



“Houston, we have an AirBrake”

Application Error monitoring in PHP

meet.php #11

By @emgiezet

(c) 1995 Universal

\$whoami



- Tech Lead @ [Redexperts.net](https://redexperts.net)
- With PHP since 2002
- Sorry Ladies but I got Wife.
- Speaker @ {meet.php} since #8

Agenda

1. PHP error tracking
2. Airbrake
3. Errbit
4. emgiet/errbitPHP
5. Case Study

How I can track errors in PHP?

- Override error handler

```
set_error_handler(  
    array($this, 'onError'),  
    error_reporting()  
);
```



- Override exception handler

```
set_exception_handler(  
    array($this, 'onException')  
);
```

- Use the shutdown function

```
register_shutdown_function(  
    array($this, 'onShutdown')  
);
```

How do you track the errors?

- Common Strategies:
 - Read Apache / nginx / PHP Logs
 - Read application logs (ex. monolog)
 - Emails with Stack Traces
 - Wait until customer report some errors.
 - I'm so PRO that my application never crash on production. xoxo

Sudden error rate of 50% for your Application



<http://devopsreactions.tumblr.com/post/67741920428/sudden-error-rate-of-50-for-your-application>

How your customers reports an error?

- Link to the page is attached?
- Time-stamp of the error occurrence to grep the log?
- Is there any screen-shot or screen-cast attached?
- Maybe some unicorns are dancing on rainbow?

To repeat the error you must..

- a) Play email ping-pong.
- b) Dig the logs for the next few hours.
- c) Daft Punk - Get Lucky?
- d) Have a Error tracking application.

AirBrake.io



- Trusted by:
 - grupon
 - Oracle
 - SoundCloud +
- Integrates with:
GitHub, Bitbucket, JIRA,
HipChat, Asana, Pivotal,
Flowdock, Campfire,
Lighthouse
- Webhooks
- Customer Support

AirBrake.io Notifier API

```
<?xml version="1.0" encoding="UTF-8"?>
<notice version="2.3">
  <api-key>76fdb93ab2cf276ec080671a8b3d3866</api-key>
  <notifier>
    <name>Airbrake Notifier</name>
    <version>3.1.6</version>
    <url>http://api.airbrake.io</url>
  </notifier>
  <error>
    <class>RuntimeError</class>
    <message>RuntimeError: I've made a huge mistake</message>
    <backtrace>
      <line method="public" file="/testapp/app/models/user.rb" number="53"/>
      <line method="index" file="/testapp/app/controllers/users_controller.rb" number="14"/>
    </backtrace>
  </error>
  <request>
    <url>http://example.com</url>
    <component/>
    <action/>
    <cgi-data>
      <var key="SERVER_NAME">example.org</var>
      <var key="HTTP_USER_AGENT">Mozilla</var>
    </cgi-data>
  </request>
  <server-environment>
    <project-root>/testapp</project-root>
    <environment-name>production</environment-name>
    <app-version>1.0.0</app-version>
  </server-environment>
</notice>
```

- XML Based
- RESTFull

Whoaaaaa cool but give me the price

- Small **\$39**/Month
 - 5 Users
 - 10 Projects
- Medium **\$89**/Month
 - 20 Users
 - 15 Projects
 - Phone support
 - Custom setup
- Enterprise **\$199**/Month
 - 30 Users
 - 40 Projects
 - Phone support
 - Custom setup

Can't afford AirBrake.

No time for negotiations.

It's time for OpenSource solution.

Errbit

Errbit



- Compatible API with Airbrake Notifier API
- Written in Ruby srsly must be cool
- Can be hosted at Heroku freebie!
- You know first when sth is screwed up.
- Setup takes one hour.

AirBrake vs Errbit

- **God damn expensive**
- App count limited by plan (max 40)
- Hosted in atomic bomb proof shelter
- Unlimited error retention
- Super-fast notifications. Application don't lags on error reporting
- Freebie
- Unlimited Apps and Users
- Can be hosted on heroku
- 15 MB of MongoDB on heroku free plan
- **Sleeping after 5 min of inactivity**

Results

3:3

Round Draw

OpenSource draw quite nice.

