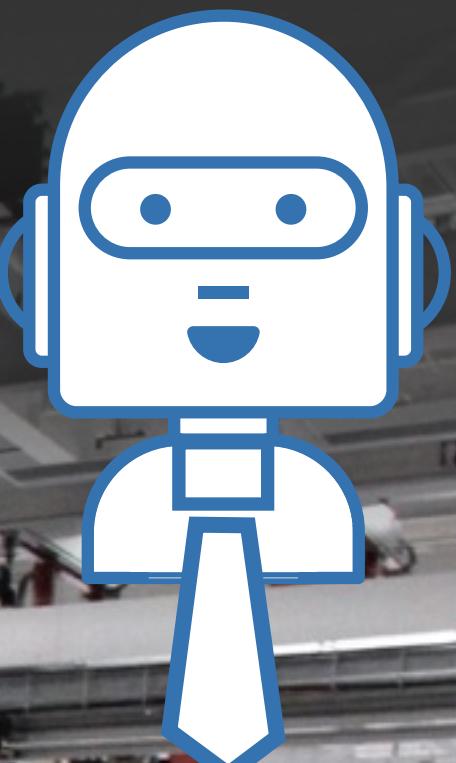


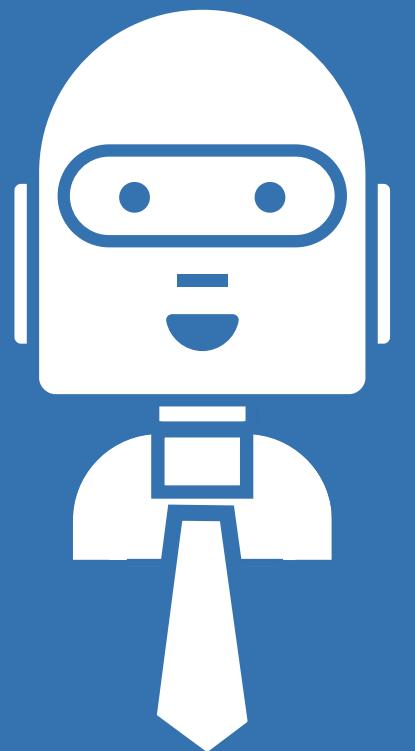


From scripts on a developer hard disc



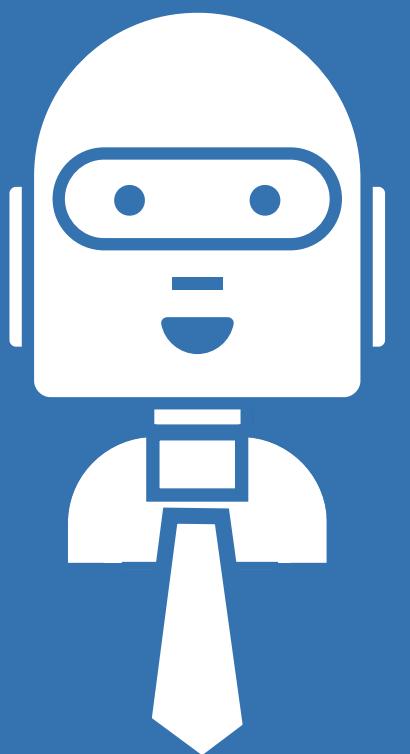
to professional automation





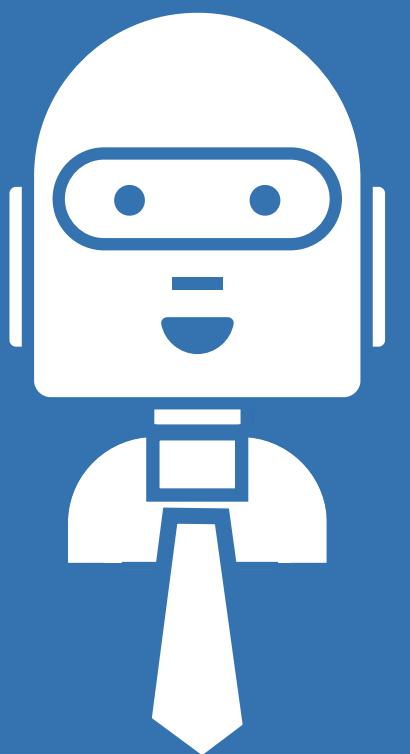
Add code to
Source Control





