

Contribute with GitLab

SA2 team
(Software Automation Architecture)

February 2018



AGENDA



- Introduction 00'10
- Concepts 00'30
- Existing workflows 00'30
- Our workflow 00'20
- Training 01'30



Contribute with GitLab

Introduction

Introduction

Contribute with GitLab

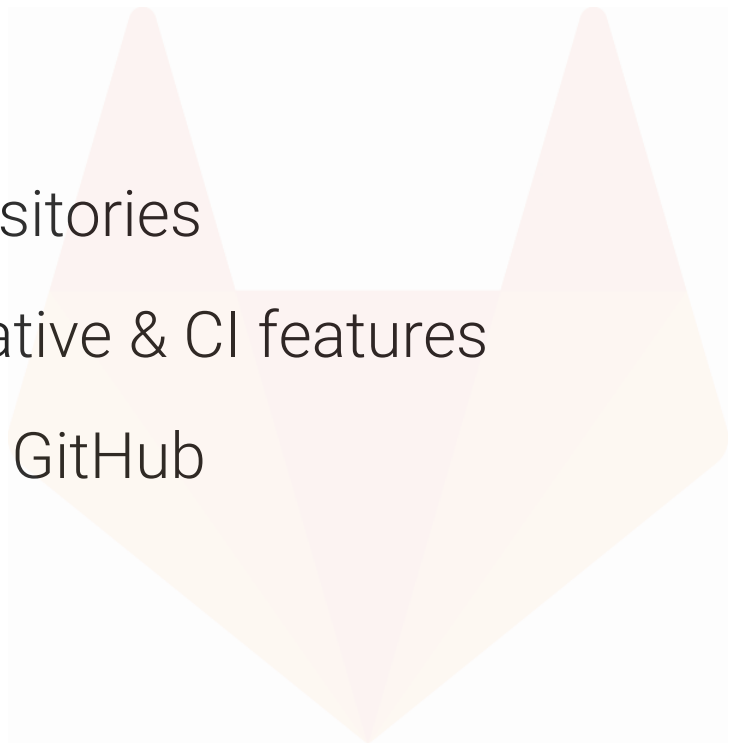
- Git
- GitLab
- A contribution workflow



Introduction

GitLab

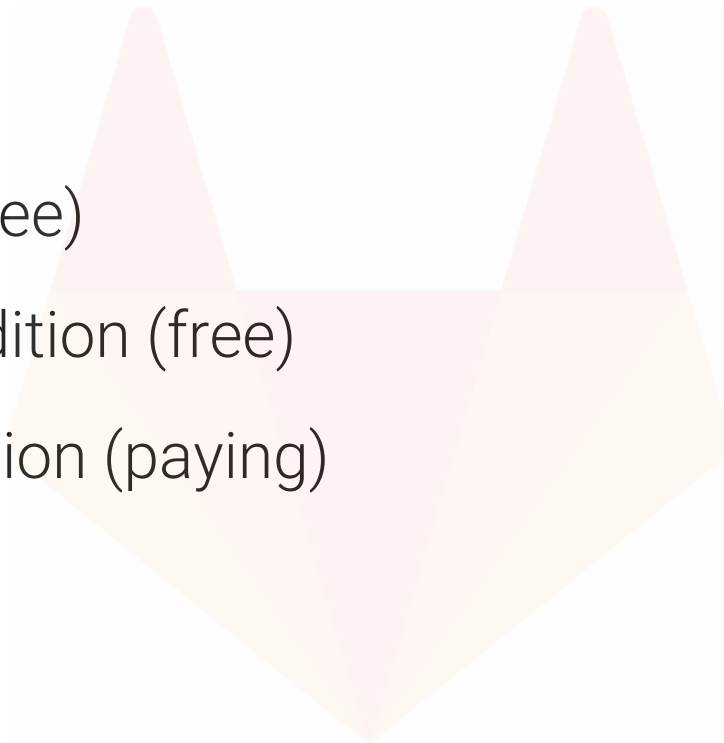
- Hosts Git repositories
- Adds collaborative & CI features
- Very similar to GitHub
- Open source



Introduction

GitLab

- GitLab.com (free)
- Community Edition (free)
- Enterprise Edition (paying)



Introduction

Contribution workflow

- Set of common rules and good practices
- Define one that **everyone agree with**
- Identify problems and questions before merging



Contribute with GitLab

Concepts

Concepts



Project

Project

- Git repository + collaborative data
- Private, internal or public
- Owned by a group or a user



sopra-banking-software / sopra-banking-framework



Tournie Stephane / sopra-banking-framework

Project

Files explorer

Example:

<https://slnxvmeta5.ancy.fr.sopra/sopra-banking-software/sopra-banking-framework>

The screenshot shows the GitLab interface for the 'sopra-banking-framework' repository. The left sidebar contains navigation links: Overview, Details, Activity, Cycle Analytics, Repository, Merge Requests (13), CI / CD, Snippets, and Members. The main content area displays the repository details, including the repository name, star/fork counts, SSH URL, and a list of files and commits. A recent merge request is highlighted, showing the merge of 'mnt-fix-clean-some-responsive-component' into 'master' by Peydiere Antoine.

Repository Details:

- Repository: sopra-banking-framework
- Stars: 5
- Forks: 16
- SSH URL: ssh://git@slnxvmeta5.ancy.fr.sopra

Files (200 MB):

Name	Last commit	Last update
.gitlab/merge_request_templates	[GitLab] Remove Primefaces 6 GitLab template	5 days ago
doc	Generation Code Manual	4 years ago
image	deploying responsive showcase at each commit pu...	a week ago
sf-x86_64	Workstation - Updating to 1.6.2 + Webexchange +...	3 months ago
workspace	Merge branch 'mnt-fix-clean-some-responsive-co...	4 days ago
.dockerignore	updating Gitlab CI to use base JBoss image & crea...	6 months ago

Recent Merge Request:

- Merge branch 'mnt-fix-clean-some-responsive-component' into 'master' (c1b62f6b)
- Author: Peydiere Antoine
- Authored: 4 days ago

Project

Commits view

Example:

<https://slnxvmeta5.ancy.fr/sopra/sopra-banking-software/sopra-banking-framework/commits/master>

The screenshot shows the Git repository interface for 'sopra-banking-framework'. The left sidebar contains navigation links: Overview, Repository, Commits (selected), Branches, Tags, Contributors, Graph, Compare, Charts, Merge Requests (13), CI / CD, Snippets, and Members. The main content area displays a list of commits for the 'master' branch. The commits are grouped by date: 01 Feb, 2018 (6 commits) and 31 Jan, 2018 (18 commits). Each commit entry includes a commit icon, a title, the author's name, the time since the commit, a status icon (green checkmark for merge, red eye for fix), a commit hash, a file icon, and a 'Browse Files' button.