Applications View

NAME	LAST DEPLOY	ERRORS
Demo App 434462332	n/a	142
Demo App 531770123	n/a	105
Fulcrum	n/a	1
Fat Free CRM	n/a	0
Demo App 528752506	n/a	-
Spree	n/a	-
Locomotive	n/a	-
Test App 2	n/a	-

Powered by [Errbit](#): the open source error catcher.

Creating new App View

Errbit Apps Errors Users Edit profile Sign out

Add App

[copy settings from another app](#) [cancel](#)

NAME *

REPOSITORY BRANCH

GITHUB REPO

BITBUCKET REPO

ASSET HOST *Used to generate links for JavaScript errors*

NOTIFICATIONS

NOTIFY ON ERRORS

NOTIFY ON DEPLOYS

SEND NOTIFICATIONS TO ALL USERS

WATCHERS

USER EMAIL ADDRESS [remove](#)

Select User

Error View

The screenshot shows the Erbit web interface. At the top left is the Erbit logo. The navigation bar includes 'Apps', 'Errors', and 'Users' tabs, along with 'Edit profile' and 'Sign out' buttons. The main content area is for the application 'Fulcrum', showing 'Errors Caught: 1', 'Deploy Count: 0', and an API key. Below this are sections for 'Watchers', 'Repository', and 'Latest Deploys'. The 'Errors' section contains a table with one error entry for 'Fulcrum development' with a count of 2. At the bottom of the error list are buttons for 'Merge', 'Unmerge', 'Resolve', 'Unresolve', and 'Delete'. A footer note states 'Powered by Erbit: the open source error catcher.'

Erbit

Apps Errors Users Edit profile Sign out

Fulcrum

Errors Caught: 1 Deploy Count: 0 API Key: 9772d0b1e47e3281b886e118d850320ea

edit destroy all errs

Watchers (show/hide)

Repository (show/hide)

Latest Deploys (show/hide)

Errors

<input type="checkbox"/>	APP	WHAT & WHERE	LATEST 1	DEPLOY	COUNT	RESOLVE
<input type="checkbox"/>	Fulcrum development	ActiveRecord::RecordInvalid: Validation failed: Project can't be blank cloudfuji/data#index	1 day ago	n/a	2	

Merge Unmerge Resolve Unresolve Delete

Powered by [Erbit](#): the open source error catcher.

Backtrace Tab

The screenshot shows the Errbit web interface. At the top left is the Errbit logo. To its right are navigation tabs for 'Apps', 'Errors' (which is active), and 'Users'. Further right are buttons for 'Edit profile' and 'Sign out'. Below the navigation is a header section for the error, displaying 'NameError' in large text. Underneath, it says 'App: Fat Free CRM Where: contacts#index' and 'Environment: development Last Notice: May 30 23:40:16'. To the right of this header are two buttons: 'iCal' and 'up'. The main content area shows the error message: 'NameError: uninitialized constant ActionView::CompiledTemplates::ERROR'. Below this, there are navigation links: '← Older | Newer →' and 'viewing occurrence 2 of 2'. A row of tabs is visible: 'Summary', 'Backtrace' (selected), 'User Details', 'Environment', 'Parameters', and 'Session'. The backtrace itself is displayed in a dark-themed box with white text, listing the stack of frames from the application down to the system level.

NameError

App: Fat Free CRM Where: contacts#index
Environment: development Last Notice: May 30 23:40:16

