

Contribute with GitLab

SA² team
(Software Automation Architecture)

May 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

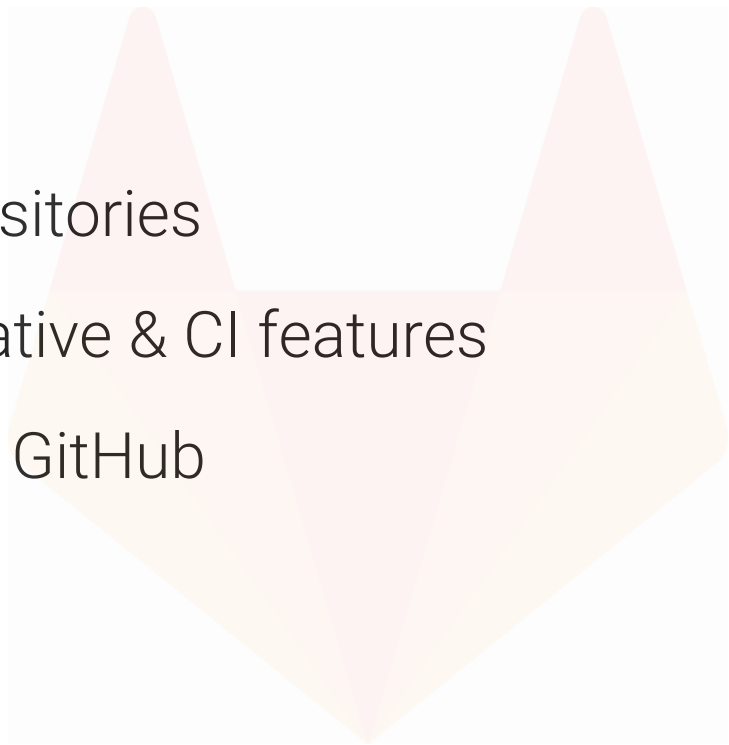
- Git
- GitLab
- A contribution workflow



Introduction

GitLab

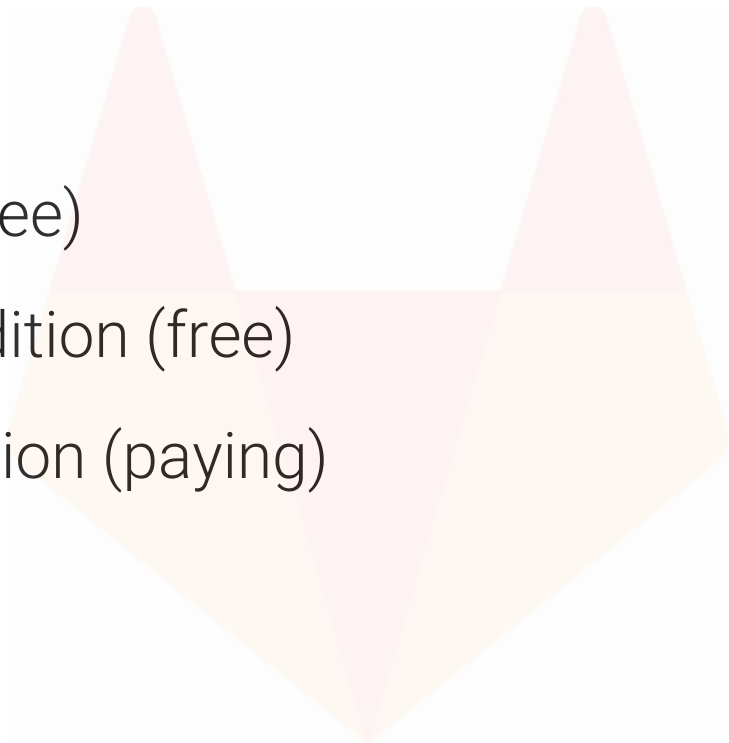
- Hosts Git repositories
- Adds collaborative & CI features
- Very similar to GitHub
- Open source



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://innersource.soprasteria.com/sopra-banking-technical-architecture/sopra-banking-framework>

The screenshot shows the GitLab interface for the 'sopra-banking-framework' repository. The sidebar on the left contains navigation links: Overview, Details, Activity, Cycle Analytics, Repository, Merge Requests (13), CI / CD, Snippets, and Members. The main content area displays the repository name, star/fork counts (5 stars, 16 forks), and the SSH URL. Below this, there are links for Files (200 MB), Commits (3,521), Branches (17), Tags (76), Readme, Contribution guide, and CI configuration. A recent merge commit is shown: 'Merge branch 'mnt-fix-clean-some-responsive-component' into 'master'' by Peydiere Antoine, authored 4 days ago. The commit hash is c1b62f6b. Below the commit, a table lists the files in the repository.