Date	Commit Title	Author	Time	Status	Hash	Files	Action
01 Feb, 2018	Merge branch 'mnt-fix-clean-some-responsive-component' into 'master'	Peydiere Antoine	4 days ago	✓	c1b62f6b	1	Browse Files
	Merge branch '4615' into 'master'	Fernandes Damien	4 days ago	✓	970c9a07	1	Browse Files
	[MNT] Fix Scss cleanup for migrated components + move Chart & loading spinner to...	Pollet Quentin	4 days ago	👁	00edbe4a	1	Browse Files
	Merge branch 'TECARCH_IRM-4772' into 'master'	Fernandes Damien	4 days ago	✓	578b20cb	1	Browse Files
	Merge branch 'MNT-fix-formItem-look' into 'master'	Pollet Quentin	4 days ago	✓	823ce4ea	1	Browse Files
	Merge branch 'TECARCH_IRM-4893-commandLink' into 'master'	Pollet Quentin	4 days ago	✓	ab92d153	1	Browse Files
31 Jan, 2018	[MNT] fix design in classic	Peydiere Antoine	4 days ago		0d5f8341	1	Browse Files
	[MNT] Selenium Test and refactor	Fauchart Lionel	4 days ago		c2932897	1	Browse Files
	[TECARCH_IRM-4893] Responsive - CommandLink	Fauchart Lionel	5 days ago		3f444087	1	Browse Files
	* TECARCH_IRM-4772 : Batch Reporting: New version of the CRT				4c84f4b2	1	Browse Files

Project

Branches view / compare

Example:

<https://slnxvmeta5.ancy.fr/sopra/sopra-banking-software/sopra-banking-framework/compare/1.15.1...1.15.2>

The screenshot displays the GitHub interface for the 'sopra-banking-framework' repository. The left sidebar shows the repository navigation menu with 'Compare' selected. The main content area shows a comparison between versions 1.15.2 (Source) and 1.15.1 (Target). Below the comparison header, a list of 14 commits is shown, including release preparation, bug fixes, and merges. The bottom section shows a diff view of a file, highlighting changes in the 'bannerTitle' and 'comment' fields.

GitLab Projects Groups Activity Milestones Snippets

sopra-banking-framework

Overview Repository Files Commits Branches Tags Contributors Graph Compare Charts Merge Requests 13 Snippets Members

sopra-banking-software > sopra-banking-framework > Compare Revisions > 1.15.1...1.15.2

Source 1.15.2 Target 1.15.1 Compare

Commits (14)

- [RELEASE]prepare for next development iteration f302e003 jenkins authored a month ago
- [JIRA:TECARCH_IRM-4853] JSF - FileUpload simple doesn't work on WKS 30aa82ce Silva Raul authored a month ago
- Merge branch 'JIRA-4853' into 'master' 86ae6797 Pollet Quentin authored a month ago
- [TECARCH_IRM-4846] JSF - Showcase precision on DateField component 407b6677 Pollet Quentin authored a month ago
- [RELEASE]prepare release 1.15.2 c182d02d jenkins authored a month ago

workspace/sopra-banking-framework-superpom/sopra-banking-framework/sopra-banking-framework... View file @ c182d02d

```
@@ -22,6 +22,10 @@
22 <ui:param name="csvCompatible" value="true" />
23
24 <ui:define name="bannerTitle">DateField</ui:define>
25 +
26 + <ui:define name="comment">
27 +   The pageDate, minDate and maxDate properties should get a Date value from the controller. Setting the value from
   String isn't working.
28 + </ui:define>
25
26 <ui:define name="field">
27 <sbf:dateField
```

Project

Statistics

Example:

<https://slnxvmeta5.ancy.fr.sopra/sopra-banking-software/sopra-banking-framework/graphs/1.15.2/charts>

sopra-banking-framework

Overview

Repository

- Files
- Commits
- Branches
- Tags
- Contributors
- Graph
- Compare
- Charts

Merge Requests 13

CI / CD

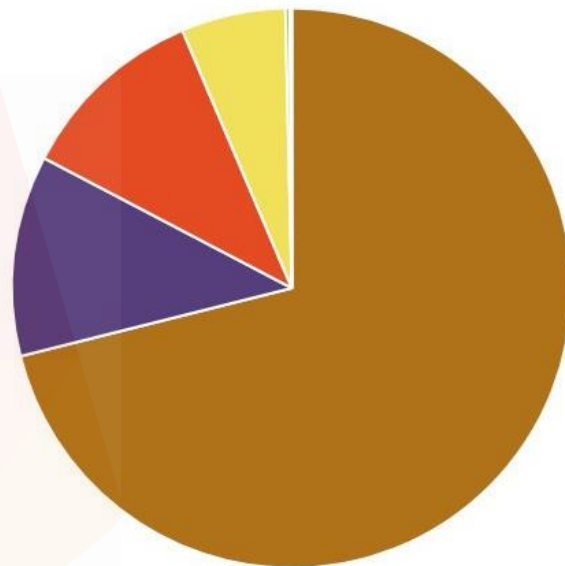
Snippets

Members

sopra-banking-software > sopra-banking-framework > Charts

Programming languages used in this repository

Java	71.09 %
CSS	11.59 %
HTML	10.92 %
JavaScript	6.03 %
Shell	0.26 %
Ruby	0.07 %
Batchfile	0.04 %



Commit statistics for 1.15.2 Sep 23 - Jan 03

1.15.2

sopra-banking-framework

- Total: **2000 commits**
- Average per day: **1 commits**
- Authors: **23**

Commits per day of month



CI configuration

- .gitlab-ci.yml
- Pipeline of jobs
- Triggered by commit push
- Status on Merge Request

sopra-banking-software > sopra-banking-framework > Pipelines > #2482

passed Pipeline #2482 triggered 4 days ago by  Fernandes Damien

Merge branch 'TECARCH_IRM-4772' into 'master'

[TECARCH_IRM-4772] A new version of the CRT is available, CRT V2.