NameError: uninitialized constant ActionView::CompiledTemplates::ERROR

← Older | Newer → viewing occurrence 2 of 2

Summary Backtrace User Details Environment Parameters Session

```
app/views/contacts/index.html.haml:3 → _app_views_contacts_index_html_haml_204386671437126743_58044220
actionpack-3.2.3/lib/action_view/template.rb:143 → block in render
activesupport-3.2.3/lib/active_support/notifications.rb:125 → instrument
actionpack-3.2.3/lib/action_view/template.rb:141 → render
actionpack-3.2.3/lib/action_view/render_erb/template_renderer.rb:47 → block (2 levels) in render_template
...
actionpack-3.2.3/lib/action_controller/metal/responder.rb:160 → to_html
actionpack-3.2.3/lib/action_controller/metal/responder.rb:153 → respond
actionpack-3.2.3/lib/action_controller/metal/responder.rb:146 → call
actionpack-3.2.3/lib/action_controller/metal/mime_responds.rb:239 → respond_with
app/controllers/entities/contacts_controller.rb:27 → index
actionpack-3.2.3/lib/action_controller/metal/implicit_render.rb:4 → send_action
actionpack-3.2.3/lib/abstract_controller/base.rb:167 → process_action
actionpack-3.2.3/lib/action_controller/metal/rendering.rb:10 → process_action
actionpack-3.2.3/lib/abstract_controller/callbacks.rb:18 → block in process_action
...
rack-1.4.1/lib/rack/handler/webrick.rb:59 → service
/home/ndbroadbent/.rvm/rubies/ruby-1.9.3-p194/lib/ruby/1.9.1/webrick/httpserver.rb:138 → service
/home/ndbroadbent/.rvm/rubies/ruby-1.9.3-p194/lib/ruby/1.9.1/webrick/httpserver.rb:94 → run
/home/ndbroadbent/.rvm/rubies/ruby-1.9.3-p194/lib/ruby/1.9.1/webrick/server.rb:191 → block in start_thread
```

Environment tab

The screenshot shows the Errbit web interface. At the top, there is a navigation bar with the Errbit logo, 'Apps', 'Errors', and 'Users' tabs, and buttons for 'Edit profile' and 'Sign out'. The main content area displays an error notice for 'Errbit\Errors\Notice' with details: 'App: errbitLib Where: unknown' and 'Environment: development Last Notice: Nov 22 18:13:14'. Below this, the error message is 'Errbit\Errors\Notice: Undefined index: async'. Navigation options include '← Older | Newer →' and 'viewing occurrence 18 of 18'. The 'Environment' tab is selected, showing a table of environment variables.

Variable	Value
CI	true
COMPOSER_NO_INTERACTION	1
DEBIAN_FRONTEND	noninteractive
DOCUMENT_ROOT	
DYLD_LIBRARY_PATH	/home/travis/.gvm/pkgsets/go1.1.2/global/overlay/lib:/home/travis/.gvm/pkgsets/go1.1.2/global/overlay/lib:
GEM_HOME	/home/travis/.rvm/gems/ruby-1.9.3-p448
GEM_PATH	/home/travis/.rvm/gems/ruby-1.9.3-p448:/home/travis/.rvm/gems/ruby-1.9.3-p448@global
GIT_ASKPASS	echo
GOPATH	/home/travis/.gvm/pkgsets/go1.1.2/global
GOROOT	/home/travis/.gvm/gos/go1.1.2
GVM_OVERLAY_PREFIX	/home/travis/.gvm/pkgsets/go1.1.2/global/overlay
GVM_PATH_BACKUP	/home/travis/.gvm/bin:/usr/local/gradle/bin:/home/travis/.rvm/gems/ruby-1.9.3-p448/bin:/home/travis/.rvm/gems/ruby-1.9.3-p448@global/bin:/home/travis/.rvm/rubies/ruby-1.9.3-p448/bin:/usr/local/bin:/usr/bin:/bin:/usr/sbin:/sbin:/usr/local/sbin

Session tab

The screenshot shows the Errbit web interface. At the top, there's a navigation bar with the Errbit logo, 'Apps', 'Errors', and 'Users' tabs. On the right, there are 'Edit profile' and 'Sign out' buttons. The main content area displays an error for 'Symfony\Component\Routing\Exception\RouteNotFoundException'. It includes buttons for 'resolve', 'iCal', 'up', and 'create issue'. The error message states: 'Symfony\Component\Routing\Exception\RouteNotFoundException: Unable to generate a URL for the named route "fos_user_profile_show" as such route does not exist.' Below the message, there are navigation links for 'Older' and 'Newer', and a note 'viewing occurrence 3 of 3'. A tabbed interface shows 'Summary', 'Backtrace', 'Environment', 'Parameters', and 'Session' tabs. The 'Session' tab is active, displaying a JSON object with session data. At the bottom, there is a 'Comments' section.

Errbit Apps Errors Users Edit profile Sign out

Symfony\Component\Routing\Exception\RouteNotFoundException

App: interim Where: unknown
Environment: production Last Notice: Nov 11 23:29:06

resolve iCal up create issue

Symfony\Component\Routing\Exception\RouteNotFoundException: Unable to generate a URL for the named route "fos_user_profile_show" as such route does not exist.

