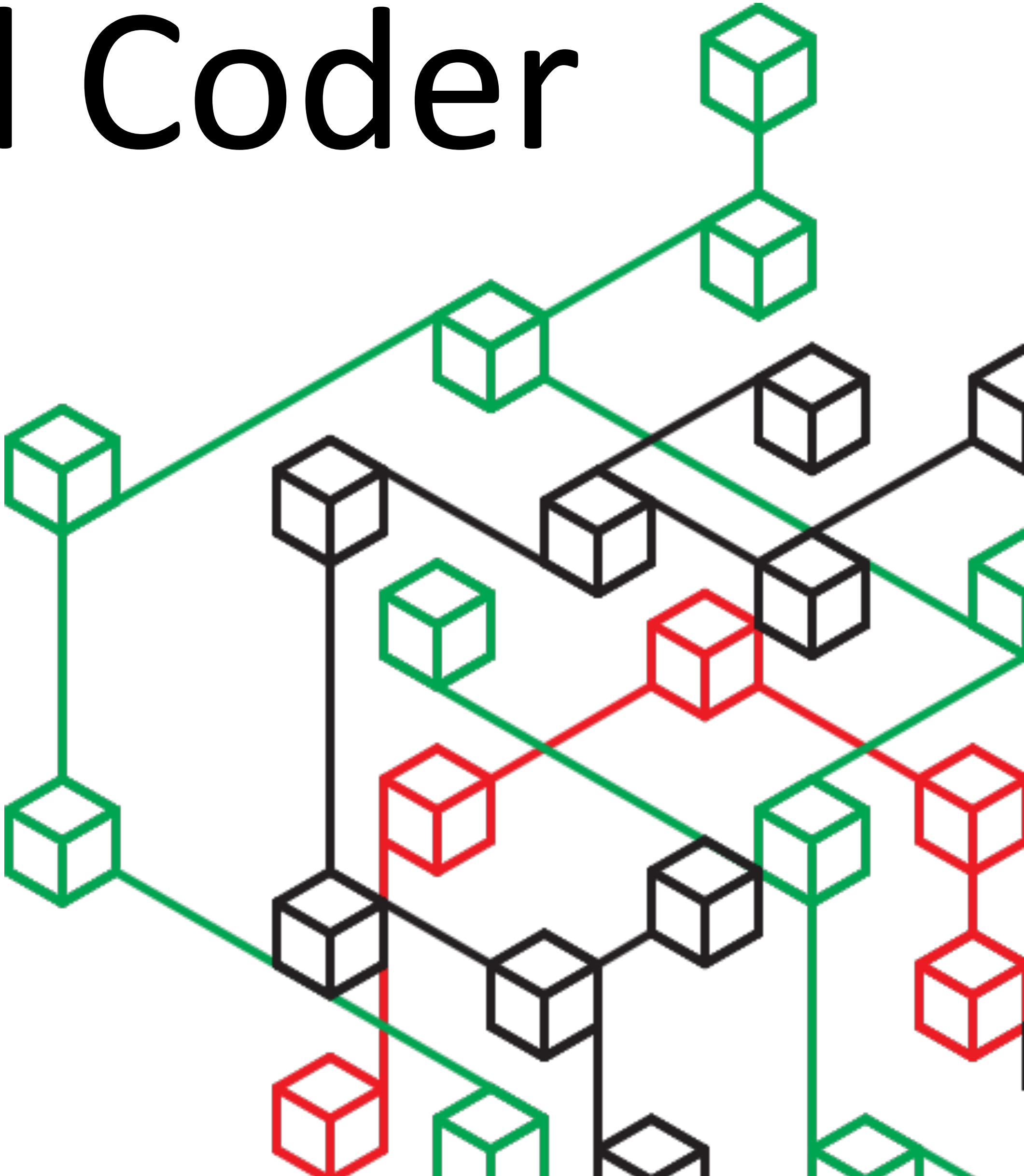
Be a Bold Coder



Beth Tucker Long

@e3betht

Who am I?
Beth Tucker Long (@e3betht)

- PHP Developer at Code Climate
- Stay-at-home mom
- User group leader
- Mentor

Audience Participation?

- Completely fine. Ask me questions any time.

Why?

Why?

- Build confidence
- Improve code quality and security
- Easier integration

What this talk is not

A bit of history

Use the "S" Word

Use the "S" Word

Standards!

Use the "S" Word

Wait, multiple standards?

PHP-FIG

- PSR-1 Basic Coding Standard
  http://www.php-fig.org/psr/psr-1/

- PSR-2 Coding Style Standard
  http://www.php-fig.org/psr/psr-2/

PHP Coding Standards Fixer

http://cs.sensiolabs.org

- Fixes "most" issues
- PSR-1 and PSR-2 compliant

PHP_CodeSniffer

https://github.com/squizlabs/PHP_CodeSniffer

- Phar, PEAR, or Composer
- Preset and customizable standards
- Will fix items for you automatically

Output

```
$ phpcs /myDir/myFile.php
FILE: /myDir/myFile.php
--------------------------------------------------------------------------------
FOUND 3 ERROR(S) AFFECTING 3 LINE(S)
--------------------------------------------------------------------------------
  2  | ERROR | [  ] Missing file doc comment
 20 | ERROR | [x] PHP keywords must be lowercase;
                          expected "false" but found "FALSE"
 47 | ERROR | [x] Line not indented correctly;
                          expected 4 spaces but found 1
--------------------------------------------------------------------------------
```

IDEs

- Sublime Text
  http://www.sublimetext.com

- PhpStorm
  https://www.jetbrains.com/phpstorm/

- Vim
  http://www.vim.org

Use the other "S" Word

Use the other "S" Word

Security

Security

- http://php.net/manual/en/security.php
- https://www.owasp.org/index.php/PHP_Security_Cheat_Sheet
- http://websec.io

- Securing PHP: Core Concepts
  https://leanpub.com/securingphp-coreconcepts
  https://speakerdeck.com/ccornutt
  http://securingphp.com

Test Your Code

A little bit of extra work up front saves lots and lots of work later on.