See merge request !304

🕒 4 jobs from `master` in 4 minutes 43 seconds (queued for 2 seconds)

🔑 578b20cb  



Pipeline Jobs 4


Prepare

Build



Deploy

Cleanup

 build-jboss-ima... 

 compile-and-un... 

 deploy-responsi... 

 clean-old-images 

Example:

<https://slnxvmeta5.ancy.fr.sopra/sopra-banking-software/sopra-banking-framework/pipelines/2482>

Project

Build status badge
in README.md

Example:

<https://innersource.soprasteria.com/software-automation-architecture/ci/docker-ci/blob/master/README.md>



Docker base image used by GitLab CI pipelines

```
[[pipeline status](https://innersource.soprasteria.com/software-automation-architecture/ci/docker-ci/badges/master/pipeline.svg)](https://innersource.soprasteria.com/software-automation-architecture/ci/docker-ci/commits/master)
```

CONTRIBUTING.md

Sopra Banking Framework Contributing Guide

Basic steps

To contribute to *Sopra Banking Framework* first ask your [GitLab admin](#) to give you permission on the project, fork the [origin repository](#) to your own GitLab account, clone your fork, commit your work on topic branches, and make Merge Requests.

Here are the steps in detail:

Example:

<https://slnxvmeta5.ancy.fr/sopra/sopra-banking-software/sopra-banking-framework/blob/master/CONTRIBUTING.md>

1. Fork the project. This creates a new project in your own GitLab account with a fork relationship to the original repository.
2. Clone the original repository. This creates and populates a directory in your local file system.

```
git clone https://slnxvmeta5.ancy.fr/sopra/sopra-banking-software/sopra-banking-framework.git
(in Eclipse: left click in Project Explorer then Import > Projects from Git > Clone URI)
```

3. Add the remote `<your-username>` repository so you can push your changes to your forked repository and create Merge Requests.

```
git remote add <your-username> https://slnxvmeta5.ancy.fr/sopra/<your-username>/sopra-banking-framework.git
(in Eclipse: in Git perspective, expand the original repository and left click on Remotes > Create Remote...)
```

4. Get the latest files from the `origin` repository.

```
git fetch origin
(in Eclipse: left click on your project then Team > Pull)
```

5. Create a new topic branch to contain your features, changes, or fixes using the `git checkout -b <topic-branch-name> origin/master` command. For example:

```
git checkout -b EVOTA-123 origin/master
```

Concepts



Contribute

Fork

- Copy of an existing repository
- New project on another group/user workspace
- Link to origin project



Contribute

Merge Request

Open

Merge Request !22 opened 3 weeks ago by  Fernandes Damien 0 of 4 tasks completed

Close

Edit

WIP: EVOTA-3870: Middleware controller - data access Cobol / New Connector

What does this Merge Request implement or fix ?

Middleware controller - data access Cobol / Only New Connector with JCA [EVOTA-3870](#)

Are there points in the code the reviewer needs to double check ?

- Dependencies in pom.xml
- Throwable errors in connector

Does this MR meet the acceptance criteria ?

- ☐ Documentation created/updated (if relevant)
- ☐ Tests added for this feature and passing (Tests can be done in SBFSa)
- ☐ Branch has no merge conflicts with master (if it does - rebase it please)
- ☐ Squashed related commits together

Edited about 17 hours ago

Request to merge [dfernandes:EVOTA-3870](#) into [master](#) (71 commits behind)

[Check out branch](#)
[Download as](#)

✓ Pipeline #212 passed for 7d3aba93.

This merge request is currently a Work In Progress

When this merge request is ready, remove the [WIP:](#) prefix from the title to allow it to be merged.



0



0



Add

[Discussion](#) 3

[Commits](#) 2

[Pipelines](#) 2

[Builds](#) 1

[Changes](#) 12

✓ 1/1 discussion resolved



Fernandes Damien @dfernandes commented 3 weeks ago

@dmartins I do Connector for CICS and TSD, can you take a look ?

[Master](#)


Contribute

Merge Request

- Request to integrate changes in main repository/branch
- Related to a (JIRA) Story
- From a **branch in same project or in a fork**
- Discussed, reviewed, (reworked,) validated and... merged

Contribute

Merge Request

- One Merge Request \neq one commit
- Usual target branch is **origin/master**
- Both human and automated validation

Contribute

Code review

- Manual / read code
- Validate Merge Request made by another developer
- Any relevant discussion, link, quote, inline, ...



Filipa Lacerda @filipa started a discussion on [the diff](#) about an hour ago
Last updated by Filipa Lacerda about an hour ago

app/assets/javascripts/vue_pipelines_index/store.js.es6

21	21	gl.PipelineStore = class {
22	22	fetchDataLoop(Vue, pageNum, url, apiScope) {
23	23	this.pageRequest = true;
24	-	const updatePipelineNums = (count) => {



Filipa Lacerda @filipa commented about an hour ago
Created an issue to handle this: [#28243](#)

This code updates the DOM after we receive the API response, but there is no need for correct. - I added tests to confirm this.

We need to refactor the tabs into vue instead of haml and only use the API response.



Filipa Lacerda @filipa commented about an hour ago

[@iamphill](#) [@fatihacet](#) can you take a look at this and see if it makes sense? The rest of
Thanks in advance! 🙌

Filipa Lacerda @filipa marked the task **Squashed related commits together** as completed about an hour ago



Filipa Lacerda @filipa commented about an hour ago
[@ayufan](#) can you please review this?