← Older | Newer → viewing occurrence 3 of 3

Summary Backtrace Environment Parameters **Session**

```
{
  "_sf2_attributes" => {
    "_security_last_username" => {
      "0" => "resetting.flash.success"
    },
    "c" => "1384208850",
    "fos_user_success" => nil,
    "l" => "7200",
    "u" => "1384208949"
  },
  "_sf2_flashes" => nil,
  "_sf2_meta" => nil
}
```

Comments

Not enough?

- Error Comments
 - and replies with notifications
- Deploy hook
 - To clean your error counter for previous deploy
- Issue tracker integration:
 - Github
 - BitBucket
 - Gitlab
 - Redmine
 - FogBugz
 - Mingle
 - Pivotal Labs
 - Sorry no Jira.

But how can I integrate Errbit with my PHP App?



- Requires:
 - PHP \geq 5.3.2
 - Without cURL
- Integrates with
 - Plain PHP esoteric mutants
 - Symfony2
 - Kohana 3
 - ...

History of errbit-php

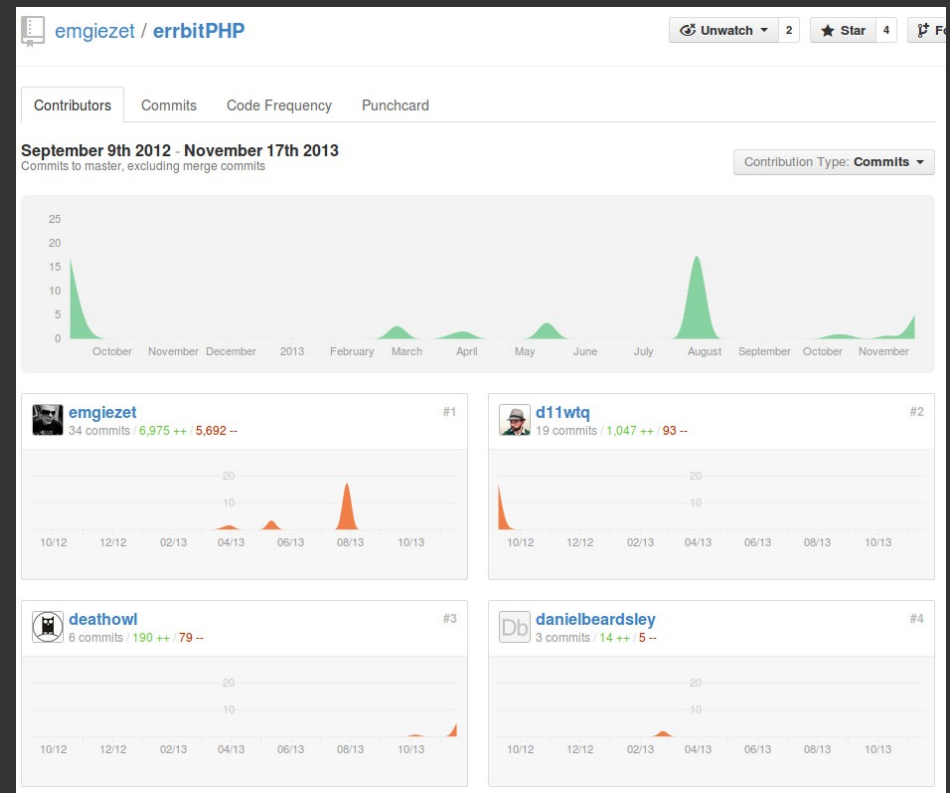
- Original concept was made by:
flippa/errbit-php and
dbtlr/php-airbrake
- But both of them doesn't work at all. And wasn't OOP.
- Flippa don't accept any pull-requests so:
 - 90% of code were rewritten to match psr-2.
 - 80% LOC were covered by unit tests.
 - Added TravisCI build for
 - PHP 5.3
 - PHP 5.4
 - PHP 5.5
 - Already have merged few pull request
 - Got more than 200 Installs
 - Is linked in a readme of errbit/errbit ;)

Enough bullshit. Time to code!

