

## CROCO

### Code development organization & Testing strategy

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# Summary

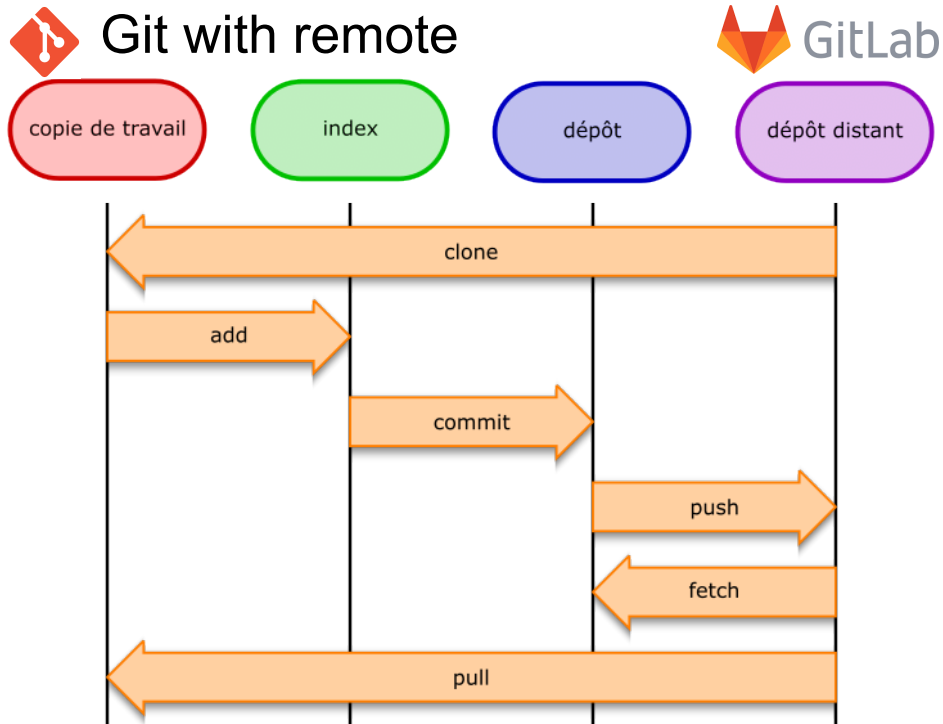
- **Code development organization**
  - Mailing list, chat room, website, forum
  - Git / Gitlab
  - Git workflow
  - Coding tips to remember
- **Testing strategy**
  - Testing in the current CROCO
  - Testing in the future

- Existing mailing lists :
  - COPIL : [croco-copil@inria.fr](mailto:croco-copil@inria.fr)
  - Developers (people who have committed) : [croco-devs@inria.fr](mailto:croco-devs@inria.fr)
  - Log (to organize monthly meetings) : [croco-log@inria.fr](mailto:croco-log@inria.fr)
  - Users : [croco-users@inria.fr](mailto:croco-users@inria.fr)
- Chat room : <https://mattermost.inria.fr/croco-dev/>
- Web site : <https://www.croco-ocean.org/>
- Gitlab : <https://gitlab.inria.fr/croco-ocean>
  - Several repositories, including 3 public ones : **croco**, **croco\_tools**, **croco\_pytools**
  - Wiki : <https://gitlab.inria.fr/croco-ocean/croco/-/wikis/home>
- User forum : <https://forum.croco-ocean.org/>