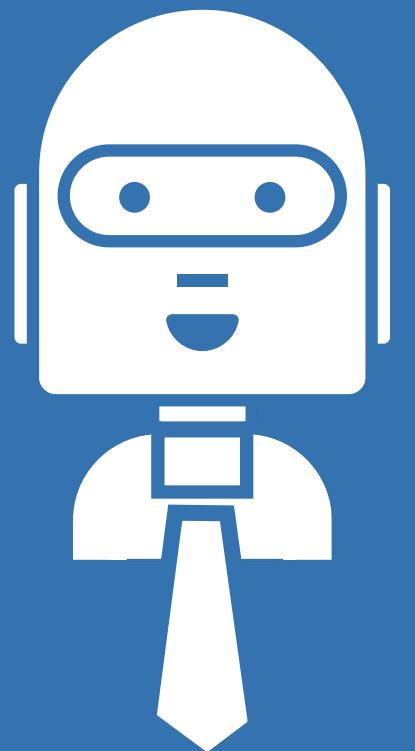
Do
Code Reviews
for every change





Write Tests





Have
Deployment Scripts



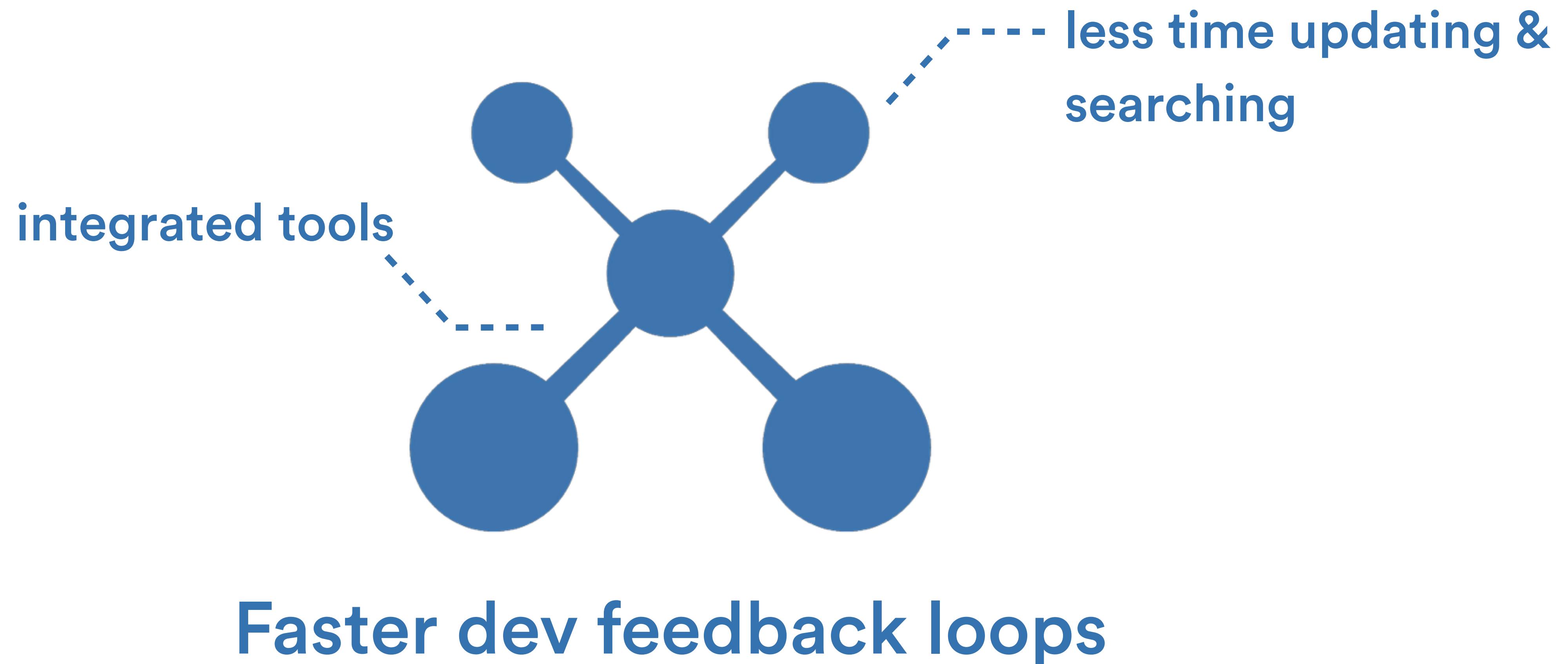
Where are we heading?



Where are we heading?



Where are we heading?



Where are we heading?