- Symfony2 Integration
 1. Add to composer.json
 2. Composer update
 3. Create a Listener onKernelException
 4. Register a service
 5. Set the api key in parameters.yml
 6. Collect the errors
- Plain PHP Integration
 1. Download
 2. Add the “use” in your “kernel” file
 3. Create an Errbit instance
 4. Call the start()
 5. Collect the errors

```
$php->code( 'now' );
```

Feel free to contribute!

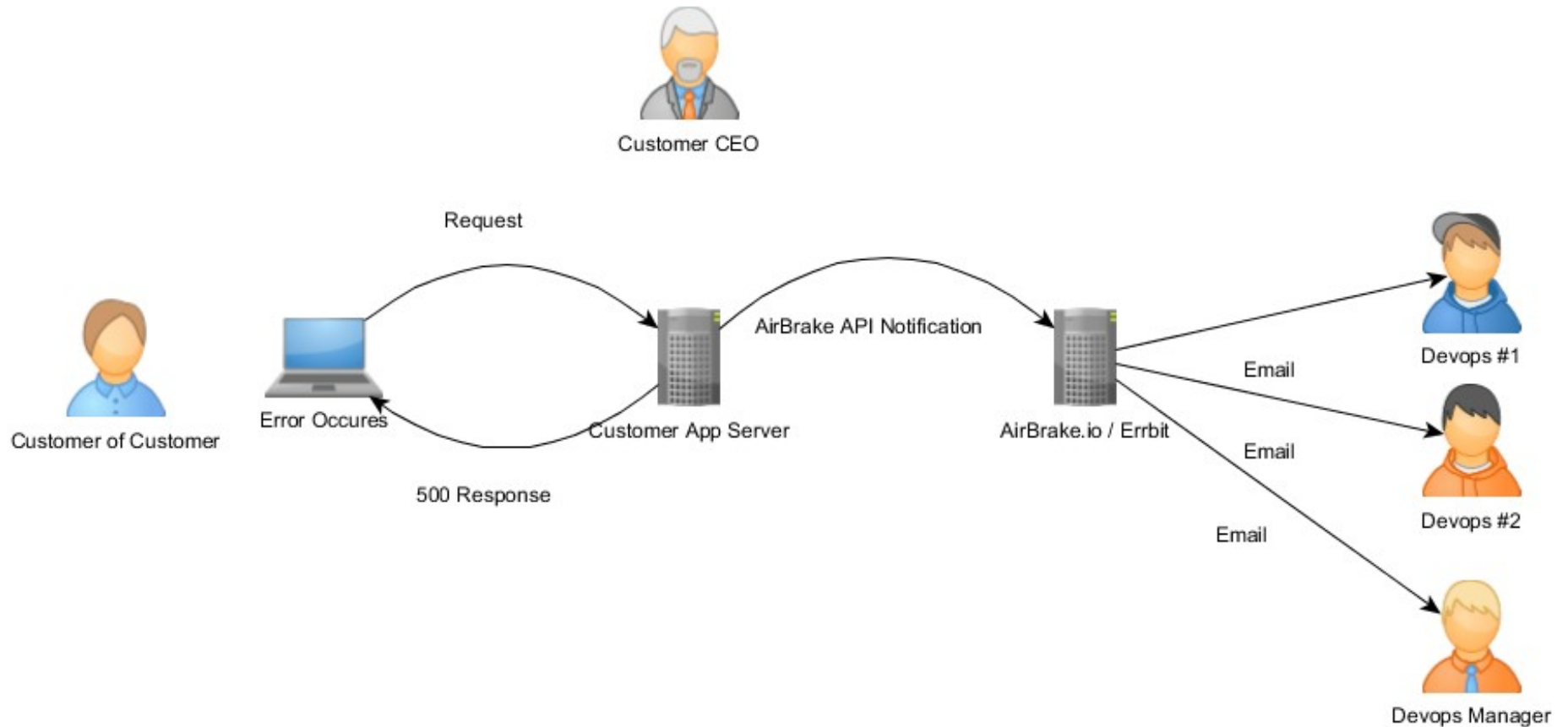


Use Cases

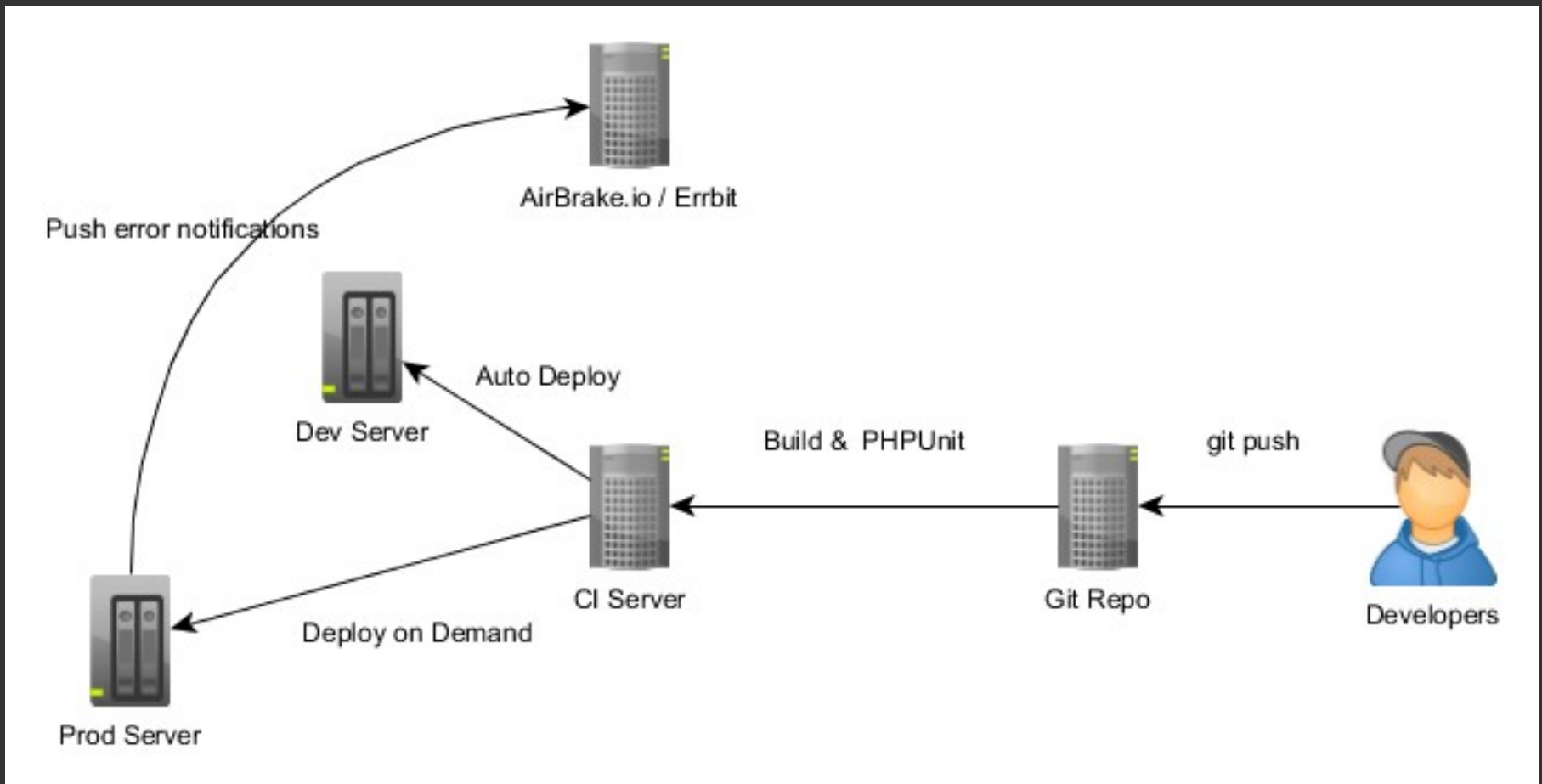
- Tracking errors
- Production live debugging
- Support test team

Where to put Errbit during the development?

