



# Extension Development

## The cloud is the limit!



- **Introduction**
- **Extension Development**
- **Travis CI**
- **Scrutinizer**
- **Examples**



## Tomas Norre Mikkelsen

- 35 Years
- TYPO3 - 2004 (Version: 3.6)
- AOE - June 2013
- TYPO3.org, Crawler, PHPUnit
- Golf, #t3runners
- @tomasnorre 





**Some people might think that  
extension development is hard,  
but it does not need to be!**



# Working with Open Source



- Pull request (patches)
- Code Reviews
- Code Tests / Validation



# Toolset



- PHP Unit (Unit / Functional tests)
- PHP Linting
- JavaScript Linting
- TypoScript Linting
- XML Linting





# Developers are lazy



# How can this be solved?



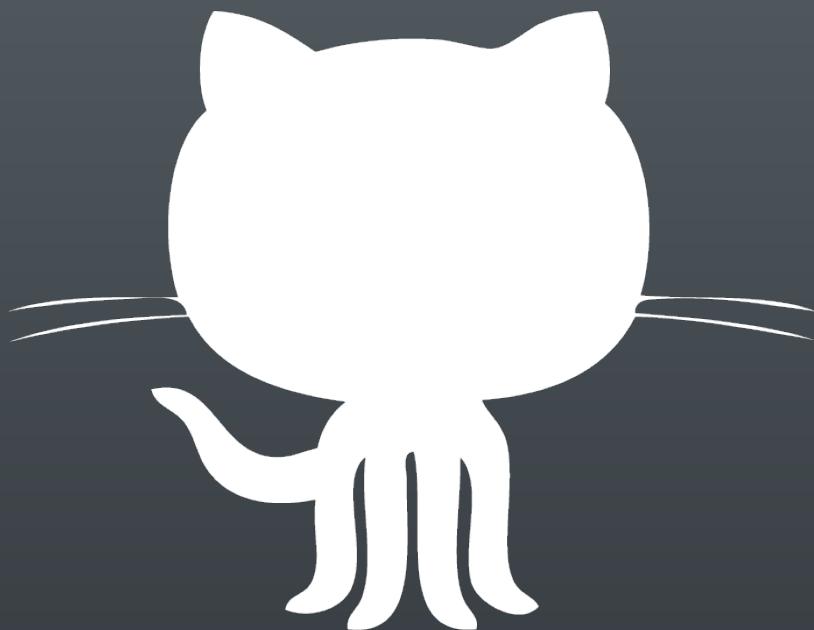
**Client-specific  
Extensions**



**Open Source  
Extensions**



# The benefits of using Github



- “All” have an account
- Public code
- Pull requests
- Get feedback
- Issue tracking
- Wiki page
- Travis CI integration (free)
- Scrutinizer integration (free)



# Travis





# Tomas Norre Mikkelsen

Sync

last synced less than a minute ago

We're only showing your public repositories. You can find your private projects on [travis-ci.com](https://travis-ci.com).