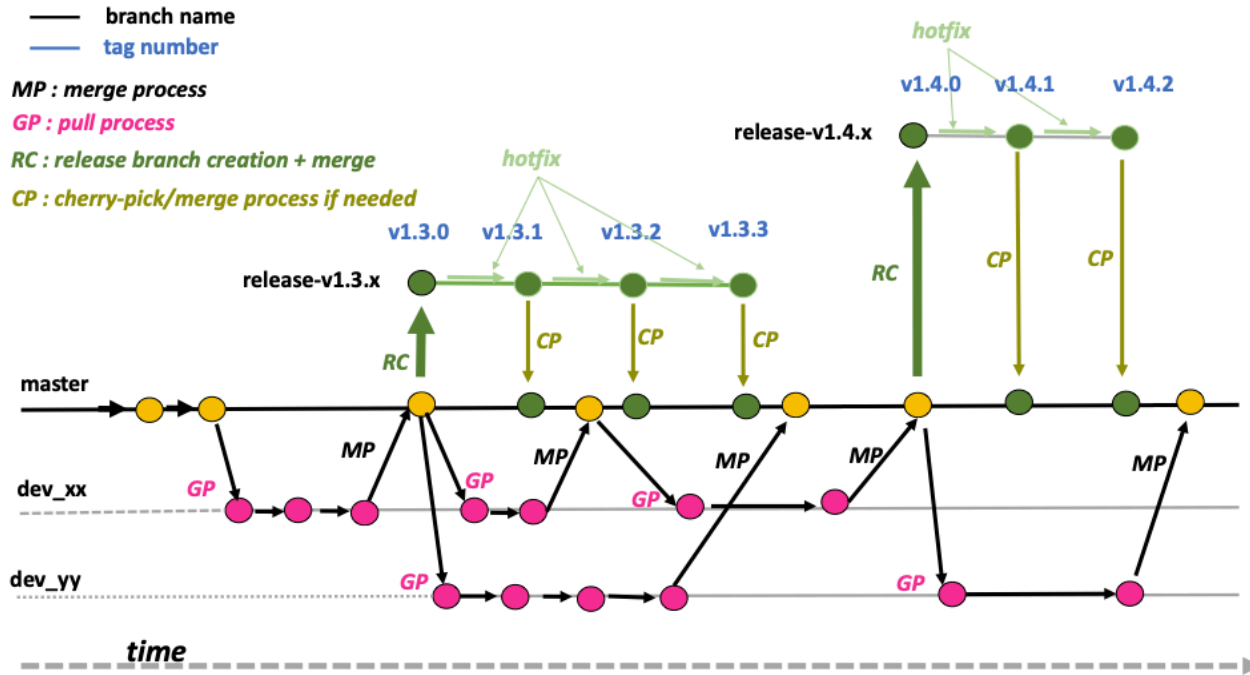
Based on Git and Gitlab :

Download on public access :

Developer access : request to register  
to [croco-gitlab-register@inria.fr](mailto:croco-gitlab-register@inria.fr)



# CROCO – Git Workflow



# CROCO – Git Workflow ... concretely

See WIKI page : [https://gitlab.inria.fr/croco-ocean/croco/-/wikis/dev\\_guide/Workflow](https://gitlab.inria.fr/croco-ocean/croco/-/wikis/dev_guide/Workflow)

Protected branches : master and release\*

Updated by a **Merge Request (MR)**, only "maintainers" can finally validate the MR


# ALL

developments must be done in a **dedicated branch**



no commits directly in protected branches (master or release\*)

About commit message...



	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT  
MESSAGES GET LESS AND LESS INFORMATIVE.

### About commit message, good practice :

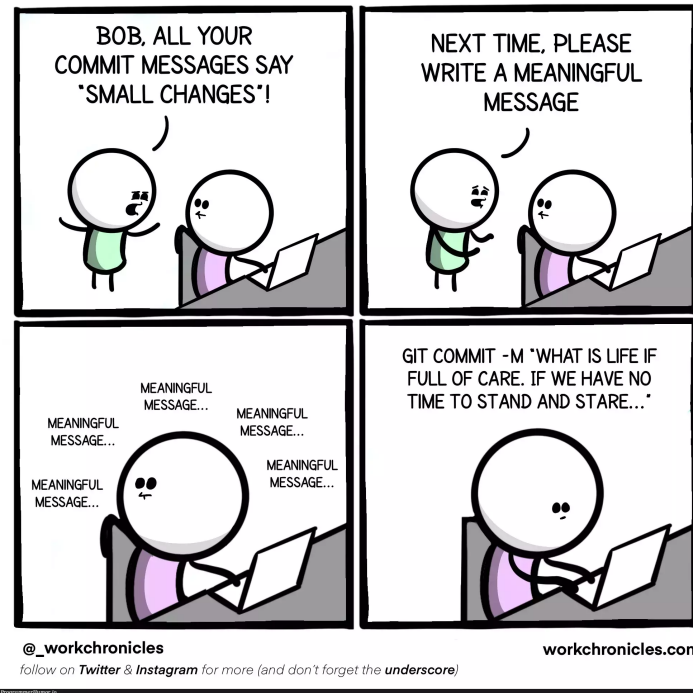
Capitalized, short (50 chars or less) summary