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

Project

Commits view

Example:

<https://innersource.soprasteria.com/sopra-banking-technical-architecture/sopra-banking-framework/commits/master>

The screenshot displays the 'Commits' view for the 'sopra-banking-framework' repository on the Sopra Banking Software platform. The interface includes a top navigation bar with links for Projects, Groups, Activity, Milestones, and Snippets. A left sidebar provides navigation options: Overview, Repository (selected), Files, Commits, Branches, Tags, Contributors, Graph, Compare, Charts, Merge Requests (13), CI / CD, Snippets, and Members. The main content area shows 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 profile picture, a description, the author's name, the time since authoring, a status icon (green checkmark or red eye), a commit hash, a file icon, and a 'Browse Files' button.

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

Project

Branches view / compare

Example:

<https://innersource.soprasteria.com/sopra-banking-technical-architecture/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 bar, a list of 14 commits is shown, including release preparation and bug fixes. The bottom section displays a diff view for the file 'workspace/sopra-banking-framework-superpom/sopra-banking-framework/sopra-banking-framework.xml', highlighting changes in the 'comment' and 'field' sections.

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

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

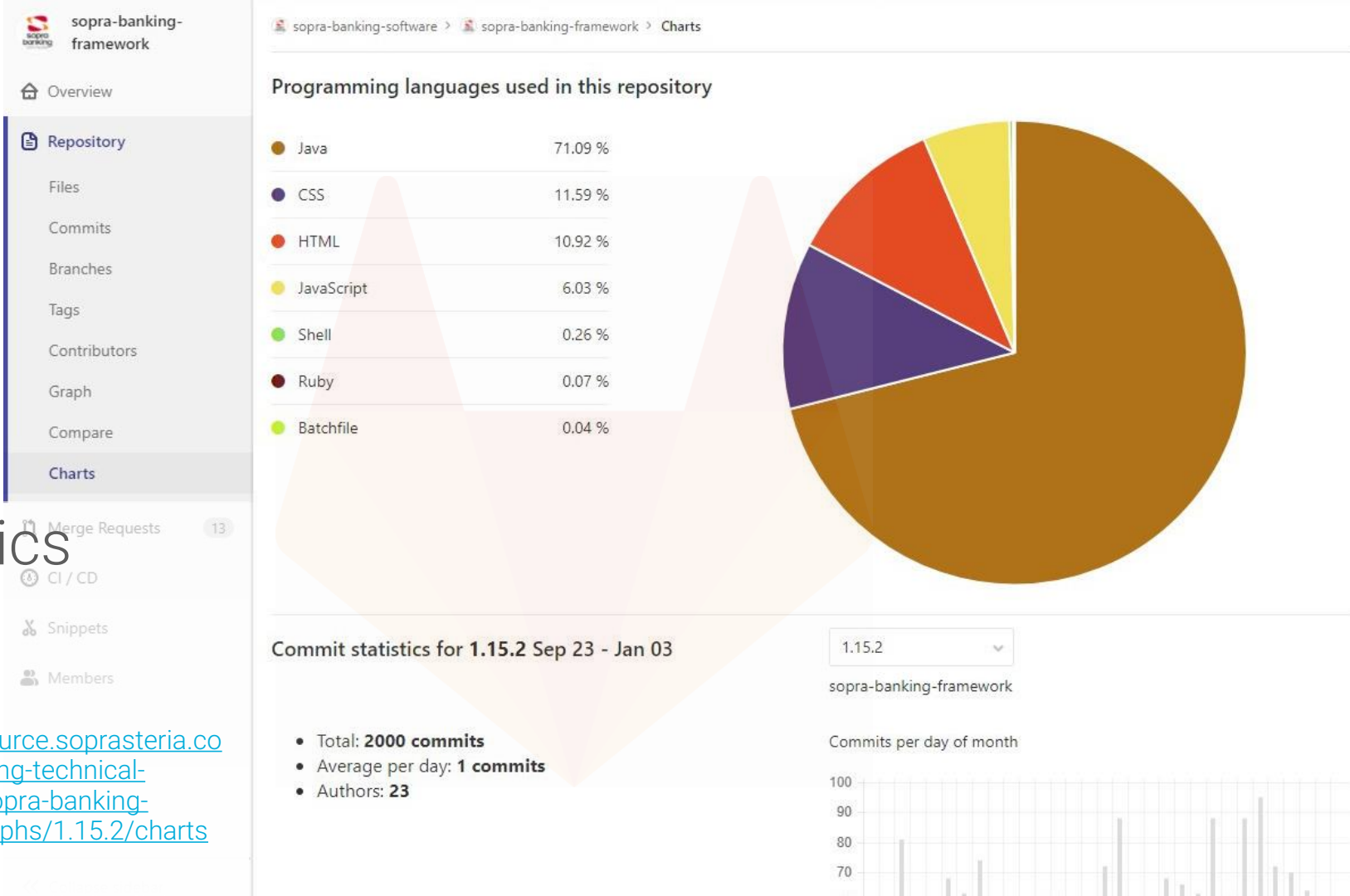
```
@@ -22,6 +22,10 @@
22 22 <ui:param name="csvCompatible" value="true" />
23 23
24 24 <ui:define name="bannerTitle">DateField</ui:define>
25 +
26 + <ui:define name="comment">
27 +   The pageDate, minDate and maxDate properties should get a Date value from the controller. Setting the value from
28 +   String isn't working.
29 + </ui:define>
25 29 <ui:define name="field">
26 30 <sbf:dateField
27 31
```