Need Help with Testing?

Chris Hartjes

@grmpyprogrammer

http://grumpy-learning.com

Use a Testing Framework

PHPUnit

https://phpunit.de

Document Your Code

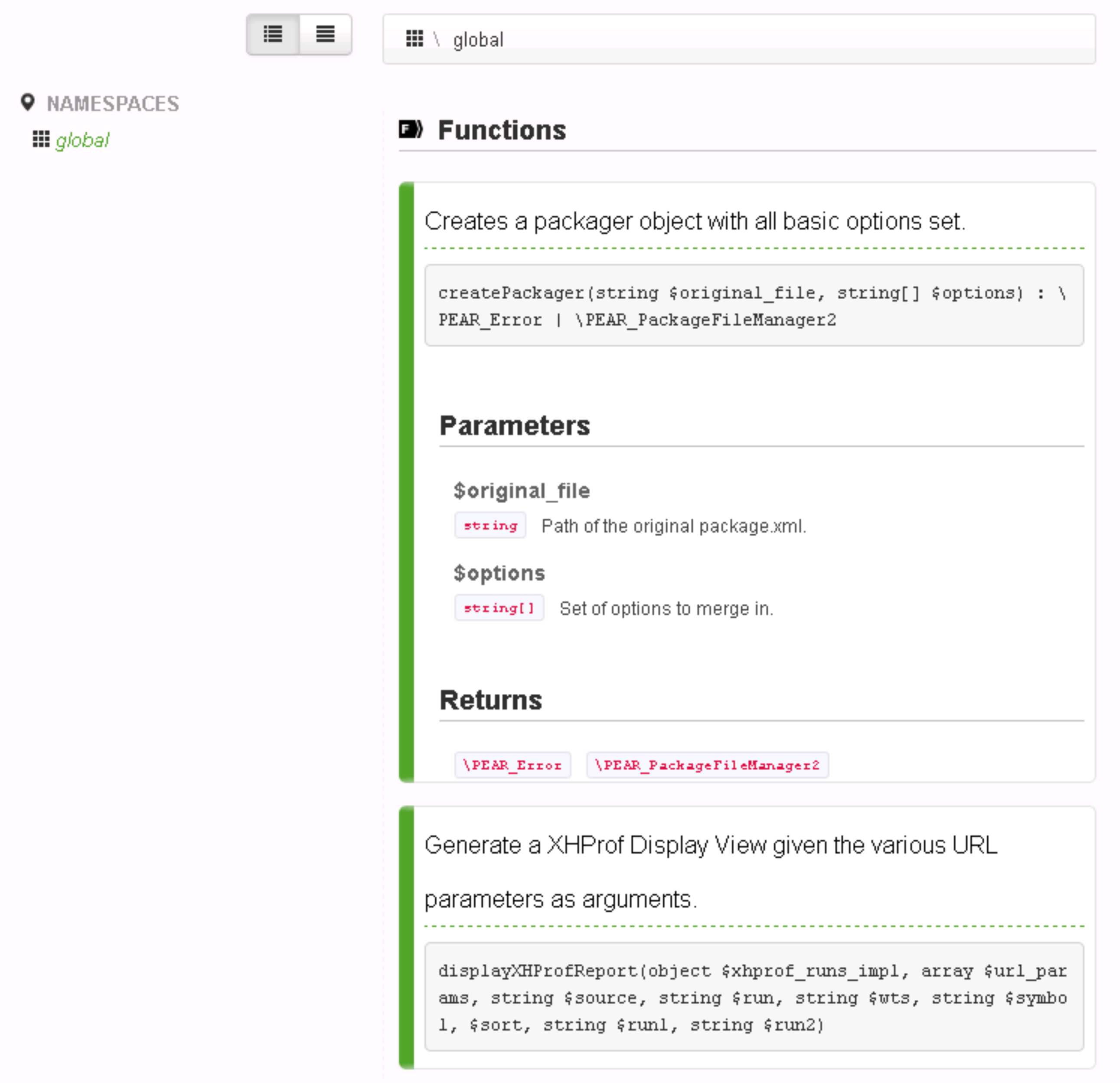
Make sure everyone knows what your code is doing… including you.

Document Your Code

phpDocumentor: http://www.phpdoc.org/

- Automates documentation
- Tutorial: http://manual.phpdoc.org/HTMLSmartyConverter/HandS/phpDocumentor/tutorial_phpDocumentor.howto.pkg.html

```
/**
 * Put your short description here.
 *
 * Put your long description here.
 * You may use multiple lines.
 * You can even use Markdown.
 *
 * @author  Beth Tucker Long <beth@musketeers.me>
 *
 * @since 1.0
 *
 * @param int $exampleA  This is a method parameter description.
 * @param string $exampleB This is another example.
 */
```



\ global

NAMESPACES

global

Functions

Creates a packager object with all basic options set.

```
createPackager(string $original_file, string[] $options) : \
PEAR_Error | \PEAR_PackageFileManager2
```

Parameters

$original_file

`string` Path of the original package.xml.