More detailed explanatory text, if necessary. Wrap it to about 72 characters or so.

Write your commit message in the imperative: "Fix bug" and not "Fixed bug" or "Fixes bug."

Further paragraphs come after blank lines.

- Bullet points are okay, too
- Typically a hyphen or asterisk is used for the bullet, followed by a single space, with blank lines in between





### **About commits squashing :**

- a common practice in Git to combine multiple commits into one
- it is often done to clean up commit history before merging into the main branch.

### About commits squashing :

- a common practice in Git to combine multiple commits into one
- it is often done to clean up commit history before merging into the main branch.

```
git rebase -i HEAD~4 (number of commits)
a text editor will appear with:
pick b0e6655 Delete .lock
pick f4e3f09 Delete .log
pick da66e6a Delete version.ini
pick 25c38c4 remove .class files
```

Change the pick of commits you want to squash by squash or s : they will be squashed into the remaining pick commit :

```
pick b0e6655 Delete .lock
s f4e3f09 Delete .log
s da66e6a Delete version.ini
s 25c38c4 remove .class files
```

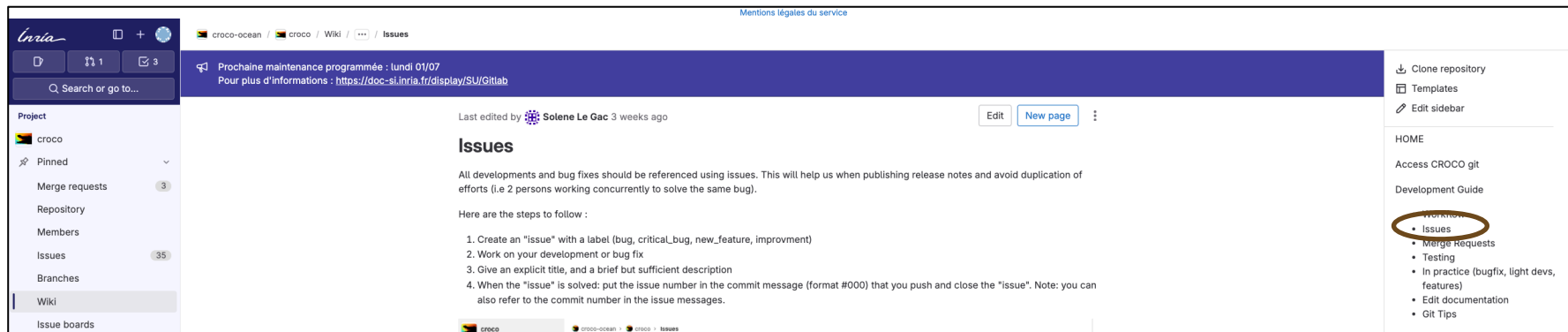
Then the rebase -i tool will open a new text editor to write the validation message. Add the validation message on top of the first message and save.