Project

Statistics

Example:

<https://innersource.soprasteria.com/sopra-banking-technical-architecture/sopra-banking-framework/graphs/1.15.2/charts>



CI configuration

sopra-banking-technical-architecture > sopra-banking-framework > Pipelines > #18768

 **Pipeline #18768** triggered 2 days ago by  CHALLUT Nicolas

Merge branch 'master' into 'master'

[MNT] Update .gitlab-ci.yml

See merge request !431

🕒 4 jobs from master in 6 minutes 58 seconds (queued for 1 second)

🔑 33ea18b0  

Pipeline Jobs 4

Prepare

✓ build-jboss-ima...

Build

✓ compile-and-un...

Deploy

✓ deploy-responsi...

Cleanup

✓ clean-old-images

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

Example:

<https://innersource.soprasteria.com/sopra-banking-technical-architecture/sopra-banking-framework/pipelines/18768>

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://innersource.sopra.com/sopra-banking-technical-architecture/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	<code>gl.PipelineStore = class {</code>
22	22	<code> fetchDataLoop(Vue, pageNum, url, apiScope) {</code>
23	23	<code> this.pageRequest = true;</code>
24	-	<code> const updatePipelineNums = (count) => {</code>



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 warning to document the public method. The second segment (lines 66-67) shows a call to `e.printStackTrace()`, with a comment warning to use a logger instead. 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.