1

Flick the repository  
switch on



2

Add .travis.yml file to  
your repository



3

Trigger your first build  
with a git push



tomasnorre/alfredworkflows



tomasnorre/blog-flow-app

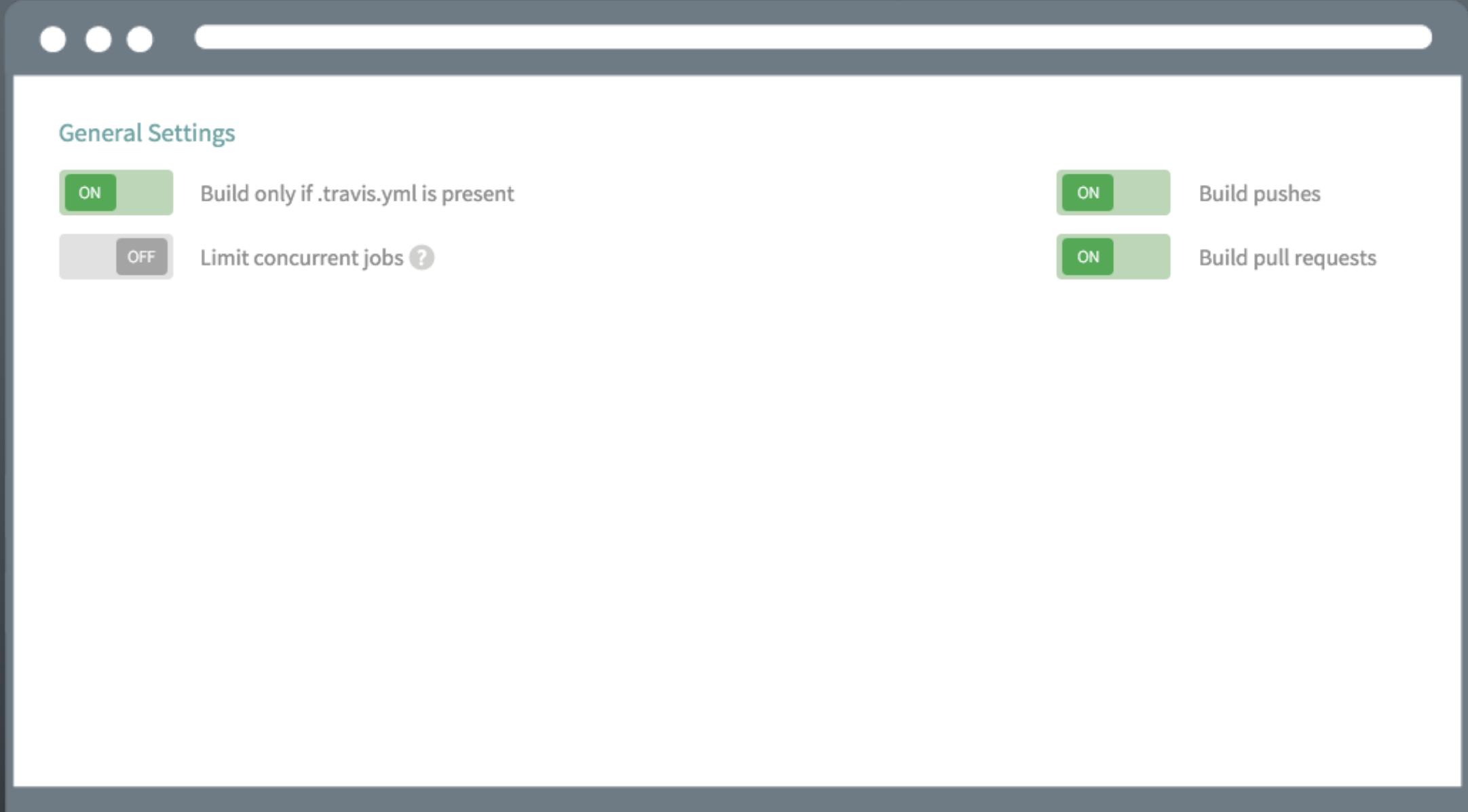


tomasnorre/blog-flow-base



tomasnorre/chef-pptpd\_vpn





tomasnorre / t3ee\_example   build error

Current Branches Build History Pull Requests > Build #93

master Updated README.md

 Tomas Norre Mikkelsen authored and committed

# 93 started  
Commit bb41e35  
Compare 39e84ea..bb41e35  
running for 4 min 14 sec  
 -

Build Jobs

 # 93.1		</> PHP: 5.4	 TYPO3_VERSION=6.2.15 COVERAGE=0	 2 min 3 sec
 # 93.2		</> PHP: 5.5	 TYPO3_VERSION=6.2.15 COVERAGE=0	 1 min 49 sec
 # 93.3		</> PHP: 5.5	 TYPO3_VERSION=7.5.0 COVERAGE=0	 1 min 31 sec