## CROCO – Git workflow , important things to remember

- If you find a bug, report it in an **ISSUE**
- If you want to treat a bug, create a **BRANCH**, fix it and open a **MERGE REQUEST**. Do not forget to link with the dedicated issue
- If you want to develop a feature, create a **BRANCH**, work on it and finally open a **MERGE REQUEST** to integrate it. If the work takes long, do not forget to SYNCHRONIZE with a GIT MERGE MASTER
- Do not forget to update **DOCUMENTATION** about your code
- Do not forget to **TEST** your code



# CROCO – Git workflow : Issues



The screenshot shows the 'Issues' page of the 'croco-ocean' repository on the Inria platform. The page has a dark blue header with the Inria logo and navigation links. A purple banner at the top contains maintenance information. The left sidebar lists repository features like 'Merge requests', 'Issues', and 'Wiki'. The main content area is titled 'Issues' and includes a list of steps for creating and managing issues. The right sidebar contains links to 'Clone repository', 'Templates', and a 'Development Guide' which includes a link to 'Issues' (highlighted with a red circle).

croco-ocean / croco / Wiki / Issues

Prochaine maintenance programmée : lundi 01/07  
Pour plus d'informations : <https://doc-si.inria.fr/display/SU/Gitlab>

Last edited by Solene Le Gac 3 weeks ago

## Issues

All developments and bug fixes should be referenced using issues. This will help us when publishing release notes and avoid duplication of efforts (i.e 2 persons working concurrently to solve the same bug).

Here are the steps to follow :

1. Create an "issue" with a label (bug, critical\_bug, new\_feature, improvement)
2. Work on your development or bug fix
3. Give an explicit title, and a brief but sufficient description
4. When the "issue" is solved: put the issue number in the commit message (format #000) that you push and close the "issue". Note: you can also refer to the commit number in the issue messages.

croco

croco-ocean > croco > Issues

Clone repository  
Templates  
Edit sidebar

HOME

Access CROCO git

Development Guide

- Issues
- Merge Requests
- Testing
- In practice (bugfix, light devs, features)
- Edit documentation
- Git Tips

# CROCO – Git workflow : Issues

The screenshot displays the 'Issues' page for the 'croco-ocean' repository on the Inria platform. The interface includes a top navigation bar with 'croco-ocean / croco / Wiki / Issues' and a 'Mentions légales du service' link. A left sidebar shows the project structure with 'Issues' highlighted. The main content area lists several open issues, each with a title, number, creation time, author, and labels. A right sidebar contains links for repository management and a 'HOME' section with a 'Workflows' link circled in red.

**Project**

- croco
- Pinned
- Merge requests (3)
- Repository
- Members
- Issues (35)
- Branches
- Wiki
- Issue boards

**Project**

- croco
- Pinned
- Merge requests (3)
- Repository
- Members
- Issues (34)
- Branches
- Wiki
- Issue boards
- Releases
- Manage
- Plan
- Issues (34)

**croco-ocean / croco / Issues**

Open 34 Closed 159 All 193 Bulk edit New issue

Search or filter results... Created date

- ESTUARY test case, wrong MPI decomposition for grid**  
#193 - created 5 days ago by Solene Le Gac - RELEASE\_2.1  
bug MPI mustang/sediment updated 3 days ago
- dev\_2024\_TKE3D\_LES\_MIXING**  
#192 - created 1 week ago by LEMARIE Florian  
new feature
- Bug in rhs3d\_w\_nh.F with W\_HADV\_C2, W\_HADV\_C4 or W\_HADV\_TVD**  
#191 - created 2 weeks ago by LEMARIE Florian  
bug numerics updated 2 weeks ago
- test case for coupling with toy**  
#190 - created 2 weeks ago by Swen Jullien - RELEASE\_2.1  
CI coupling updated 2 weeks ago
- Cleaning time, scrum\_time, ocean\_time**  
#189 - created 2 weeks ago by Swen Jullien - RELEASE\_2.1  
cleaning
- Mismatch between PISCES code and input name variables for BSI, DSI and GSI**  
#188 - created 3 weeks ago by Renaud Person - RELEASE\_2.1  
updated 1 day ago

**HOME**

- Access CROCO git
- Development Guide
- Workflows
  - Issues
  - Merge Requests
  - Testing
  - In practice (bugfix, light devs, features)
  - Edit documentation
  - Git Tips

# CROCO – Git workflow : Issues

The screenshot displays the CROCO Git repository's Issues page on the Inria platform. The interface includes a top navigation bar with the Inria logo and a search bar. The main content area shows a list of open issues, each with a title, number, creation date, and labels. A 'New issue' button is circled in the top right. A sidebar on the right shows navigation links, with 'Issues' highlighted.