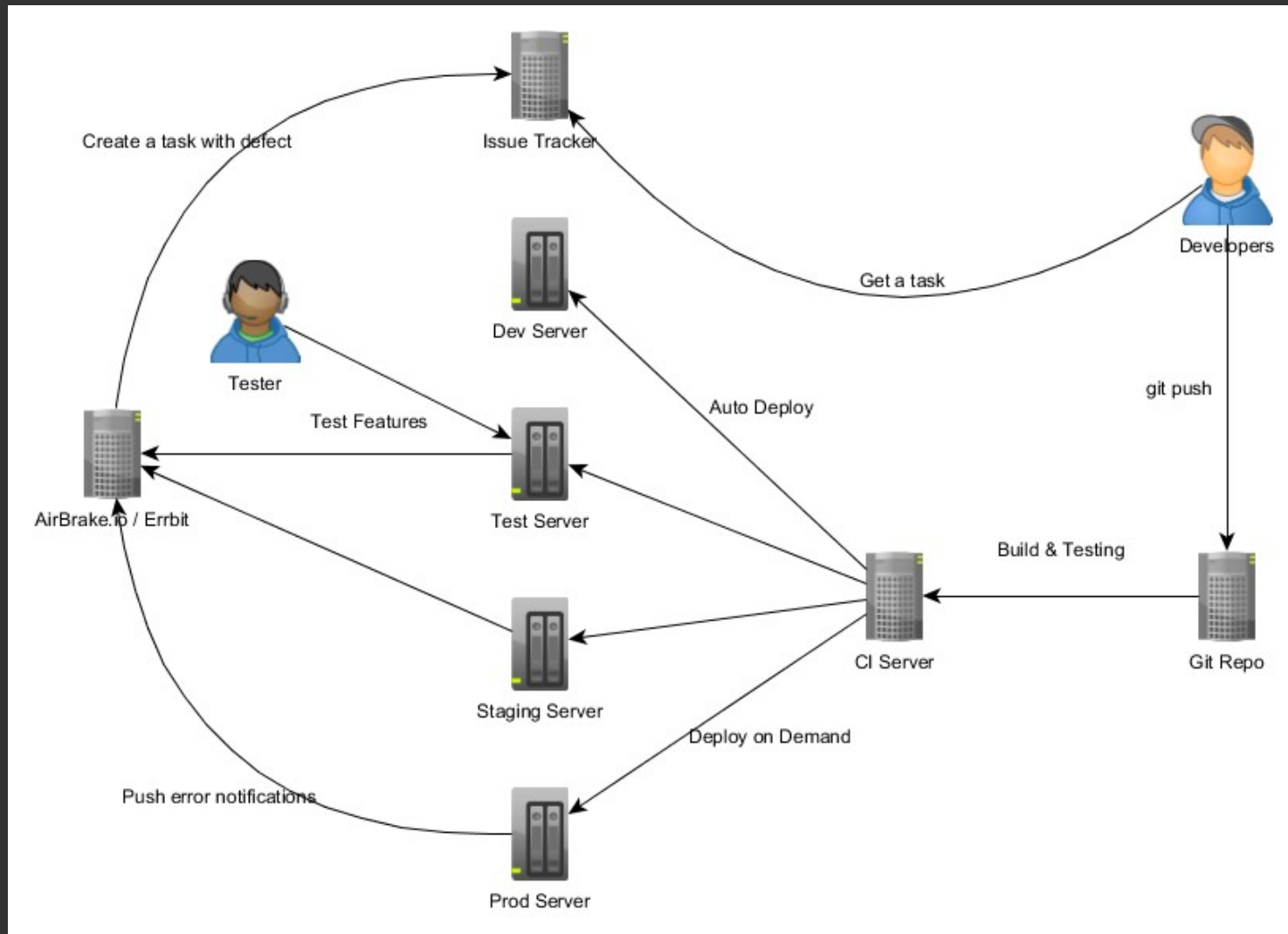
How the flow looks like?



How the workflow looks like?



Can we make it better?



Advantages of using Errbit

- You know first that error occurred.
- You know much more than customer will report you.
- You can fix the bug and make a #ninja deploy before customer will notice the error.
- Cloud solution friendly – no more grep'ing the error logs from all PHP nodes
- You care about the support and maintenance you gain lots of professional #swag

Things to remember

“Writing tests is our professional responsibility”

~@jakub_zalas

- This is your last line of defense.
- Fix bugs and do the homework in your next projects

Q&A?

Thank You!