Contribute

Automated validation

- Compile & unit tests
- Sonar analysis
- Fail if error
- Notify author

The screenshot displays a code review interface with three segments of Java code. Each segment is accompanied by a SonarQube comment. The first segment (lines 59-65) shows a `marshal()` method with a try-catch block. A SonarQube comment indicates a need to document the public method. The second segment (lines 66-67) shows a call to `e.printStackTrace()`, with a comment advising the use of a logger. The third segment (lines 68-71) shows a return statement. A final SonarQube comment summarizes the analysis, reporting 9 issues: 2 info, 1 minor, 4 major, and 2 critical.

```
59 + public String marshal()  
60 +  
61 +     try  
62 +     {  
63 +         return mapper.writeValueAsString(this);  
64 +     }  
65 +     catch (JsonProcessingException e)  
  
66 +     {  
67 +         e.printStackTrace();  
  
68 +     }  
69 +     return "";  
70 + }  
71 + }
```

SonarQube @sonarqube commented 2 weeks ago
⚠ Document this public method.

Reply...

SonarQube @sonarqube commented 2 weeks ago
⚠ Either log or rethrow this exception.

Reply...

SonarQube @sonarqube commented 2 weeks ago
🚫 Use a logger to log this exception. ⓘ Method com.sopra.framework.jaxrs.core.AbstractJaxrsDto.ma

Reply...

SonarQube @sonarqube commented 2 weeks ago
SonarQube analysis reported 9 issues for this commit:

- ⓘ 2 info
- ⬆ 1 minor
- ⚠ 4 major
- 🚫 2 critical

Look at the inline comments inserted above to review related issues.



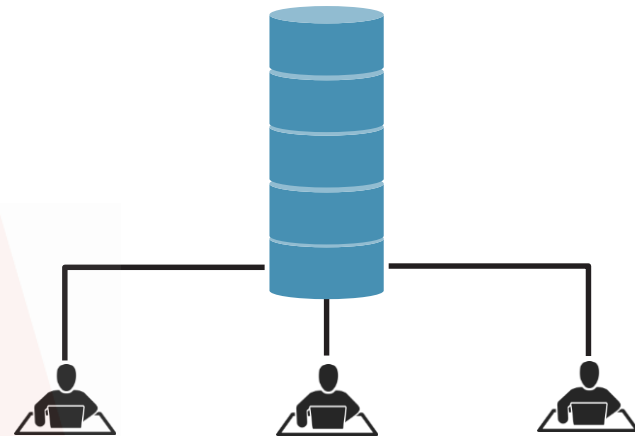
Contribute with GitLab

Existing workflows

Workflows

Centralized flow

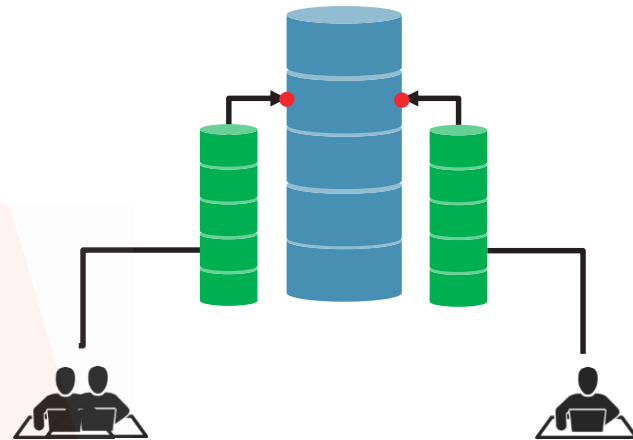
- Central repository
- All changes committed to origin/master
- SVN-like



Workflows

Feature branch flow

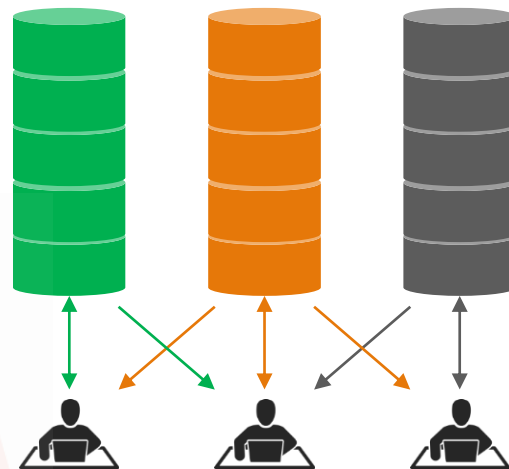
- Centralized flow + **feature branches**
- Isolated branch per feature/Story
- Work on a particular feature without disturbing the main codebase
- Merge Requests possible (code review, discussion)
- Feature Branch – (Martin Fowler) <https://martinfowler.com/bliki/FeatureBranch.html>



Workflows

Forking flow

- No push to central repository
- Every developer has a **fork** of the original repository
- So each developer has **two Git repositories**
- Only the project maintainer can push to the original repository
- Original repository evolves through merge requests