**Issues List:**

- ESTUARY test case, wrong MPI decomposition for grid**  
#193 - created 5 days ago by Solene Le Gac - RELEASE\_2.1  
Labels: bug, MPI, mustang/sediment  
updated 3 days ago
- dev\_2024\_TKE3D\_LES\_MIXING**  
#192 - created 1 week ago by LEMARIE Florian  
Label: new feature
- Bug in rhs3d\_w\_nh.F with W\_HADV\_C2, W\_HADV\_C4 or W\_HADV\_TVD**  
#191 - created 2 weeks ago by LEMARIE Florian  
Labels: bug, numerics  
updated 2 weeks ago
- test case for coupling with toy**  
#190 - created 2 weeks ago by Swen Jullien - RELEASE\_2.1  
Labels: CI, coupling  
updated 2 weeks ago
- Cleaning time, scrum\_time, ocean\_time**  
#189 - created 2 weeks ago by Swen Jullien - RELEASE\_2.1  
Label: cleaning
- Mismatch between PISCES code and input name variables for BSI, DSI and GSI**  
#188 - created 3 weeks ago by Renaud Person - RELEASE\_2.1  
updated 1 day ago

**Navigation Sidebar (Right):**

- Clone repository
- Templates
- Edit sidebar
- HOME
- Access CROCO git
- Development Guide
- Workflows
  - Issues
  - Merge Requests
  - Testing
  - In practice (bugfix, light devs, features)
  - Edit documentation
  - Git Tips

# CROCO – Git workflow : Issues

The screenshot displays the CROCO web application interface for creating a new issue. The layout includes a left sidebar with navigation options, a top header with project context, and a right sidebar with additional actions.

**Left Sidebar:**

- Project: croco
- Pinned
- Merge requests (3)
- Repository
- Members
- Issues (35)
- Branches
- Wiki
- Issue boards

**Top Header:**

- croco-ocean / croco / Wiki / Issues
- Mentions légales du service

**Right Sidebar:**

- Clone repository
- Templates
- Edit sidebar
- HOME
- Access CROCO git
- Development Guide
- Workflows
  - Issues (highlighted)
  - Merge Requests
  - Testing
  - In practice (bugfix, light dev, features)
  - Edit documentation
  - Git Tips

**New Issue Form:**

- Title (required):** bug into toto.F
- Type:** Issue
- Description:** identified bug xx into toto.F
- Assignee:** Unassigned (Assign to me)
- Milestone:** RELEASE\_2.1
- Labels:** bug
- Due date:** Select due date
- Buttons:** Create Issue, Cancel



# CROCO – Git workflow : Issues

The screenshot displays the CROCO web interface for creating a new issue. The interface is divided into several sections:

- Left Sidebar:** Contains navigation links for Project, Pinned, Merge requests, Repository, Members, Branches, Wiki, and Issue boards. The 'Issues' link is highlighted.
- Top Header:** Shows the project context: 'croco-ocean / croco / Wiki / Issues'.
- Right Sidebar:** Contains user options: Clone repository, Templates, Edit sidebar, HOME, Access CROCO git, and Development Guide. The 'Issues' link under 'Development Guide' is highlighted with a red circle.
- Main Content Area:** Displays the 'New Issue' form with the following fields:
  - Title (required):** bug into toto.F
  - Type:** Issue
  - Description:** identified bug xx into toto.F
  - Assignee:** Unassigned
  - Milestone:** RELEASE\_2.1
  - Labels:** bug
  - Due date:** Select due date
- Bottom:** A red circle highlights the 'Create Issue' button.