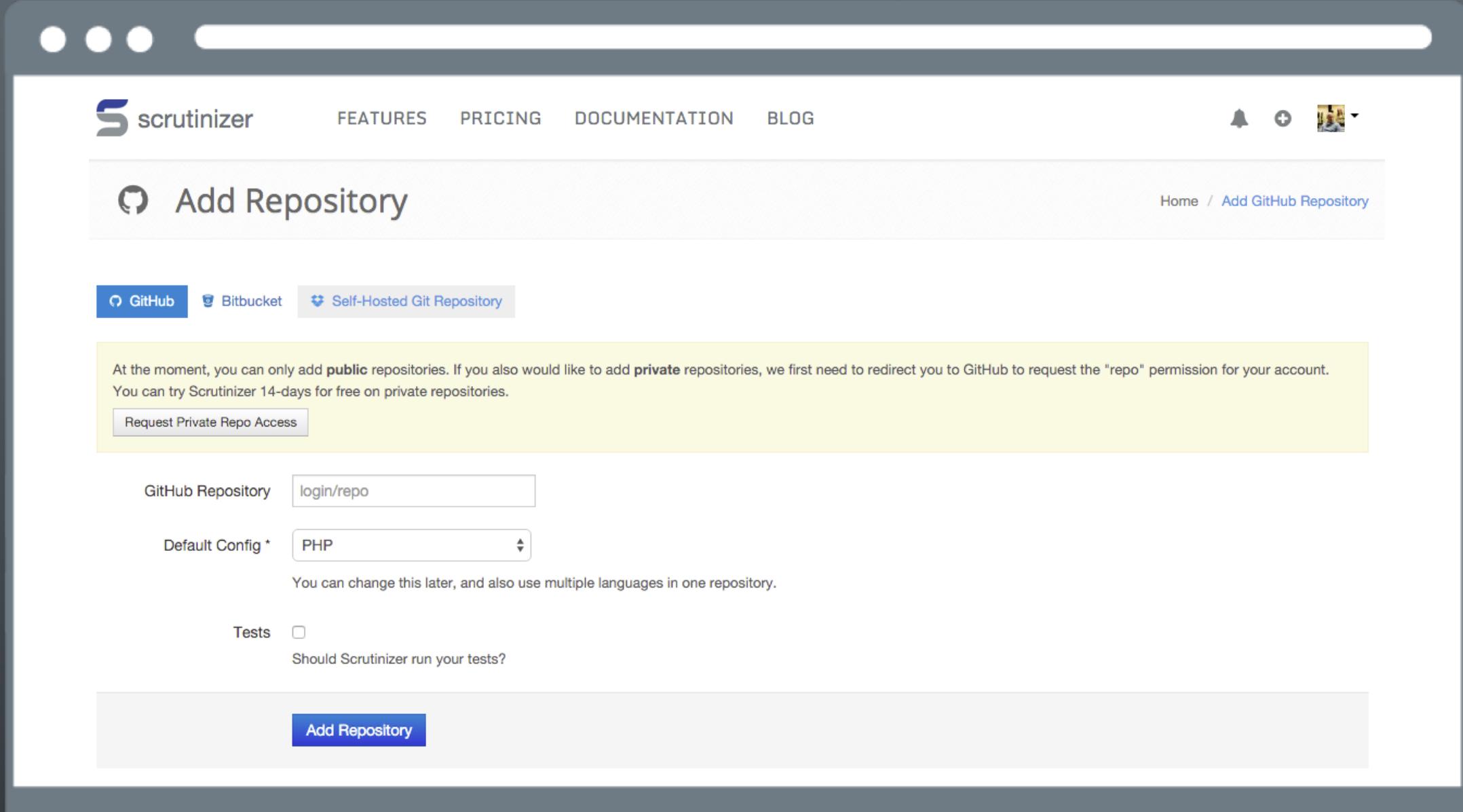


```
▶ 152 $ composer self-update
▶ 156 $ composer --version
▼ 158 $ composer require typo3/cms=$TYPO3_VERSION
159 ./composer.json has been updated
160 Loading composer repositories with package information
161 Updating dependencies (including require-dev)
162   - Installing typo3/cms-composer-installers (1.1.4)
163     Loading from cache
164
165   - Installing helhum/class-alias-loader (1.1.5)
166     Loading from cache
167
168   - Installing typo3/cms (6.2.15)
169     Loading from cache
170
171   - Installing sebastian/version (1.0.6)
172     Loading from cache
```



# Scrutinizer CI





The screenshot shows the Scrutinizer web interface for adding a new repository. At the top, there's a navigation bar with three dots on the left, followed by the Scrutinizer logo and the word "scrutinizer". The menu items include FEATURES, PRICING, DOCUMENTATION, and BLOG. On the right side of the header are icons for notifications, a plus sign, and a user profile.

## Add Repository

Home / Add GitHub Repository

GitHub Bitbucket Self-Hosted Git Repository

At the moment, you can only add **public** repositories. If you also would like to add **private** repositories, we first need to redirect you to GitHub to request the "repo" permission for your account. You can try Scrutinizer 14-days for free on private repositories.

[Request Private Repo Access](#)

GitHub Repository

Default Config \*

You can change this later, and also use multiple languages in one repository.

Tests  Should Scrutinizer run your tests?

[Add Repository](#)



• • •

# tomasnorre / t3ee\_example

5 days ago  
[Inspected Merge pull request #3 from tom...](#)

5 new patches (Indentation) are available.

2 added classes/operations

TalkRepository::initializeObject() added

SpeakerRepository::initializeObject() added

15 days ago  
[Inspected \[CGL\] Removed a space between...](#)

1 new patch (Indentation) is available.

15 days ago  
[Inspected \[CGL\] Added spaces after class...](#)

2 new patches (Indentation, Spacing) are available.

Badges

Scrutinizer 10.00

coverage 100 %

build passed

Latest Alerts

Good job, no alerts here.