$options

`string[]` Set of options to merge in.

Returns

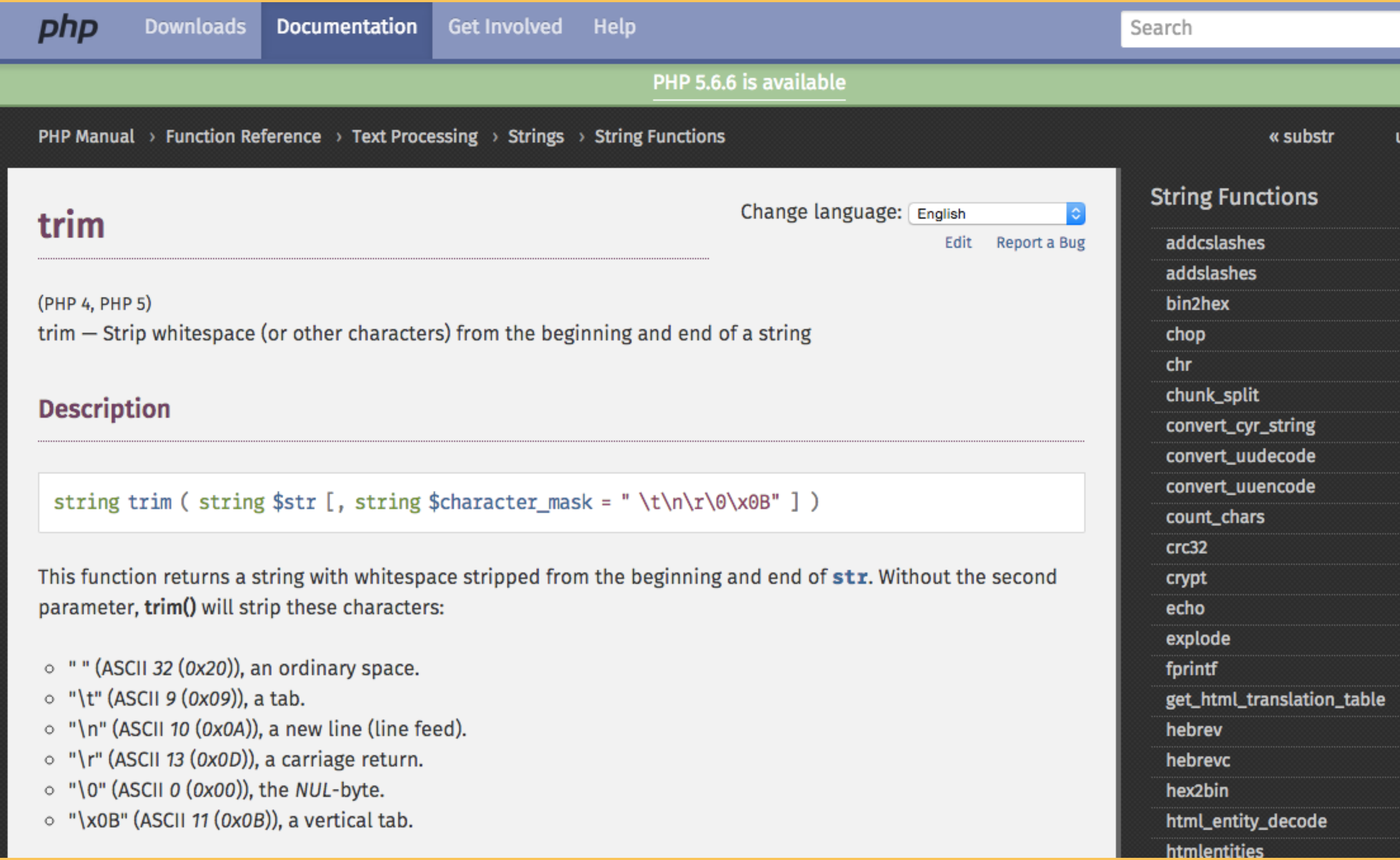
`\PEAR_Error` `\PEAR_PackageFileManager2`

Generate a XHProf Display View given the various URL parameters as arguments.

```
displayXHProfReport(object $xhprof_runs_impl, array $url_par
ams, string $source, string $run, string $wts, string $symbo
l, $sort, string $run1, string $run2)
```