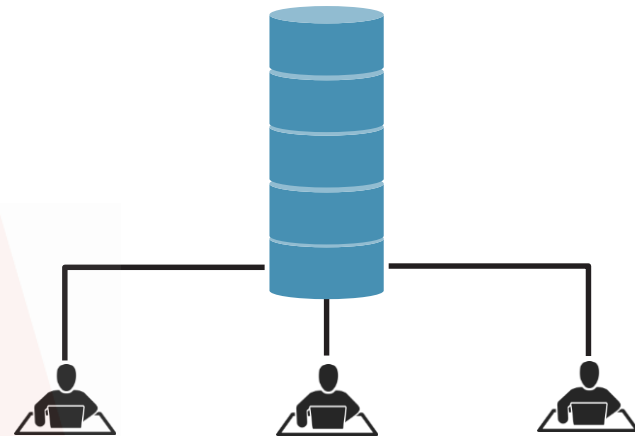
Contribute with GitLab

Existing workflows

Workflows

Centralized flow

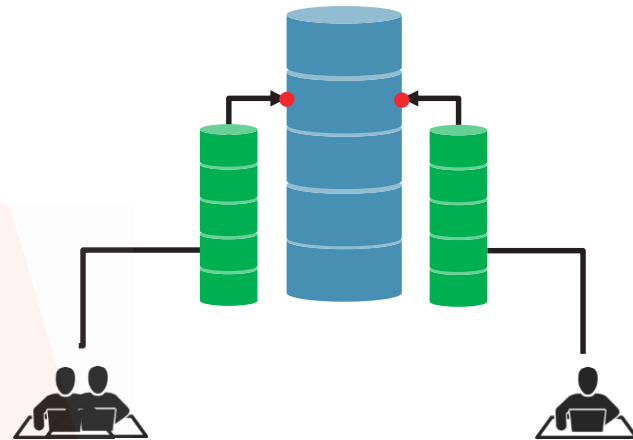
- Central repository
- All changes committed to origin/master
- SVN-like



Workflows

Feature branch flow

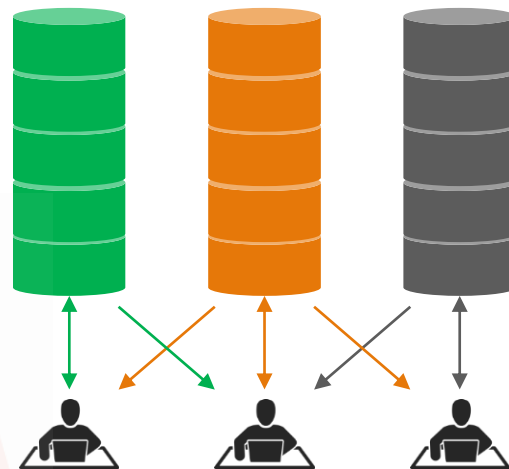
- Centralized flow + **feature branches**
- Isolated branch per feature/Story
- Work on a particular feature without disturbing the main codebase
- Merge Requests possible (code review, discussion)
- Feature Branch – (Martin Fowler) <https://martinfowler.com/bliki/FeatureBranch.html>