Completed Push – bb41e3...ca2e9d passed – Build

Summary Code Patches 7 Log

Status

All Patches 7

New 0

Category

Indentation 7

Classes/Controller/TalkController.php 1 patch

Indentation +12 added lines, -12 removed lines

```
@@ -7,17 +7,17 @@
 7 7   */
 8 8 class TalkController extends \TYPO3\CMS\Extbase\Mvc\Controller\ActionC
 9 9
10 -    /**
11 -     * @var \TNM\T3eeExample\Domain\Repository\TalkRepository
12 -     * @inject
13 -     */
14 -    protected $talkRepository;
10 +    /**
11 +     * @var \TNM\T3eeExample\Domain\Repository\TalkRepository
12 +     * @inject
13 +     */
14 +    protected $talkRepository;
```



# How to use it?

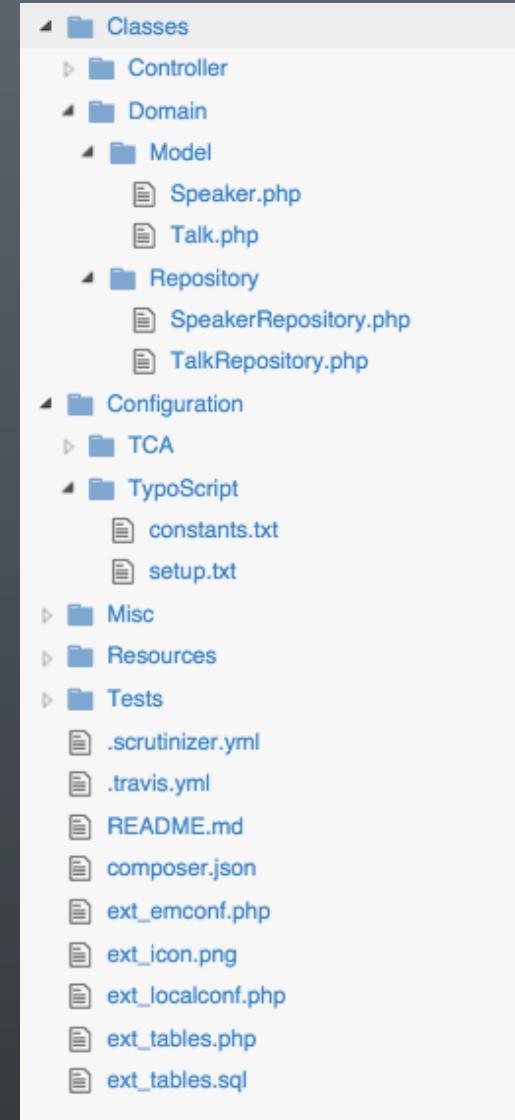


# Extension t3ee\_example



[https://github.com/tomasnorre/t3ee\\_example](https://github.com/tomasnorre/t3ee_example)

- Simple Domain Model
- Unit / Functional Test Coverage
- Xliff, TypoScript, JavaScript
- Travis CI
- Scrutinizer



# Version Metrics

PHP/ TYPO3	6.2.15	7.6 (LTS)	dev-master
5.4	x	-	-
5.5	x	x (c)	?
5.6	x	x	?
7.0	?	?	?
hhvm	x	x	?



Build Jobs				
✓	# 97.1		</> PHP: 5.4	TYPO3_VERSION=6.2.15 COVERAGE=0 <span>⌚ 1 min 17 sec</span>
✓	# 97.2		</> PHP: 5.5	TYPO3_VERSION=6.2.15 COVERAGE=0 <span>⌚ 1 min 30 sec</span>
✓	# 97.3		</> PHP: 5.5	TYPO3_VERSION=7.6 COVERAGE=0 <span>⌚ 1 min 35 sec</span>
✓	# 97.5		</> PHP: 5.6	TYPO3_VERSION=6.2.15 COVERAGE=0 <span>⌚ 1 min 22 sec</span>
✓	# 97.6		</> PHP: 5.6	TYPO3_VERSION=7.6 COVERAGE=0 <span>⌚ 48 sec</span>
✓	# 97.11		</> PHP: hhvm	TYPO3_VERSION=6.2.15 COVERAGE=0 <span>⌚ 2 min 35 sec</span>
✓	# 97.12		</> PHP: hhvm	TYPO3_VERSION=7.6 COVERAGE=0 <span>⌚ 1 min 50 sec</span>
✓	# 97.14		</> PHP: 5.5	TYPO3_VERSION=7.6 COVERAGE=1 <span>⌚ 2 min 29 sec</span>