Know Your Language

php.net



trim

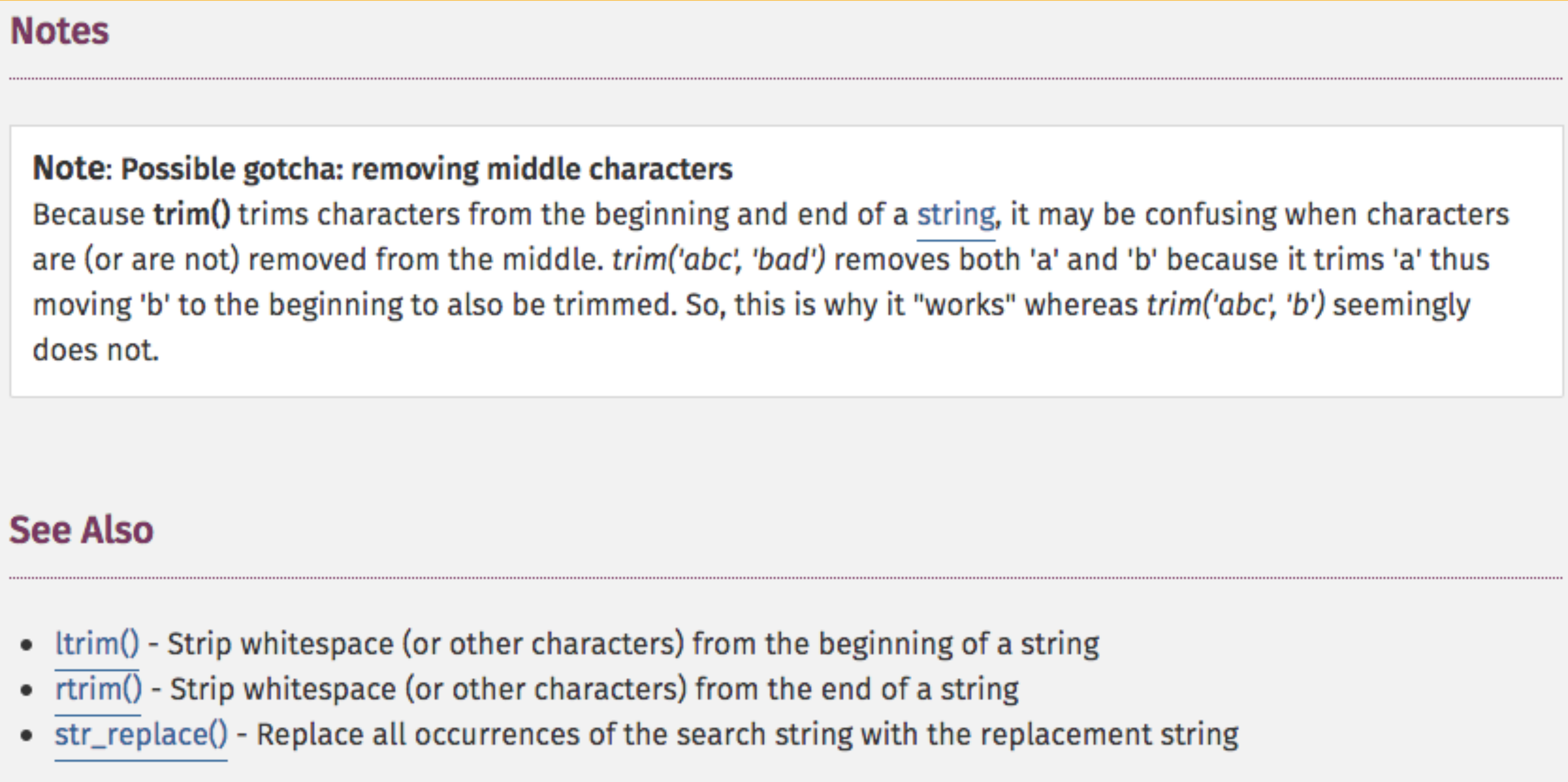
(PHP 4, PHP 5)
trim — Strip whitespace (or other characters) from the beginning and end of a string

Description

```
string trim ( string $str [, string $character_mask = " \t\n\r\0\x0B" ] )
```

This function returns a string with whitespace stripped from the beginning and end of **str**. Without the second parameter, **trim()** will strip these characters:

- " " (ASCII *32* (*0x20*)), an ordinary space.
- "\t" (ASCII *9* (*0x09*)), a tab.
- "\n" (ASCII *10* (*0x0A*)), a new line (line feed).
- "\r" (ASCII *13* (*0x0D*)), a carriage return.
- "\0" (ASCII *0* (*0x00*)), the *NUL*-byte.
- "\x0B" (ASCII *11* (*0x0B*)), a vertical tab.