Workflows

Forking flow

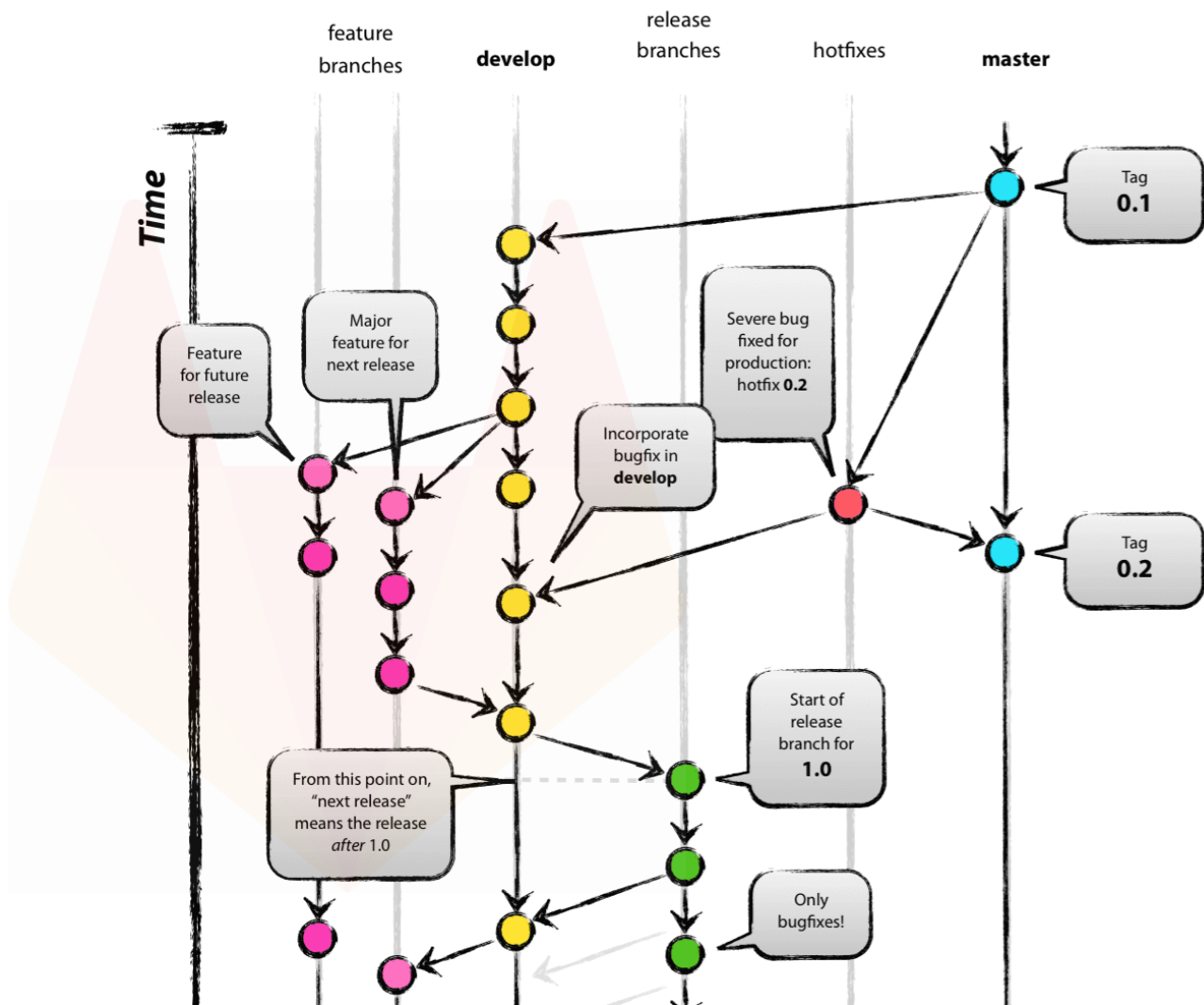
- No push to central repository
- Every developer has a **fork** of the original repository
- So each developer has **two Git repositories**
- Only the project maintainer can push to the original repository
- Original repository evolves through merge requests