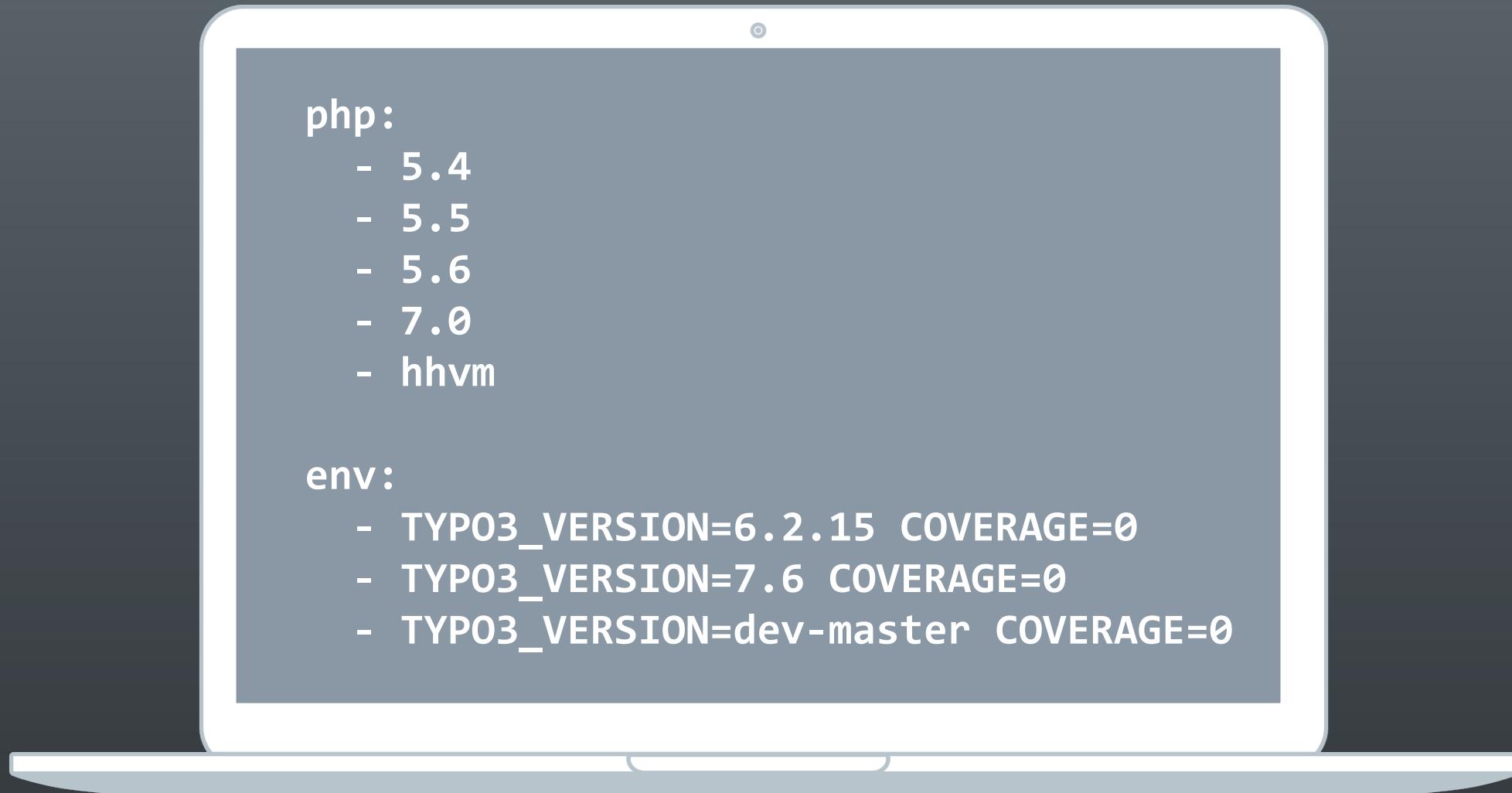
Allowed Failures				
✓	# 97.4	 </> PHP: 5.5	 TYPO3_VERSION=dev-master COVERAGE=0	⌚ 1 min 37 sec
✓	# 97.7	 </> PHP: 5.6	 TYPO3_VERSION=dev-master COVERAGE=0	⌚ 1 min 13 sec
✓	# 97.8	 </> PHP: 7	 TYPO3_VERSION=6.2.15 COVERAGE=0	⌚ 1 min 39 sec
✓	# 97.9	 </> PHP: 7	 TYPO3_VERSION=7.6 COVERAGE=0	⌚ 1 min 13 sec
✓	# 97.10	 </> PHP: 7	 TYPO3_VERSION=dev-master COVERAGE=0	⌚ 1 min 41 sec
✓	# 97.13	 </> PHP: hhvm	 TYPO3_VERSION=dev-master COVERAGE=0	⌚ 1 min 53 sec



# .travis.yml



# Which versions to use?



# Exclude/Include matrix

```
matrix:  
  exclude:  
    - env: TYPO3_VERSION=7.6 COVERAGE=0  
      php: 5.4  
    - env: TYPO3_VERSION=dev-master COVERAGE=0  
      php: 5.4  
  include:  
    - php: 5.5  
      env: TYPO3_VERSION=7.6 COVERAGE=1  
  allow_failures:  
    - env: TYPO3_VERSION=dev-master COVERAGE=0  
    - php: 7.0
```