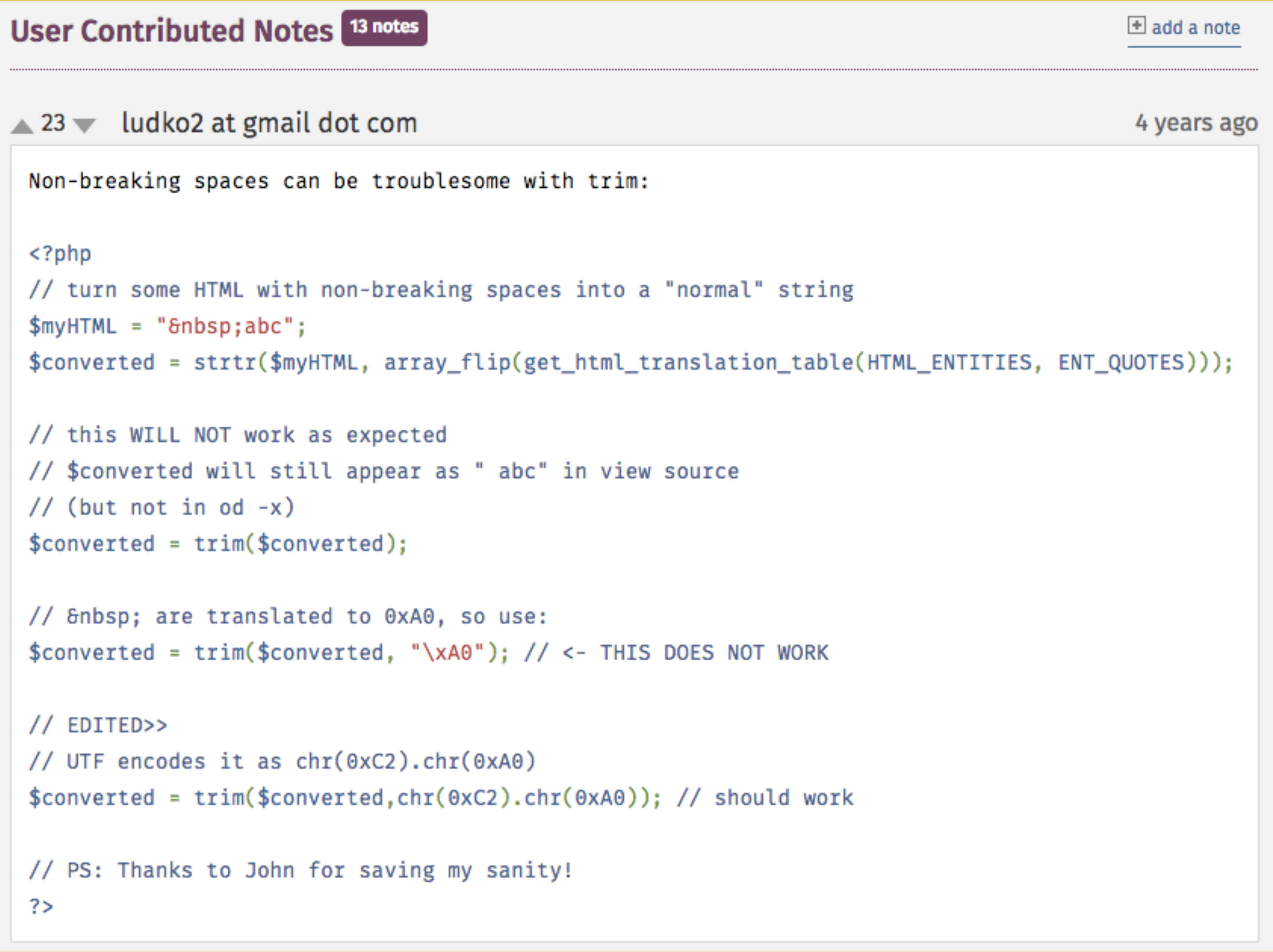


Notes

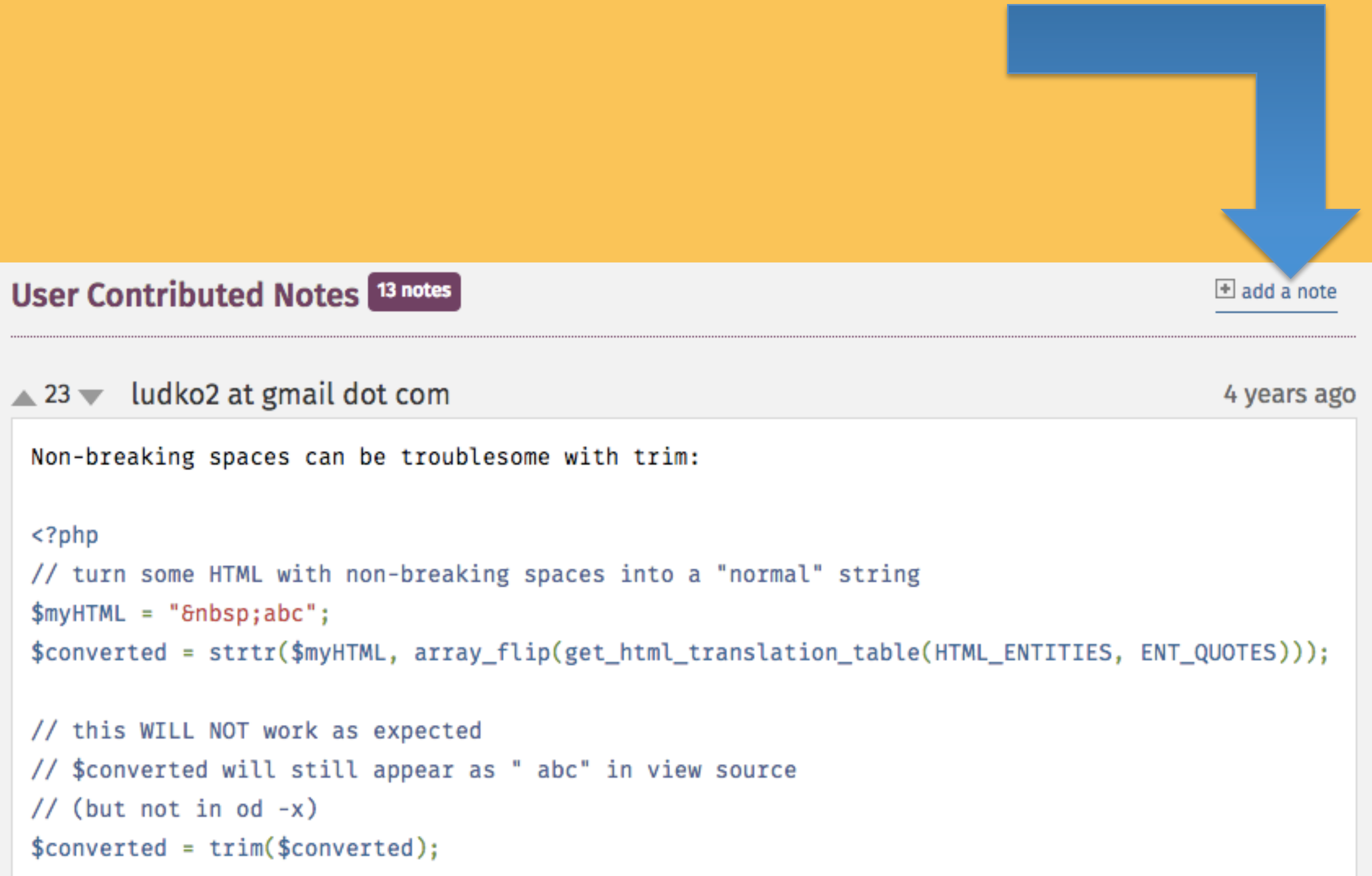
Note: Possible gotcha: removing middle characters
Because **trim()** trims characters from the beginning and end of a string, it may be confusing when characters are (or are not) removed from the middle. *trim('abc', 'bad')* removes both 'a' and 'b' because it trims 'a' thus moving 'b' to the beginning to also be trimmed. So, this is why it "works" whereas *trim('abc', 'b')* seemingly does not.

