Continuous Integration with GitLab

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Topic

1 Introduction

2 Gitlab and Pages

3 Pratical session
Continuous Integration

Automatic execution at (nearly) each commit

- for tests
- for distribution/package generation
- for documentation generation
- for website generation
Various CI plateforms

<table>
<thead>
<tr>
<th>travis</th>
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<tbody>
<tr>
<td>• independant software</td>
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<tr>
<td>• works with svn/git/...</td>
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<tr>
<td>• need configuration</td>
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<tr>
<td>• travis.org linked with github</td>
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<td>• easy config in this case</td>
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<table>
<thead>
<tr>
<th>pages extension of gitlab</th>
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<tbody>
<tr>
<td>• linked to gitlab</td>
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<tr>
<td>• config integrated with gitlab</td>
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### Results of CI

**travis**

- commit results in (other) branch
- display all kind of results
  - website
  - stats/evolution of tests results
    - support for CTest and other test frameworks
  - ...

**pages**

- initially dedicated to website management
- a sub-directory will be published 'as-is' on a website
- mail/notification if the build fails
1 Introduction

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3 Pratical session
CI with pages

A config file

- by default `./.gitlab-ci.yml`
- various info:
  - docker image used to build
  - commands to run
  - directory to publish
  - branches to track

Builder(s)

- machines used to run build
- on gricad-gitlab, one global builder
  - one can setup builder per group or per project
Which docker image?

- avoid the default image (can depends on the builder used)
- for now, any image in docker repo can be used
- some available images I used:
  - vdanjean/web-org: Make, emacs + org-mode, etc.
    - for basic static website
  - monachus/hugo: Hugo software (more later)
    - for more complex static website
  - vdanjean/autotools: autotools, C++ compilers, \LaTeX, etc.
    - for C/C++ software build and tests
Websites with pages

URLs

- https://‘group’ .gricad-pages.univ-grenoble-alpes.fr/project
- no support (yet) for subgroup in gitlab
  - bug opened for a long time...
- gricaad disabled the possibility to publish in other domains
- projects with ‘group‘ .gricad-pages.univ-grenoble-alpes.fr name in group ‘group‘ will be published under https://‘group‘ .gricad-pages.univ-grenoble-alpes.fr/
Simple static website

A plain org-mode file as sources

- only one HTML page generated
  - (multi pages with more complex config)
- enough for most teaching websites

What to rebuild

- should PDF of TP rebuild at each commit?
- if not, where/how to commit PDF?
- if yes, how to recover the (old) state of the website?
1 Introduction

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3 Practical session
Goal: setup a minimal website with Gitlab-pages

- org-mode based (otherwise Arnaud will expell me)
- Basic example site with read-the-doc style
  https://gricad-gitlab.univ-grenoble-alpes.fr/danjeanv/basic-org-website.git
- multipage website based on Hugo