# What do we need to run the planned test? 1/3

```
addons:  
  apt:  
    packages:  
      - parallel  
      - libxml2-utils  
      - nodejs  
      - npm  
  cache:  
    directories:  
      - $HOME/.composer/cache  
  
before_install:  
  - composer self-update  
  - composer --version
```



# What do we need to run the planned test? 2/3

```
before_script:  
- composer require typo3/cms=$TYPO3_VERSION  
# Install TypoScript Linter  
- mkdir -p scripts  
- cd scripts  
- git clone https://github.com/tomasnorre/  
typo3-typoscript-lint.git tslint  
- cd tslint  
- composer install  
- cd ../../  
# Restore composer.json  
- git checkout composer.json  
- export TYPO3_PATH_WEB=$PWD/.Build/Web
```



# What do we need to run the planned test? 3/3

```
# Before-script continued  
# Locating UnitTests.xml  
- export "UNIT_XML"=`find . -name  
'UnitTests.xml' -type f`  
# Location FunctionalTests.xml  
- export "FUNCTIONAL_XML"=`find . -name  
'FunctionalTests.xml' -type f`
```



# Still awake?



# Linting | Xliff

```
echo;  
echo "Running xmllint (Xliff)";  
find Resources/Private/Language/ -name '*.xlf'  
-type f | xargs xmllint --noout --schema Misc/  
Validation/Xliff.xsd
```

```
352 Running xmllint (Xliff)  
353 Warning: program compiled against libxml 208 using older 207  
354 Resources/Private/Language/Backend/Locallang_db.xlf validates  
355 Resources/Private/Language/Backend/Tca.xlf validates  
356  
357 The command "echo; echo "Running xmllint (Xliff)"; find Resources/Private/Language/ -name '*.xlf' -type f |  
xargs xmllint --noout --schema Misc/Validation/Xliff.xsd  
358 " exited with 0.
```



# Linting | PHP

```
echo;
echo "Running php lint";
find . -name \*.php ! -path "./.Build/*" ! -
path "./scripts/*" ! -path "./typo3_src/*" |
parallel --gnu php -d display_errors=stderr -l
{} > /dev/null \;
```

```
362 Running php lint
363
364 The command "echo; echo "Running php lint"; find . -name \*.php ! -path "./.Build/*" ! -path "./scripts/*" !
-path "./typo3_src/*" | parallel --gnu php -d display_errors=stderr -l {} > /dev/null \;
365 " exited with 0.
```



# Linting | JavaScript

```
echo;
echo "Running JavaScript lint";
npm install -g jslint;
find Resources/Public/JavaScript/ -name '*.js'
-type f | xargs jslint
```

```
369 Running JavaScript lint
370 -e/travis/.nvm/v0.10.36/bin/jslint -> /home/travis/.nvm/v0.10.36/lib/node_modules/jslint/bin/jslint.js
371 jslint@0.9.5 /home/travis/.nvm/v0.10.36/lib/node_modules/jslint
372 └── exit@0.1.2
373 ├── nopt@3.0.4 (abbrev@1.0.7)
374 └── readable-stream@1.0.33 (inherits@2.0.1, isarray@0.0.1, string_decoder@0.10.31, core-util-is@1.0.1)
375   └── glob@4.5.3 (inherits@2.0.1, once@1.3.2, inflight@1.0.4, minimatch@2.0.10)
376
377 Resources/Public/JavaScript/example.js is OK.
378
379 The command "echo; echo "Running JavaScript lint"; npm install -g jslint; find Resources/Public/JavaScript/
  -name '*.js' -type f | xargs jslint
380 " exited with 0.
```



# Linting | TypoScript

```
384 Running TypoScript lint
385 Linting input file Configuration/TypoScript/constants.txt.
386 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\IndentationSniff.
387 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\DeadCodeSniff.
388 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\OperatorWhitespaceSniff.
389 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\RepeatingRValueSniff.
390 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\DuplicateAssignmentSniff.
391 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\NestingConsistencySniff.
392 Linting input file Configuration/TypoScript/setup.txt.
393 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\IndentationSniff.
394 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\DeadCodeSniff.
395 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\OperatorWhitespaceSniff.
396 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\RepeatingRValueSniff.
397 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\DuplicateAssignmentSniff.
398 => Executing sniff Helmich\TypoScriptLint\Linter\Sniff\NestingConsistencySniff.
399
400 CHECKSTYLE REPORT
401
402 SUMMARY
403 0 warnings in total.
404
405 The command "echo; echo "Running TypoScript lint"; find Configuration/TypoScript/ -name '*.txt' -type f |
        xargs scripts/tslint./tslint -e -c Misc/Validation/tslint.yml
406 " exited with 0.
```