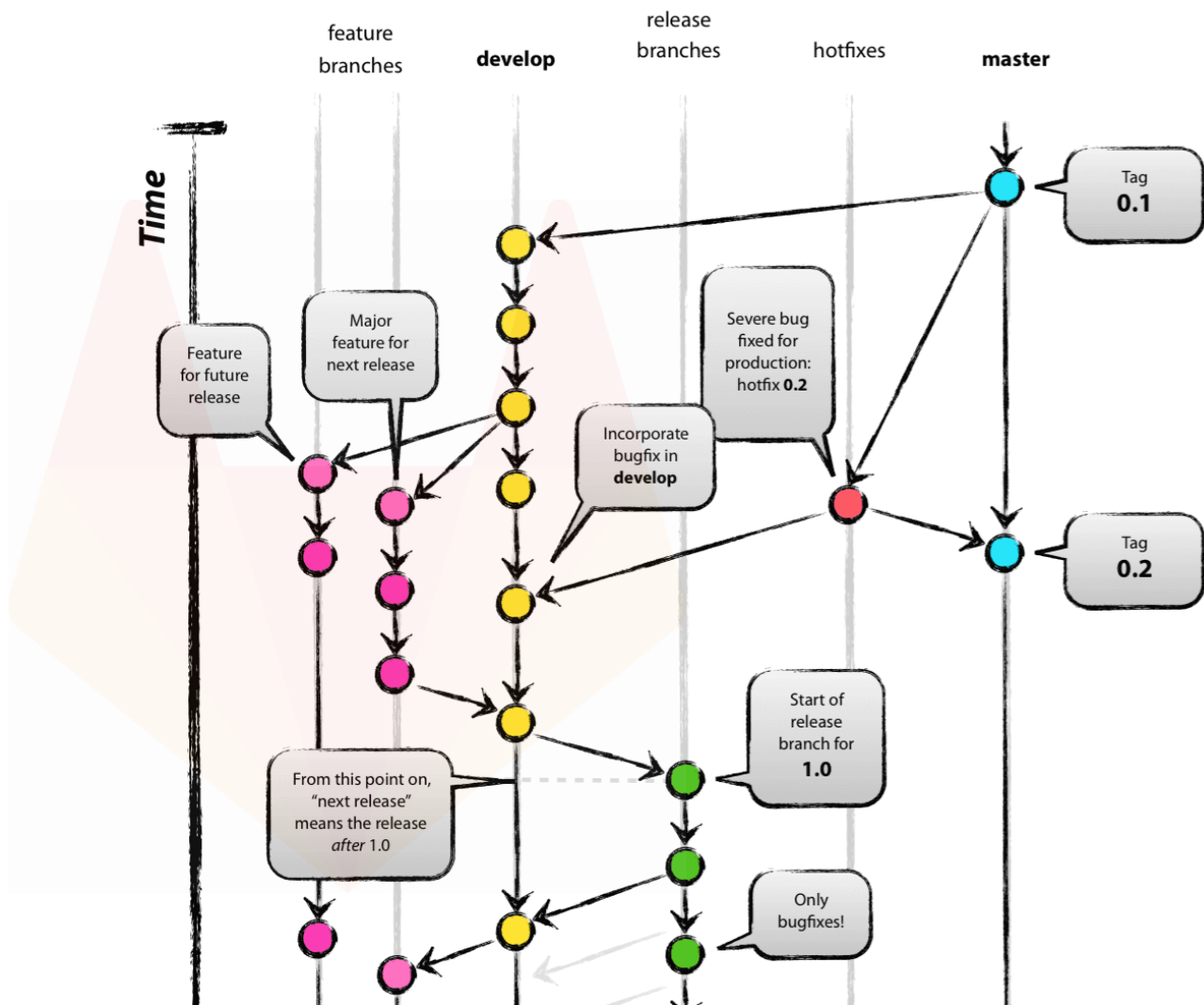


Workflows

Git flow

<http://nvie.com/posts/a-successful-git-branching-model/>

Too complex

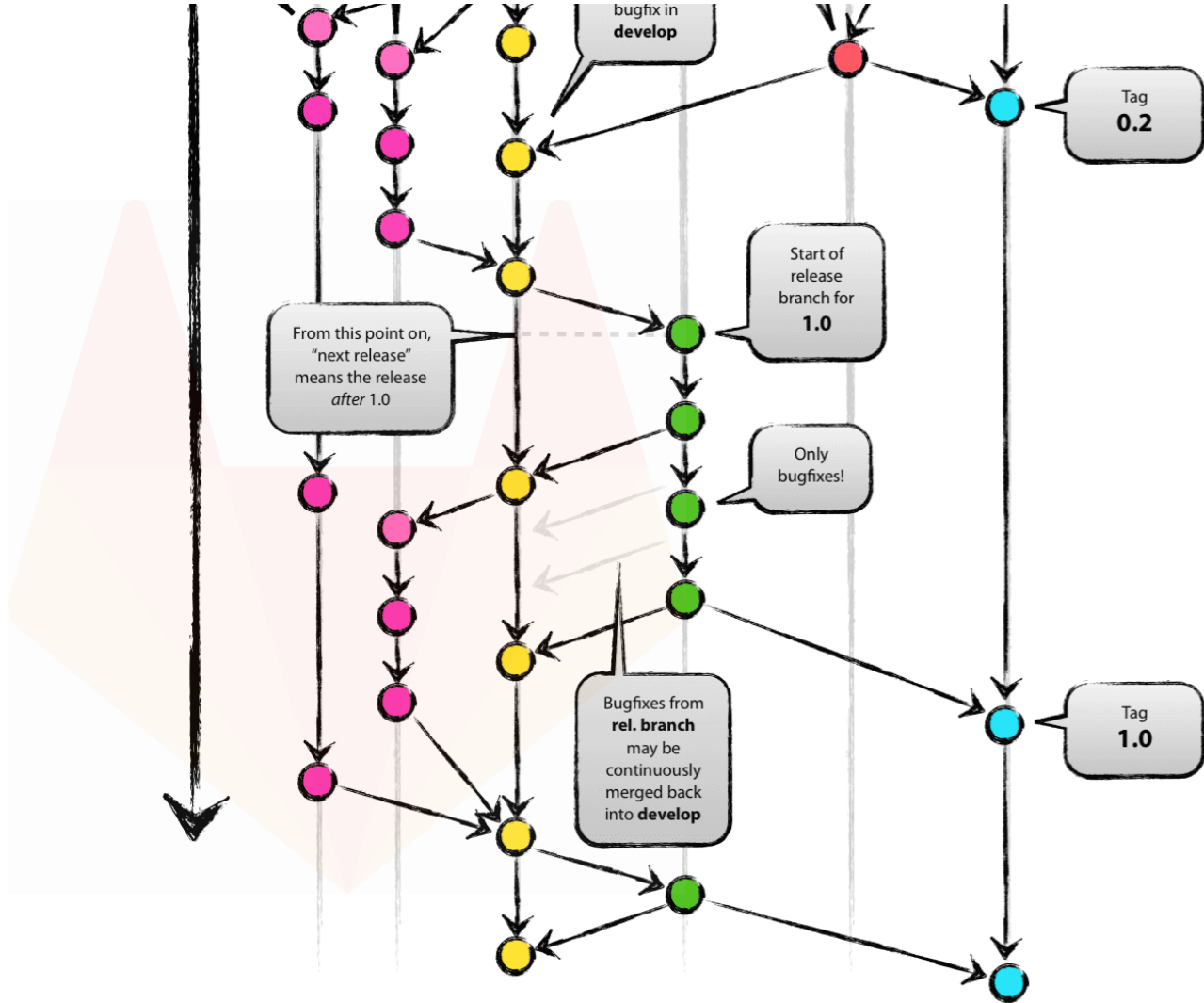


Workflows

Git flow

<http://nvie.com/posts/a-successful-git-branching-model/>

Too complex



Workflows

Too complex

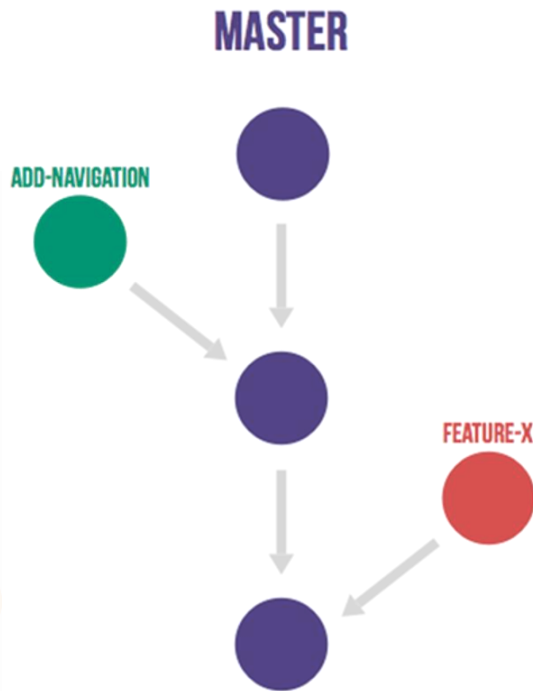
Git flow - <http://nvie.com/posts/a-successful-git-branching-model/>

- Feature branch flow + specific roles to different branches
- Strict branching model around the project release
- branches:
 - **develop** = integration branch for features
 - **feature branches** = one branch per feature
 - **release branches**
 - **master** = release history
 - **hotfixes** = quick patches for production releases

Workflows

GitHub flow - <http://scottchacon.com/2011/08/31/github-flow.html>

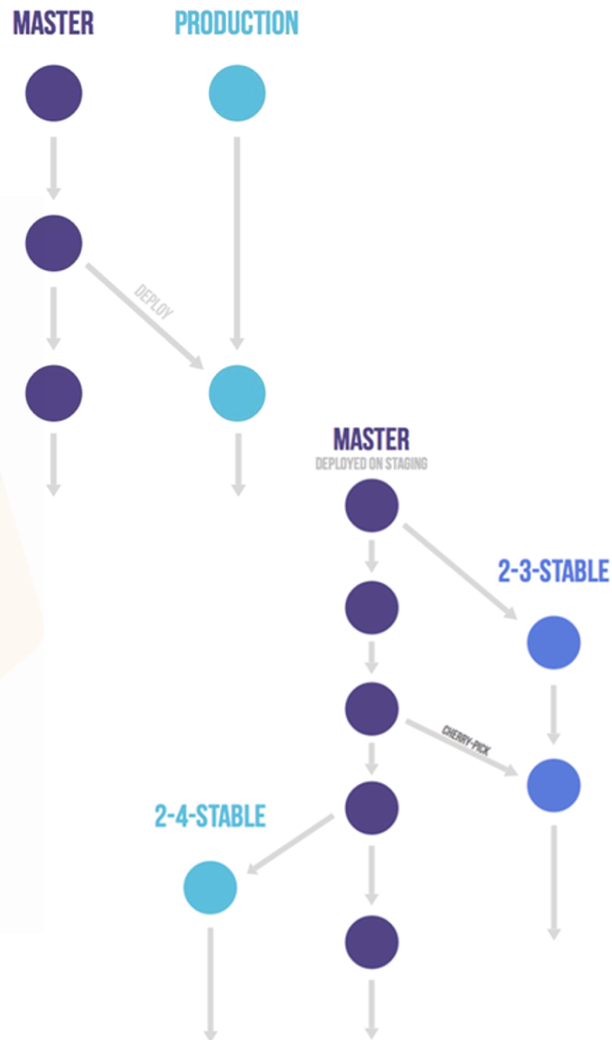
- Back to basics
- Any commit must be self-sufficient (rollback possible)
- Open a Pull Request at any time (ready / need help / need feedback)
- Deploy immediately after your Pull Request get reviewed & merged
- “Anything in the master branch is always **deployable**”



Workflows

GitLab flow - https://docs.gitlab.com/ce/workflow/gitlab_flow.html

- Add practical rules to the GitHub flow
 - protect long-lived branches (usually master)
 - commit often
 - test before merging
 - squash commits with rebase
 - link issues to Merge Requests
 - request approvals on Merge Requests
 - prevent merge commits, but don't eliminate them
 - remove merged branch





Contribute with GitLab

Proposed workflow

Proposed workflow

- This workflow is explained here
<https://documentation-sa2.apps.sodigital.io/development-workflow/>
- origin/master protected in the project repository
- Feature branch per (JIRA) Story
- Merge Request with human & automated validation
- Commit & development rules

Proposed workflow

Protected branch (origin/master)

- No commits are allowed in origin/master
Modify origin/master only through Merge Requests
- “Anything in the master branch is always **deployable**”
- Any change must be double checked **before merging**
- Any commit can be rolled back
- Protect other branches on origin ?

Proposed workflow

Feature branch per Story

- One JIRA Story = one Git branch
- Work / discussion / team isolation
- Naming convention
- Source of Merge Requests
- Feature branches can be **shared** between several devs

Proposed workflow

Merge Request with validation

- Create Merge Request once you need:
 - help
 - feedback
 - validation
- A Merge Request is a **living process**
- Code review + CI build + Sonar analysis before merging