# CROCO – Git workflow : Issues

The screenshot displays the Inria Git workflow interface. The top navigation bar includes the Inria logo, project navigation (Project, Wiki, Issues), and a search bar. The main content area shows the 'New Issue' form with fields for Title (required), Description, Assignee, Milestone, Labels, and Due date. A 'Create Issue' button is highlighted with a red circle. Below the form, a list of issues is shown, including one titled 'bug into toto.F' with a 'bug' label. The right sidebar contains links for Clone repository, Templates, Edit sidebar, and HOME. The bottom sidebar lists various project management tools like Releases, Manage, Plan, Issues, Issue boards, Milestones, Wiki, Code, Build, Secure, Deploy, Operate, and Monitor.

## CROCO – Git workflow , important things to remember

- If you find a bug, report it in an **ISSUE**
- If you want to treat a bug, create a **BRANCH**, fix it and open a **MERGE REQUEST**. Do not forget to link with the dedicated issue
- If you want to develop a feature, create a **BRANCH**, work on it and finally open a **MERGE REQUEST** to integrate it. If the work takes long, do not forget to **SYNCHRONIZE** with a GIT MERGE MASTER
- Do not forget to update **DOCUMENTATION** about your code
- Do not forget to **TEST** your code

## CROCO – Git workflow : Issues and branch creation

# CROCO – Git workflow : Issues and branch creation

## bug into toto.F

Open Issue created 3 hours ago by Gildas Cambon

identified bug xx into toto.F

just an example for the dev meeting in Toulouse

Edited 39 minutes ago by Gildas Cambon

👍 0 👎 0 😊

Create merge request

To upload designs, you'll need to enable LFS and have an admin enable hashed storage. [More information](#)

Child items 0

Show labels ☒ Add ^

No child items are currently assigned. Use child items to break down this issue into smaller parts.

Linked items 0

Add ^

Link issues together to show that they're related. [Learn more.](#)

### Activity

Sort or filter

- Gildas Cambon changed milestone to %RELEASE\_2.1 3 hours ago
- Gildas Cambon added bug label 3 hours ago

# CROCO – Git workflow : Issues and branch creation

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Create merge request

To upload designs, you'll need to enable LFS and have an admin enable hashed storage. [More information](#)

Child items 0

No child items are currently assigned. Use child items to break down this issue into smaller parts.

Linked items 0

Link issues together to show that they're related. [Learn more.](#)

### Activity

- Gildas Cambon changed milestone to %RELEASE\_2.1 3 hours ago
- Gildas Cambon added bug label 3 hours ago

Create merge request and branch

Create branch

Branch name

194-bug-into-toto-f

Branch name is available

Source (branch or tag)

for\_2024devmeeting

Source is available

Create branch

# CROCO – Git workflow : Issues and branch creation

## bug into toto.F

Open Issue created 3 hours ago by Gildas Cambon

identified bug xx into toto.F

just an example for the dev meeting in Toulouse

Edited 39 minutes ago by Gildas Cambon

👍 0

👎 0

😊

Create merge request

To upload designs, you'll need to enable LFS and have an admin enable hashed storage. [More information](#)

Child items 0

No child items are currently assigned. Use child items to break down this issue into smaller parts.

Linked items 0

Link issues together to show that they're related. [Learn more.](#)

### Activity

- Gildas Cambon changed milestone to `%RELEASE_2.1` 3 hours ago
- Gildas Cambon added `bug` label 3 hours ago

Create merge request and branch

✓ Create branch

Branch name

194-bug-into-toto-f

Branch name is available

Source (branch or tag)