# Dreaming?



# PHPUnit (Unit)

```
if [[ "$COVERAGE" == "1" ]]; then
    echo;
    echo "Running unit tests";
    .Build/bin/phpunit
        --coverage-clover=unittest-coverage.clover
        --colors -c $UNIT_XML Tests/Unit/
fi
```



# PHPUnit (Functional)

```
if [[ "$COVERAGE" == "1" ]]; then
    echo;
    echo "Running functional tests";
    export typo3DatabaseName="typo3";
    export typo3DatabaseHost="localhost";
    export typo3DatabaseUsername="root";
    export typo3DatabasePassword="";
    find 'Tests/Functional' -wholename '*Test.php' |
        parallel --gnu 'echo; echo "Running functional test
        suite {}"; .Build/bin/phpunit --coverage-clover={}
        functionaltest-coverage.clover --colors  -c
        $FUNCTIONAL_XML {}'
fi
```



# Scrutinizer Upload

```
if [[ "$COVERAGE" == "1" ]]; then
    echo;
    echo "Uploading code coverage results";
    wget https://scrutinizer-ci.com/ocular.phar
    php ocular.phar code-coverage:upload --
        format=php-clover unittest-coverage.clover
        find 'Tests/Functional' -wholename '*Test.php'
        -exec php ocular.phar code-coverage:upload --
            format=php-clover {}functionaltest-
            coverage.clover \;
fi
```



# .scrutinizer.yml



# Scrutinizer (.scrutinizer.yml)

```
tools:  
    external_code_coverage:  
        timeout: 700  
        runs: 1  
    php_code_sniffer:  
        enabled: true  
        config:  
            standard: TYPO3CMS  
    php_cs_fixer:  
        enabled: true  
    php_mess_detector:  
        enabled: true  
        config:  
            controversial_rules:  
                superglobals: false
```



The screenshot shows a GitHub repository page for 't3ee\_example'. The repository has a single commit from 'tomasnorre' that updated 'README.md'. Below the commit, there is a list of files and their status: 'Classes' (TASK), 'Configuration' (TASK), 'Misc/Validation' (TASK), 'Resources' (TASK), 'Tests' (TASK), '.scrutinizer.yml' (TASK), '.travis.yml' (TASK), 'README.md' (Updated), 'composer.json' (TASK), 'ext\_emconf.php' (TASK), 'ext\_icon.png' (TASK), 'ext\_localconf.php' (TASK), 'ext\_tables.php' (TASK), and 'ext\_tables.sql' (TASK). At the bottom of the page, there is a section titled 't3ee\_example' with build status indicators for 'build' (passing), 'Scrutinizer' (10.00), and 'coverage' (100%). A note states: 'This is a small example "extension", for demostration of the possibilities with Travis CI and Scrutinizer.'

Branch: master / t3ee\_example / +

tomasnorre Updated README.md Latest commit bb41e35 30 minutes ago

Classes [TASK] Setup frontend rendering etc. 5 days ago

Configuration [TASK] Setup frontend rendering etc. 5 days ago

Misc/Validation [TASK] Add TypoScript Linting 12 days ago

Resources [TASK] Setup frontend rendering etc. 5 days ago

Tests [TASK] Setup frontend rendering etc. 5 days ago

.scrutinizer.yml [TASK] Setting up the initials for the extension and Travis-CI 15 days ago

.travis.yml [TASK] Setup frontend rendering etc. 5 days ago

README.md Updated README.md 30 minutes ago

composer.json [TASK] Changed composer Dependencies from typo3/cms-core to typo3/cms 15 days ago

ext\_emconf.php [TASK] Setting up the initials for the extension and Travis-CI 15 days ago

ext\_icon.png [TASK] Setting up the initials for the extension and Travis-CI 15 days ago

ext\_localconf.php [TASK] Setup frontend rendering etc. 5 days ago

ext\_tables.php [TASK] Setup frontend rendering etc. 5 days ago

ext\_tables.sql [TASK] Setup frontend rendering etc. 5 days ago

README.md

## t3ee\_example

build passing Scrutinizer 10.00 coverage 100 %

This is a small example "extension", for demostration of the possibilities with Travis CI and Scrutinizer.



... ● ●

# [TASK] Updated .travis.yml to TYPO3 7 LTS #5

[Open](#) tomasnorre wants to merge 1 commit into `master` from `TYPO37LTS`

Conversation 0 Commits 1 Files changed 1

tomasnorre commented 18 minutes ago

No description provided.

Owner

[TASK] Updated .travis.yml to TYPO3 7 LTS ✓ d84bb44

Add more commits by pushing to the `TYPO37LTS` branch on [tomasnorre/t3ee\\_example](#).