See Also

- ltrim() - Strip whitespace (or other characters) from the beginning of a string
- rtrim() - Strip whitespace (or other characters) from the end of a string
- str_replace() - Replace all occurrences of the search string with the replacement string



```
Non-breaking spaces can be troublesome with trim:

<?php
// turn some HTML with non-breaking spaces into a "normal" string
$myHTML = "&nbsp;abc";
$converted = strtr($myHTML, array_flip(get_html_translation_table(HTML_ENTITIES, ENT_QUOTES)));

// this WILL NOT work as expected
// $converted will still appear as " abc" in view source
// (but not in od -x)
$converted = trim($converted);

// &nbsp; are translated to 0xA0, so use:
$converted = trim($converted, "\xA0"); // <- THIS DOES NOT WORK

// EDITED>>
// UTF encodes it as chr(0xC2).chr(0xA0)
$converted = trim($converted,chr(0xC2).chr(0xA0)); // should work

// PS: Thanks to John for saving my sanity!
?>
```



User Contributed Notes 13 notes

ludko2 at gmail dot com

4 years ago

Non-breaking spaces can be troublesome with trim:

```
<?php
// turn some HTML with non-breaking spaces into a "normal" string
$myHTML = "&nbsp;abc";
$converted = strtr($myHTML, array_flip(get_html_translation_table(HTML_ENTITIES, ENT_QUOTES)));

// this WILL NOT work as expected
// $converted will still appear as " abc" in view source
// (but not in od -x)
$converted = trim($converted);
```

Know Your Framework/Library

https://github.com/

Know Your Framework/Library

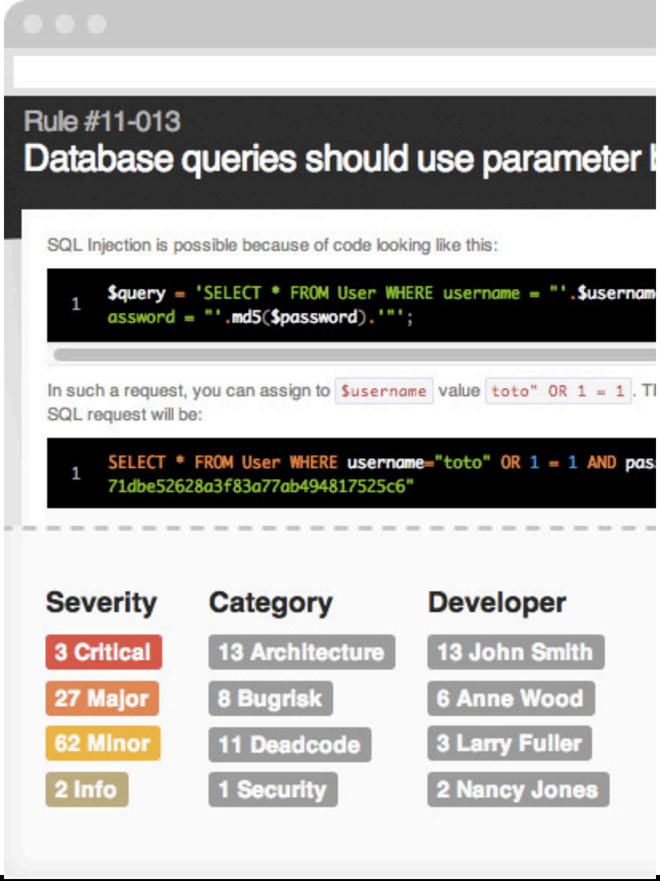
https://github.com/

Contribute!

Checking Code

Sensio Insight
https://insight.sensiolabs.com/

- Free for open source
- Integrated with Git
- Symfony-focused, but works with any PHP code
- Checks PHP, XML, YAML, Twig templates, and Composer dependencies



Rule #11-013
Database queries should use parameter

SQL Injection is possible because of code looking like this:

```
$query = 'SELECT * FROM User WHERE username = "'.$usernam
assword = "'.md5($password).'"';
```

In such a request, you can assign to `$username` value `toto" OR 1 = 1`. Tl
SQL request will be:

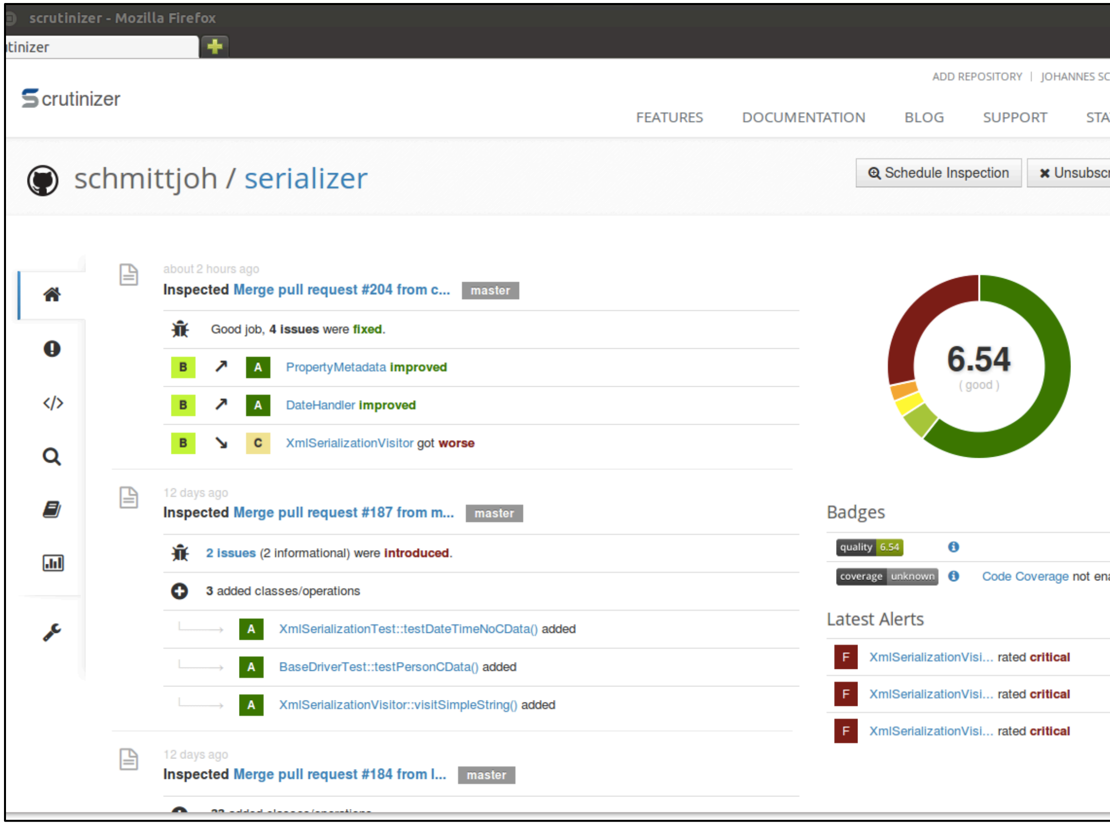
```
SELECT * FROM User WHERE username="toto" OR 1 = 1 AND pas
71dbe52628a3f83a77ab494817525c6"
```

Severity	Category	Developer
3 Critical	13 Architecture	13 John Smith
27 Major	8 Bugrisk	6 Anne Wood
62 Minor	11 Deadcode	3 Larry Fuller
2 Info	1 Security	2 Nancy Jones

Checking Code

Scrutinizer
https://scrutinizer-ci.com/

- Free for open source
- Integrated with Git
- Integrates open source checking tools like PHP_CodeSniffer and PHP Mess Detector
- Checks PHP, Python, and Ruby



schmittjoh / serializer

about 2 hours ago
Inspected Merge pull request #204 from c... master

Good job, 4 issues were fixed.

B ↗ A PropertyMetadata improved

B ↗ A DateHandler improved

B ↘ C XmlSerializationVisitor got worse

12 days ago
Inspected Merge pull request #187 from m... master

2 issues (2 informational) were introduced.

3 added classes/operations

A XmlSerializationTest::testDateTimeNoCData() added

A BaseDriverTest::testPersonCData() added

A XmlSerializationVisitor::visitSimpleString() added

12 days ago
Inspected Merge pull request #184 from l... master

Badges

quality 6.54

coverage unknown Code Coverage not ena

Latest Alerts

F XmlSerializationVisi... rated critical

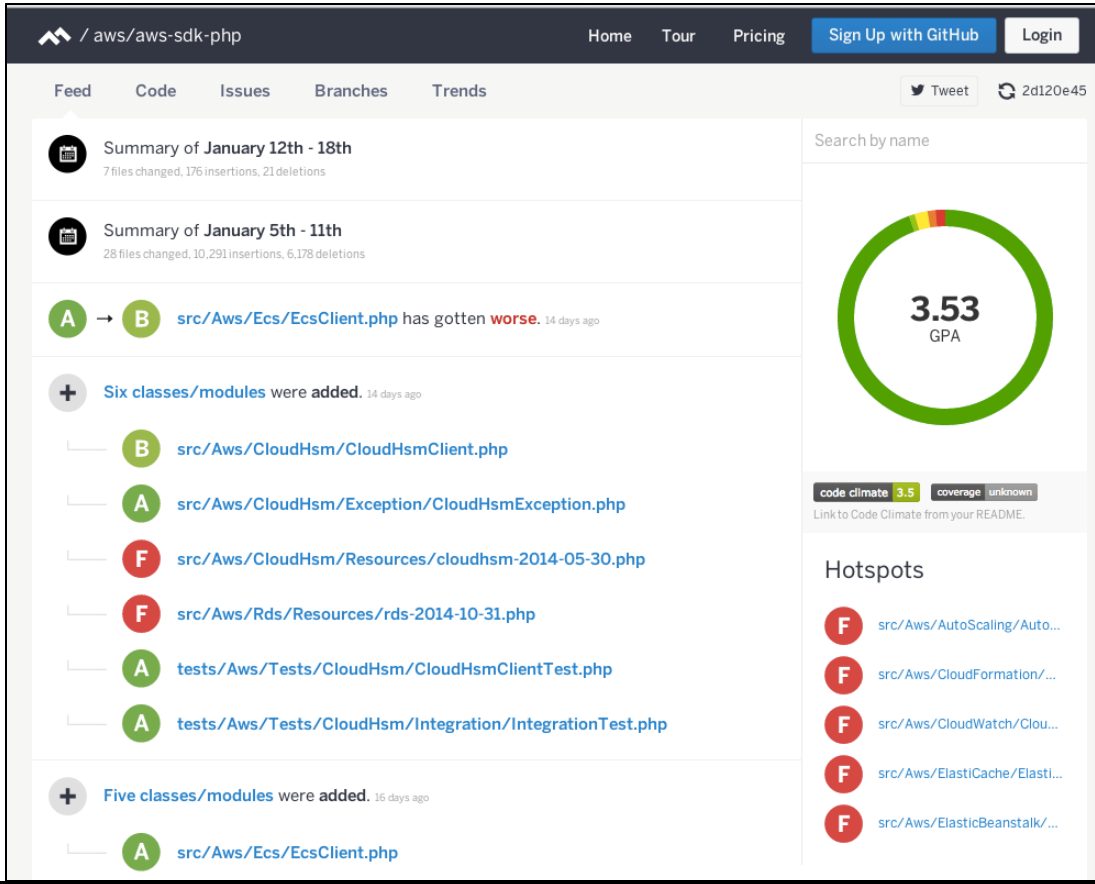
F XmlSerializationVisi... rated critical