Proposed workflow

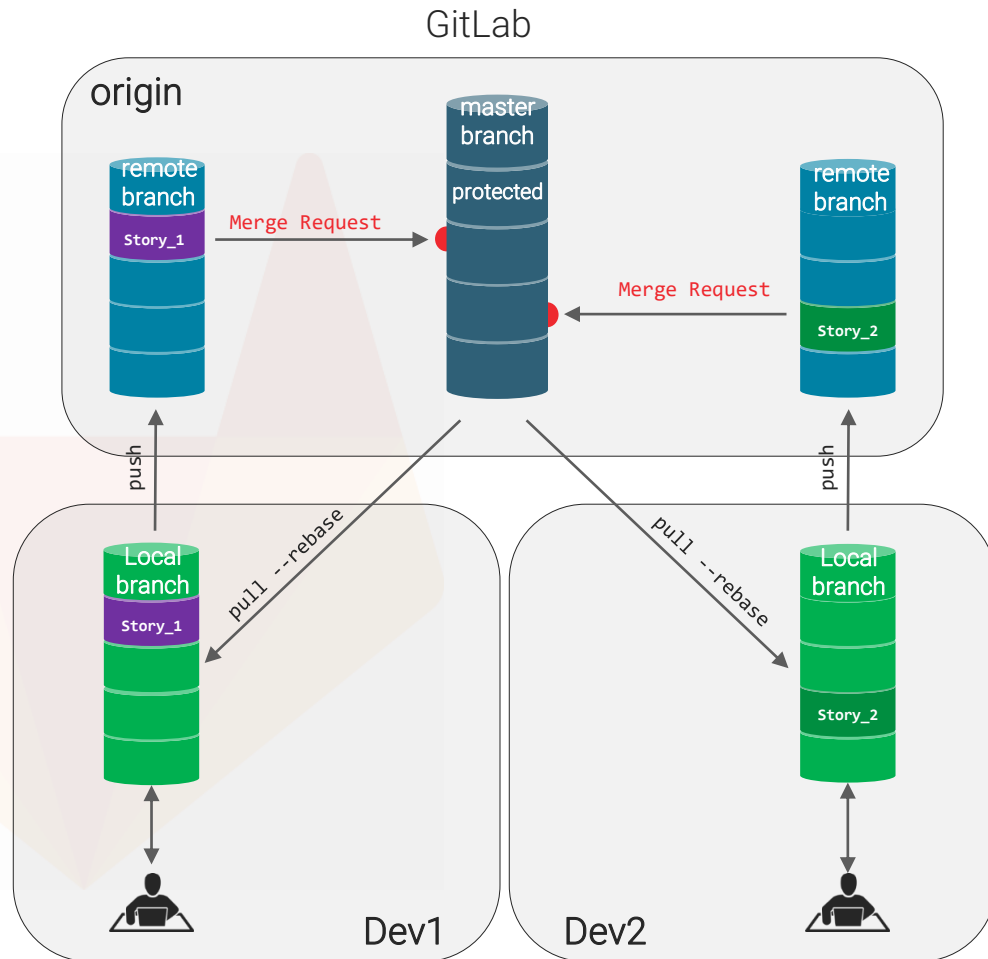
Commit & development rules

- Any commit must be « buildable » & « revertable »
- Merge Requests description must follow a *Template*
- MRs must be **approved** before merging (all discussions marked resolved)
- Commits in MRs that are related must be squashed before merging

Proposed workflow

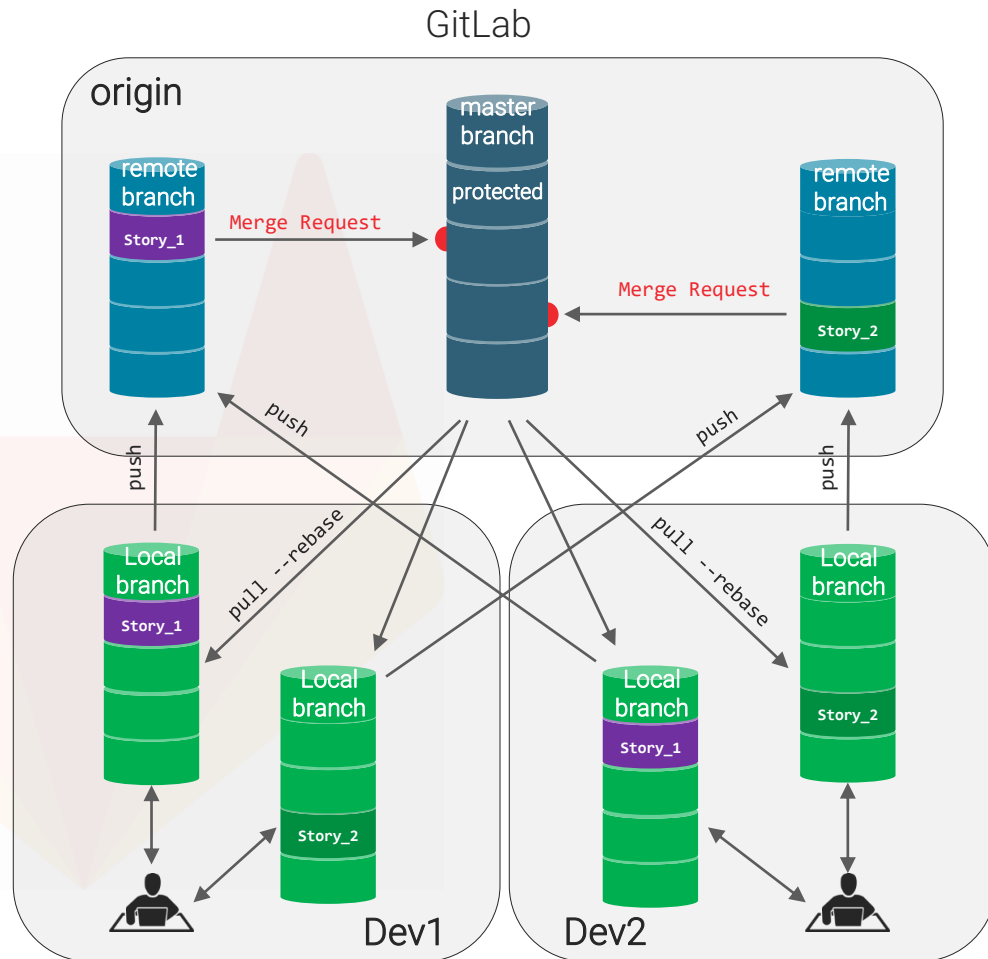
Summary

- Branch per Story (Story-...)
- Branches created locally
- Common rules in Merge Request template
- Merge Request OK when:
 - Rules OK
 - Build OK
 - Sonar OK
 - 2 approvals