for\_2024devmeeting

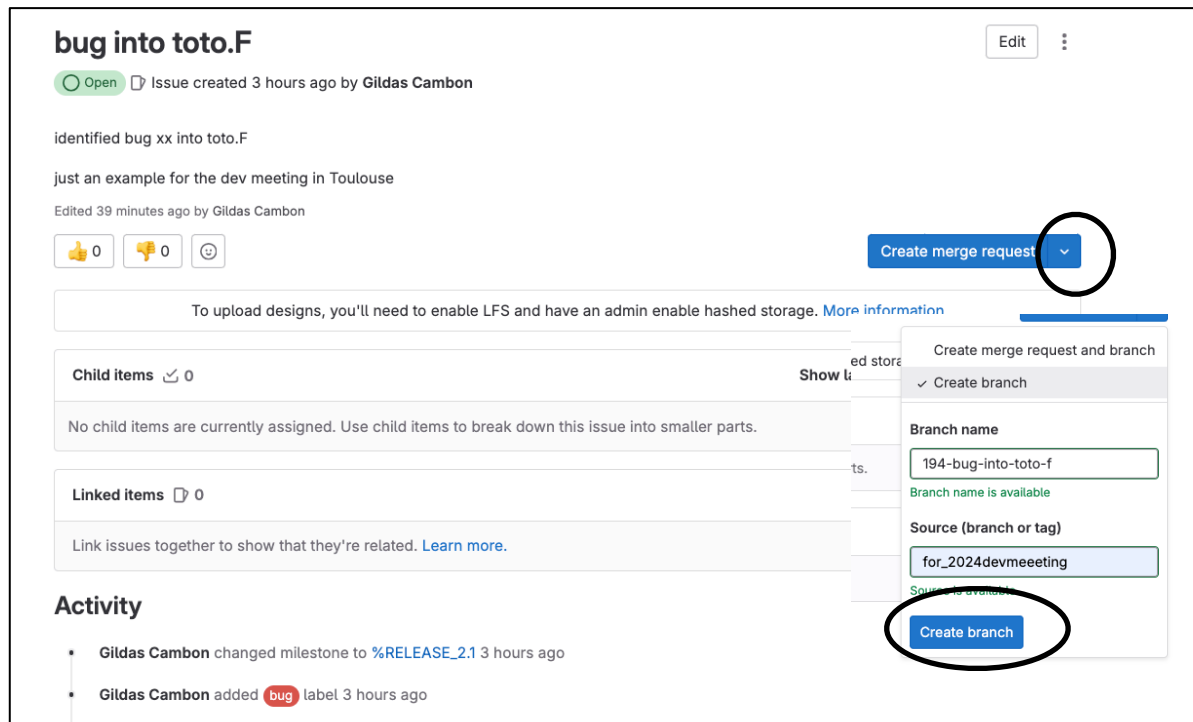
Source is available

Create branch

You can change name



# CROCO – Git workflow : Issues and branch creation



The screenshot shows a GitHub issue titled "bug into toto.F" created 3 hours ago by Gildas Cambon. The issue is marked as "Open". The description reads: "identified bug xx into toto.F" and "just an example for the dev meeting in Toulouse". It has been edited 39 minutes ago by Gildas Cambon. There are no reactions yet. A dropdown menu is open from the "Create merge request" button, showing options: "Create merge request and branch" (selected), "Create branch", "Branch name" (with input "194-bug-into-toto-f" and a green check "Branch name is available"), "Source (branch or tag)" (with input "for\_2024devmeeting"), and "Create branch" (circled in red). The issue has no child items and no linked items. The activity log shows Gildas Cambon changed the milestone to "%RELEASE\_2.1" 3 hours ago and added a "bug" label 3 hours ago.

**bug into toto.F**

Open Issue created 3 hours ago by Gildas Cambon

identified bug xx into toto.F

just an example for the dev meeting in Toulouse

Edited 39 minutes ago by Gildas Cambon

0 0

Create merge request

To upload designs, you'll need to enable LFS and have an admin enable hashed storage. [More information](#)

Child items 0

No child items are currently assigned. Use child items to break down this issue into smaller parts.