F XmlSerializationVisi... rated critical

Checking Code

Code Climate
https://codeclimate.com/

- Free for open source
- Integrated with Git
- Very fast
- Checks PHP, JS, Ruby, and coming soon - Python
- Takes security seriously: codeclimate.com/security



Summary of **January 12th - 18th**
7 files changed, 176 insertions, 21 deletions

Summary of **January 5th - 11th**
28 files changed, 10,291 insertions, 6,178 deletions

A → B src/Aws/Ecs/EcsClient.php has gotten **worse.** 14 days ago

Six classes/modules were **added.** 14 days ago
- B src/Aws/CloudHsm/CloudHsmClient.php
- A src/Aws/CloudHsm/Exception/CloudHsmException.php
- F src/Aws/CloudHsm/Resources/cloudhsm-2014-05-30.php
- F src/Aws/Rds/Resources/rds-2014-10-31.php
- A tests/Aws/Tests/CloudHsm/CloudHsmClientTest.php
- A tests/Aws/Tests/CloudHsm/Integration/IntegrationTest.php

Five classes/modules were **added.** 16 days ago
- A src/Aws/Ecs/EcsClient.php

Link to Code Climate from your README.

Hotspots
- F src/Aws/AutoScaling/Auto...
- F src/Aws/CloudFormation/...
- F src/Aws/CloudWatch/Clou...
- F src/Aws/ElastiCache/Elasti...
- F src/Aws/ElasticBeanstalk/...

Never Stop Learning

Learn by Reading

http://www.phparch.com/magazine/

http://www.phptherightway.com

http://phpdeveloper.org

Learn by Reading

https://leanpub.com

Amazon

Your local library

Learn by Watching

http://nomadphp.com

https://www.youtube.com/user/phpukconference

https://www.youtube.com/user/phpacademy/

http://www.pluralsight.com/

https://www.youtube.com/user/LevelUpTuts

Learn by Instruction

http://www.phparch.com/training/

http://www.zend.com/services/training

http://www.codecademy.com/en/tracks/php

Learn by Listening

http://devhell.info

http://looselycoupled.info

http://phptownhall.com

http://thatpodcast.io

Learn by Practicing

https://laracasts.com/series/code-katas-in-php

http://codingdojo.org/cgi-bin/index.pl?KataCatalogue

http://phpcodepad.com

Learn by Email

http://securingphp.com

http://www.phpweekly.com

Learn by Hanging Out

Freenode

https://webchat.freenode.net

#phpc
#phpwomen
#phpmentoring

Learn by…

Learn by…

Mentoring

Find a Mentor

http://phpmentoring.org

http://www.slideshare.net
http://www.joind.in
http://php.net/conferences/
http://nocapes.net
http://voicesoftheelephpant.com

Find an Apprentice

http://phpmentoring.org

IRC Channels

Stack Overflow

Reddit

User Groups

http://php.ug

http://php.net/cal.php

http://www.meetup.com

User Groups

If there's not one near you, start one!

(and ask me to help)

Speak!

http://rosstuck.com/tips-on-speaking/

http://matthewturland.com/2014/07/15/speaking-resources/

http://afilina.com/re-how-to-submit-to-conf/

http://www.alittleofboth.com/2014/01/how-to-submit-a-talk-to-a-conference/

Speak!

http://php.net/conferences

http://joind.in/event/callforpapers

https://twitter.com/callbackwomen

Resources

- http://teamtreehouse.com/library/standards-and-best-practices
- http://code.tutsplus.com/tutorials/30-php-best-practices-for-beginners--net-6194
- https://www.airpair.com/php/posts/best-practices-for-modern-php-development
- https://phpbestpractices.org/
- https://www.corephp.com/blog/php-best-practices-that-you-must-follow/
- http://www.phpbuilder.com/articles/application-architecture/optimization/explore-the-top-11-php-best-practices.html
- http://pear.php.net/manual/en/standards.bestpractices.php
- http://www.sitepoint.com/php-tips-resources-best-practices-2015/

Final Thoughts

Bold coding is, of course, about knowledge and skill, but more importantly, it's about being active:

Actively Learning

Actively Participating

Actively Improving

Find Me

- Twitter: e3betht
- Madison PHP User Group (Meetup) http://www.madisonphp.com
- Slides Available on: http://www.TreelineDesign.com/slides

Feedback

https://joind.in/13386

E-mail:
Beth@CodeClimate.com