Building software
is a
craft



Parts can be automated

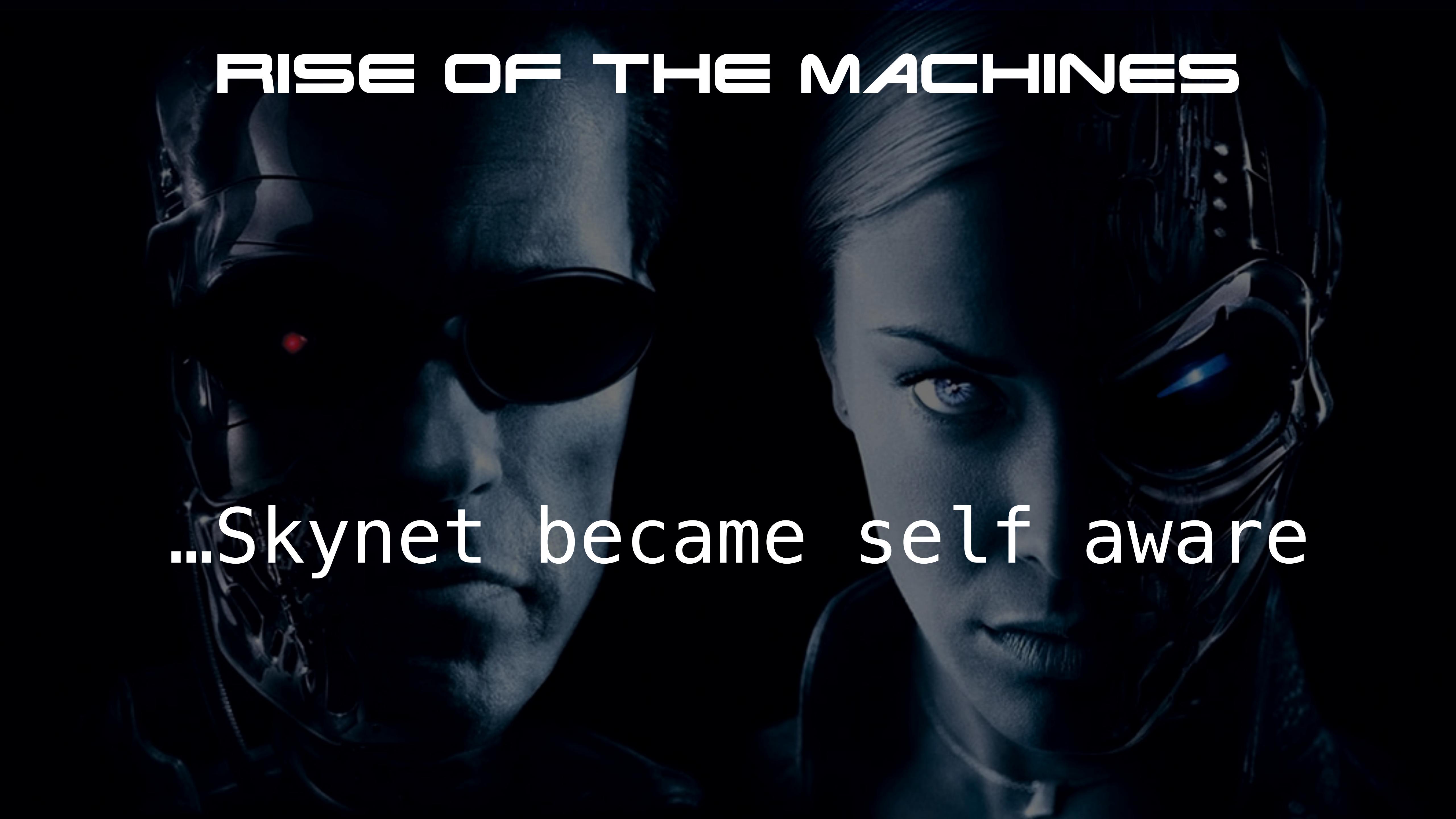
Creating customer value
is an
art



Hard to automate



RISE OF THE MACHINES

A dark, moody image featuring a woman's face and a robotic hand. The woman has long, straight hair and is looking directly at the viewer with a serious expression. Her eyes are light-colored. To her right, a mechanical arm with a claw-like hand is visible, suggesting a theme of human vs. machine or the rise of artificial intelligence.

...Skynet became self aware



@svenpet

svenpet.com/talks

find slides here --

I'LL BE BACK...



PHOTO CREDITS

"VW Golf TDI Clean Diesel was 2010 8983" by Mariordo Mario Roberto Duran Ortiz - Own work. Licensed under CC BY-SA 3.0 via Commons - <https://commons.wikimedia.org/wiki/>

Backyard Series by syauqee mohamad "<http://www.flickr.com/photos/7901820@N07/6945260735>"

Tesla Model S by Chrishmt0423 from flickr

Burnt & Abandoned Computer "<http://www.flickr.com/photos/99649389@N02/13262802714>"