Workflows

Git flow

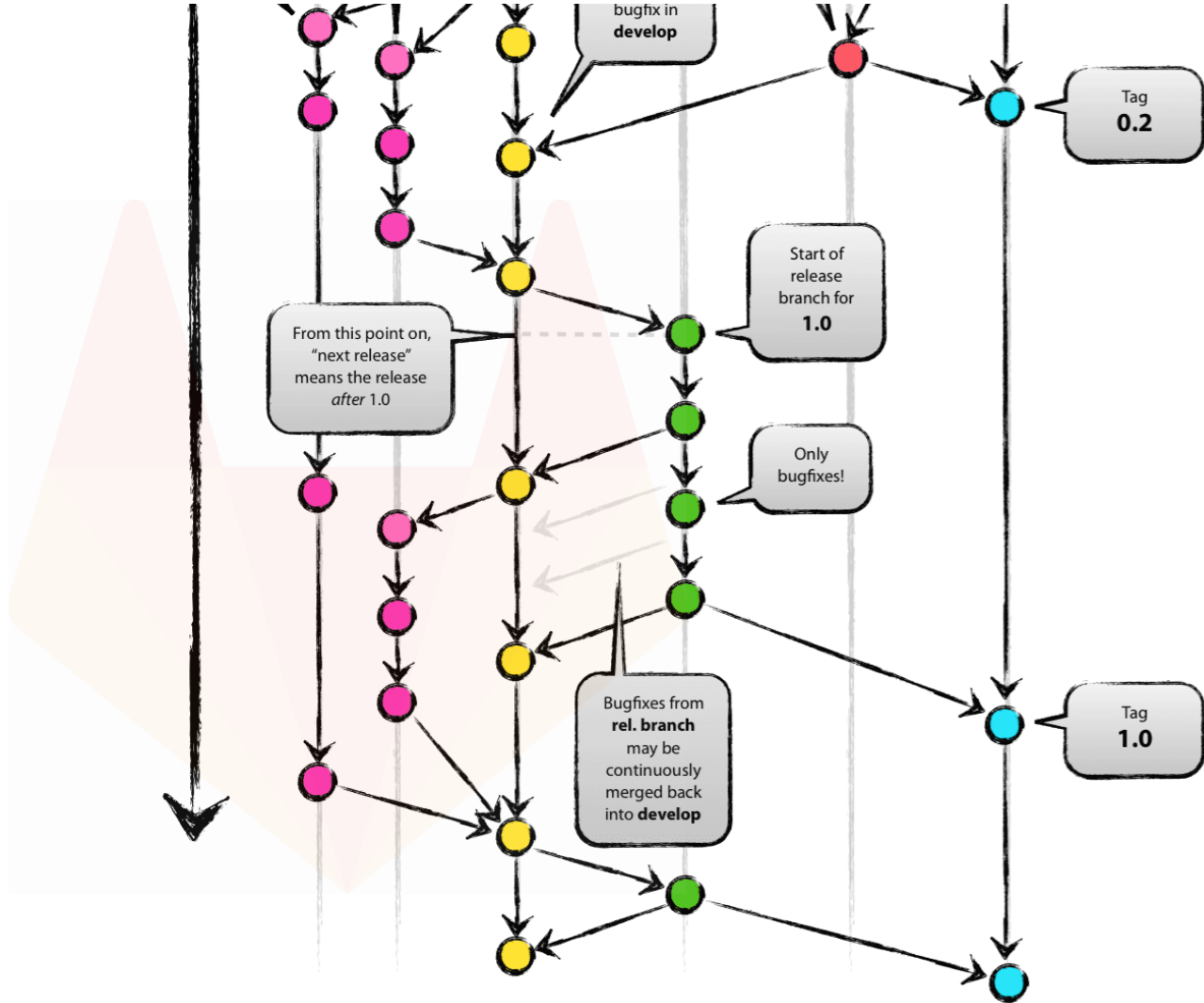
<http://nvie.com/posts/a-successful-git-branching-model/>



Workflows

Git flow

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



Workflows

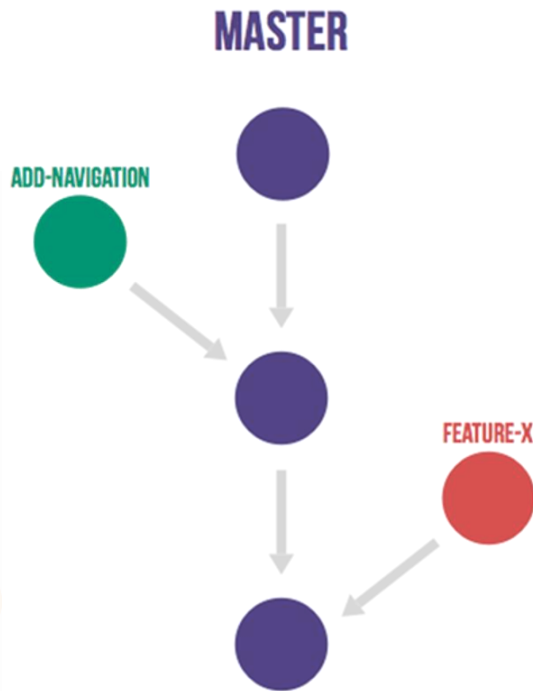
Git flow - <http://nvie.com/posts/a-successful-git-branching-model/>