Proposed workflow

Feature branches can be shared between several developers



👋 Commit Message Emoji

Have more visual commits

- Prepend every commit message with an emoji with this form:
<emoji> commit message
 - <https://gitlab.com/gitlab-org/gitlab-ce/blob/master/doc/user/markdown.md#emoji>
 - <https://github.com/dannyfritz/commit-message-emoji>

Commits Without Emoji 😞

0.5.2

Fix exporting of the library to include _ifElse

add _ifElse to README.md

add _ifElse

Commits with Emoji 😊

📝 0.5.2

🐸 Fix exporting of the library to include _ifElse

📖 add _ifElse to README.md

🌟 add _ifElse



Contribute with GitLab

Training

Training

Contribute



1. Clone origin repository
2. Create a local branch
3. Implement changes
4. Push changes remotely
5. Check branch on the repos
6. Create a Merge Request
7. Assignee: review the Merge Request
8. Assignee: merge the Merge Request
9. Update (JIRA) Story status

Training



Clone origin repository

- Clone <https://innersource.soprasteria.com/software-automation-architecture/git-training> on GitLab

Training



Clone origin repository

- Clone <https://innersource.soprasteria.com/software-automation-architecture/git-training> on GitLab

```
$ git clone  
https://innersource.soprasteria.com/software-  
automation-architecture/git-training.git
```

Training



Implement changes required by a Story

- Go to your JIRA Story & click on « Start »
- Create a local branch named the same as the Story (Story-...)
- Implement & commit changes

Training



Implement changes required by a Story

- Go to your JIRA Story & click on « Start »
- Create a local branch named the same as the Story (Story-...)

```
$ git checkout -b Story-... master
```

- Implement & commit changes

```
$ git add ... & git commit -m "<comment>"
```

Training

Push changes remotely

- Push your local branch remotely



Training

Push changes remotely

- Push your local branch remotely

```
$ git push origin <branch>
```



Training



Check branch on the repos

- Check branch commits on GitLab
- Compare your branch with master branch on GitLab
- Check that CI build is successful

Training



Check branch on the repos

- Check branch commits on GitLab

<https://innersource.soprasteria.com/software-automation-architecture/git-training/commits/{branch}>

- Compare your branch with master branch on GitLab

<https://innersource.soprasteria.com/software-automation-architecture/git-training/compare/master..{branch}>

- Check that CI build is successful

<https://innersource.soprasteria.com/software-automation-architecture/git-training/pipelines/{pipeline-id}>

Training



Create a Merge Request (1)

- In the git-training project create a *Merge Request*

Training



Create a Merge Request (1)

- In the git-training project create a *Merge Request*

<https://innersource.soprasteria.com/software-automation-architecture/git-training/tree/{branch}>

You pushed to **Story-1** 4 minutes ago

Create merge request

Training

Create a Merge Request (2)

- Fill *Title* and *Description*
- Choose another attendee as *Assignee*
- Create Merge Request



Training

Create a Merge Request (2)

- Fill *Title* and *Description*



New Merge Request

From `Story-1` into `master` Change branches

Title

Start the title with `WIP:` to prevent a **Work In Progress** merge request from being merged before it's ready.

Add [description templates](#) to help your contributors communicate effectively!

Description

Write

Preview

B

I

”

<>

≡

≡

☑

✎

Add here a link to the story
[Story-XXXX](https://constellation.soprasteria.com/jira2/browse/Story-XXXX)

Detail here all the acceptance criterias

1

Markdown and quick actions are supported

Attach a file

Training

Create a Merge Request (2)



- Choose another attendee as *Assignee*

Assignee TOURNIE Stephane ▼ Assign to me

Milestone Milestone ▼

Labels Labels ▼

Training

Create a Merge Request (2)



- Create Merge Request

Important

Source branch: Story-1

Target branch: master [Change branches](#)

☒ Remove source branch when merge request is accepted.

☐ Squash commits when merge request is accepted. [About this feature](#)

[Submit merge request](#)

Training



Create a Merge Request (3)

- Comment on your JIRA Story with a link to the Merge Request

Training

Assignee: review Merge Request (1)



- Check build status on Merge Request →
- Check particular points to review
- Read/review changes
- Open inline / global discussion(s) →
- Wait for answer from the developer

Request to merge stournie:SONAR-ANALYSIS-BUILD into master

✓ Pipeline #160 passed for e1988070.

```
src/test/java/com/example/TestGreeter.java
...      ...      @@ -17,14 +17,12 @@ public class TestGreeter {
17      17      greeter = new Greeter();
18      18      }
19      19
20      - @Test
```



Administrator @root commented 3 minutes ago
Why ? 🤔

Reply...

Training



Assignee: review Merge Request (2)

- Check that all discussions are well answered
- Check that all new changes are ok
- Check that all « acceptance criteria » are ok
- Give your approval

The screenshot shows a Merge Request interface. At the top, there are three buttons: a thumbs up icon with '1', a thumbs down icon with '0', and an 'Add' button with a plus icon. Below these are three tabs: 'Discussion 1', 'Commits 1', and 'Changes 3'. The 'Discussion 1' tab is selected and underlined. Below the tabs, there is a comment from 'Administrator @root' with a profile picture icon, stating 'Ok' and 'commented 3 minutes ago'. An arrow points from the 'Give your approval' step of the list to the 'Discussion 1' tab. Another arrow points from the 'Check that all « acceptance criteria » are ok' step to a list of criteria on the right.

Does this MR meet the acceptance criteria ?

- ☐ Documentation created/updated (if relevant)
- ☐ Tests added for this feature and passing
- ☐ Branch has no merge conflicts with master (if it does - rebase it please)
- ☐ Squashed related commits together

Training




Assignee: merge Merge Request

- Click on *Merge* button
- Wait for merge process to finish
- Check commits on origin/master

Accept Merge Request



Merged by  Tournie Stephane 2 weeks ago

The changes were merged into `master`. The source branch has been removed.

Revert

Cherry-pick

Training

Update status of JIRA Story

- Set status to « Done » on JIRA Story



THINKING AHEAD BEGINS NOW. ■

Thank you.