All checks have passed

3 successful checks

Hide all checks

✓ Scrutinizer — No new issues Details

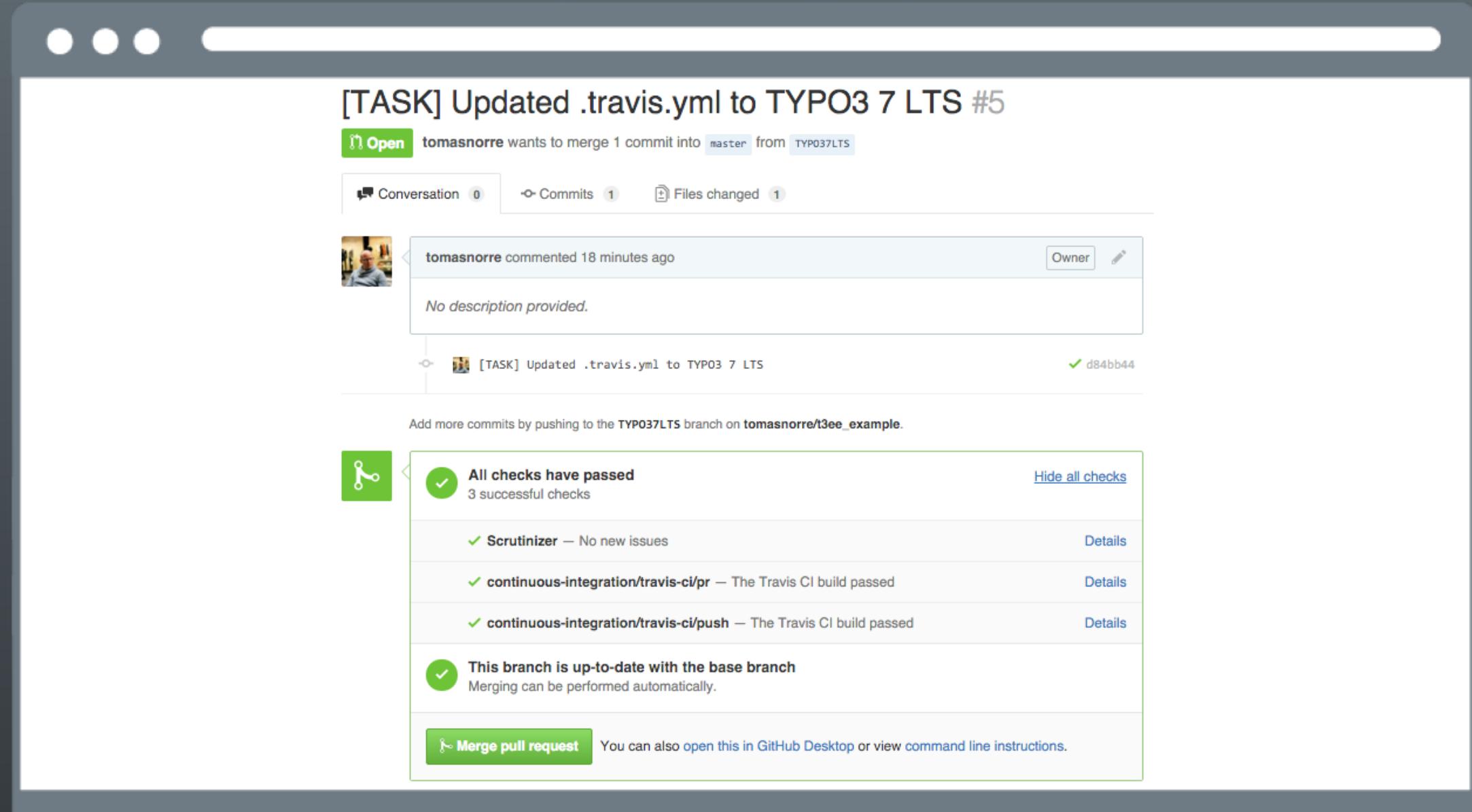
✓ continuous-integration/travis-ci/pr — The Travis CI build passed Details

✓ continuous-integration/travis-ci/push — The Travis CI build passed Details

This branch is up-to-date with the base branch

Merging can be performed automatically.

Merge pull request You can also open this in GitHub Desktop or view command line instructions.



# Test coverage





The cloud  
is the limit!



# Questions?



@tomasnorre



tomas.mikkelsen@aoe.com



# Links

- [https://github.com/tomasnorre/t3ee\\_example](https://github.com/tomasnorre/t3ee_example)
- <https://travis-ci.org/>
- <https://scrutinizer-ci.com/>
- <https://github.com/tomasnorre/typo3-typoscript-lint>

Done by: Martin Helmich