- 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>

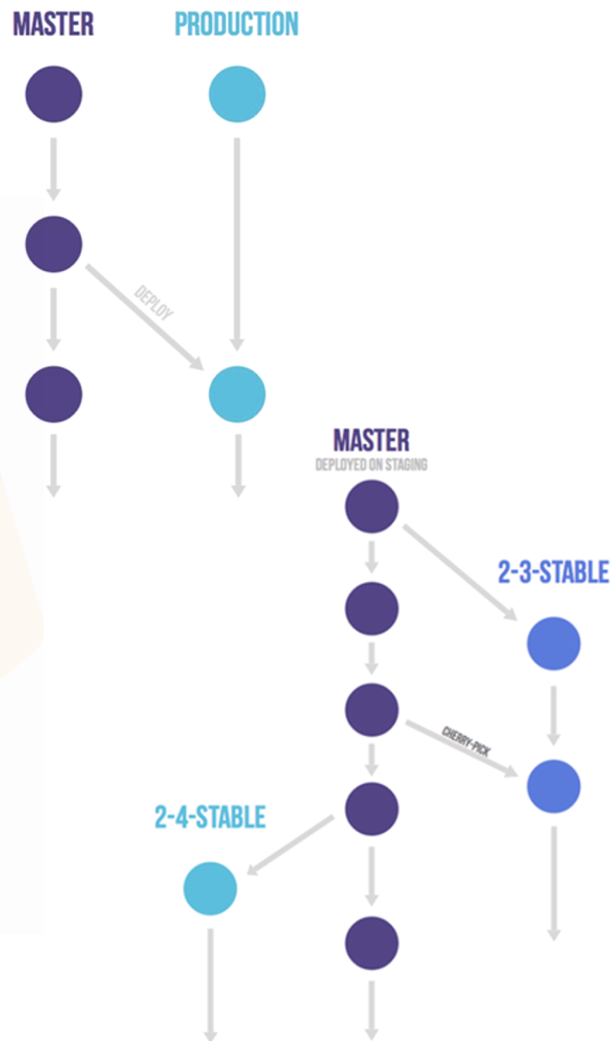
- Back to basics
- Any commit must be self-sufficient (rollback possible)
- Open a Pull Request at any time (ready / need help / need feedback)
- Deploy immediately after your Pull Request get reviewed & merged
- “Anything in the master branch is always **deployable**”



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 always protected
- 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

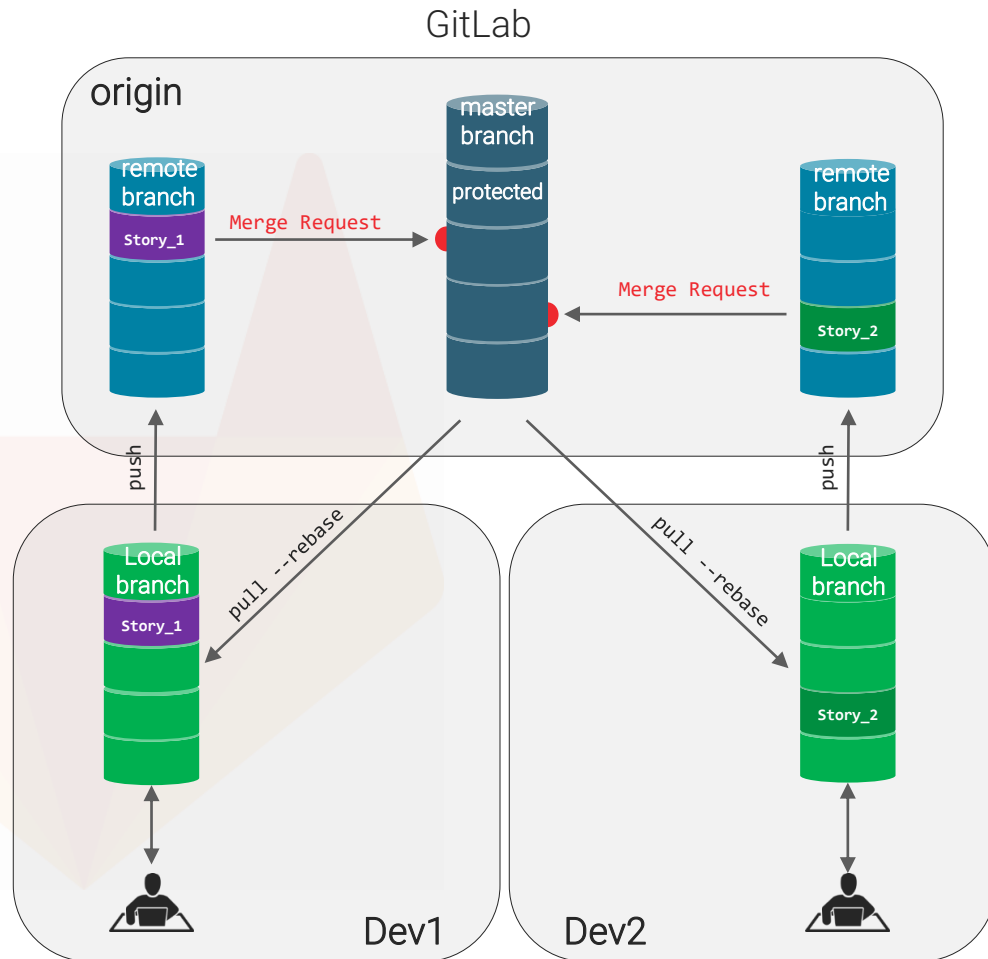
Commit & development rules

- 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

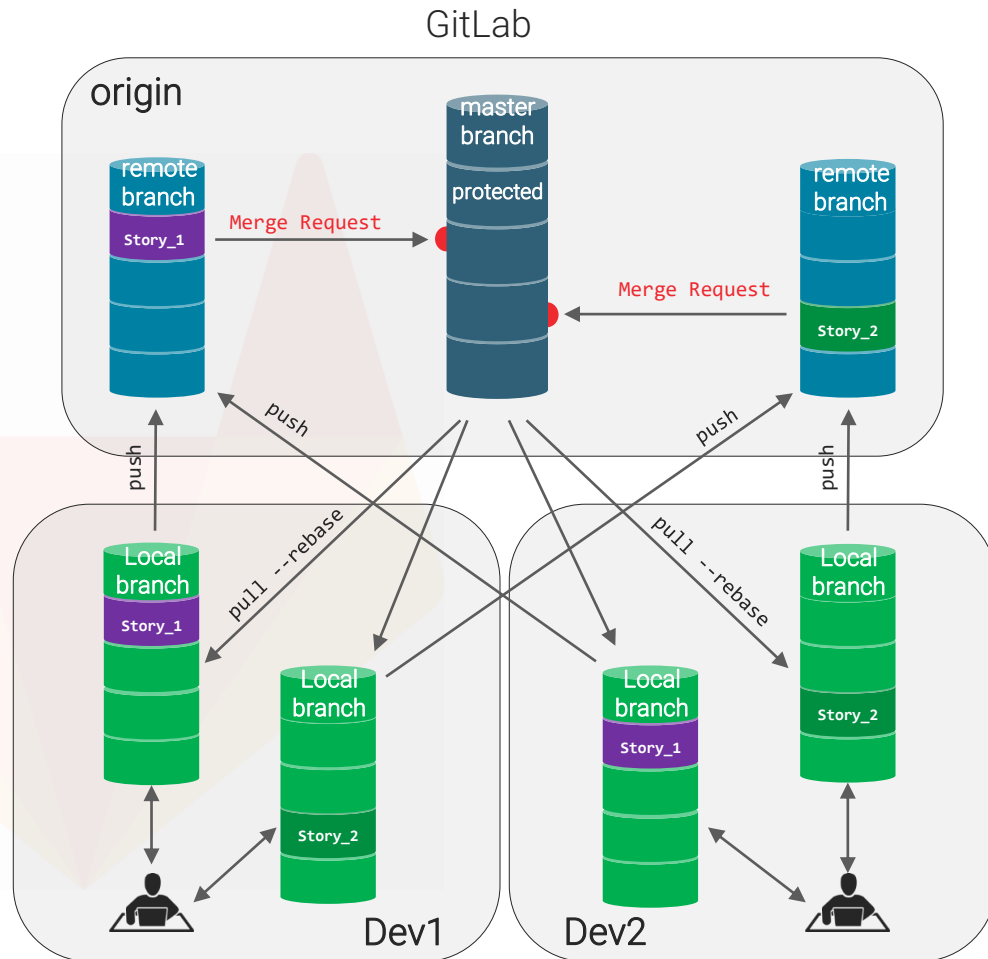
Summary

- 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



(optional) Commit message Emoji

Swagg up your commit messages

- 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 following naming convention of your project
- 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 SHSG_IRM-... master
```

- Implement & commit changes

```
$ git add ... & git commit -m "message"
```

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

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

Target branch [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 thumbs up button. 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.