Linked items 0

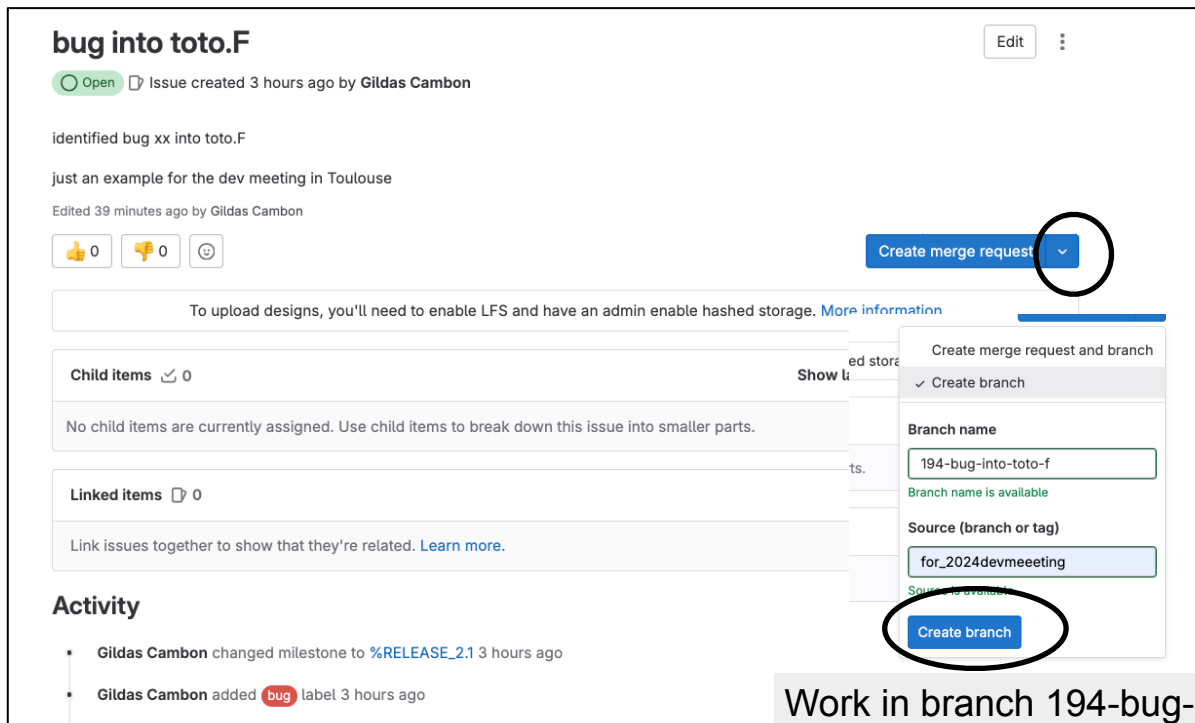
Link issues together to show that they're related. [Learn more.](#)

**Activity**

- Gildas Cambon changed milestone to %RELEASE\_2.1 3 hours ago
- Gildas Cambon added **bug** label 3 hours ago

You can change name

# CROCO – Git workflow : Issues and branch creation



The screenshot shows a GitHub issue titled "bug into toto.F" created 3 hours ago by Gildas Cambon. The issue is marked as "Open". The description reads: "identified bug xx into toto.F" and "just an example for the dev meeting in Toulouse". It has been edited 39 minutes ago by Gildas Cambon. There are 0 thumbs up, 0 thumbs down, and 0 reactions. A dropdown menu is open from the "Create merge request" button, showing options: "Create merge request and branch" (selected), "Create branch", "Branch name" (194-bug-into-toto-f), "Branch name is available", "Source (branch or tag)" (for\_2024devmeeting), and "Create branch". The "Create branch" button at the bottom of the dropdown is circled. Below the issue, there are sections for "Child items" (0), "Linked items" (0), and "Activity". The activity shows Gildas Cambon changing the milestone to %RELEASE\_2.1 3 hours ago and adding a "bug" label 3 hours ago.

**bug into toto.F**

Open Issue created 3 hours ago by Gildas Cambon

identified bug xx into toto.F

just an example for the dev meeting in Toulouse

Edited 39 minutes ago by Gildas Cambon

0 0

To upload designs, you'll need to enable LFS and have an admin enable hashed storage. [More information](#)

**Child items** 0

No child items are currently assigned. Use child items to break down this issue into smaller parts.

**Linked items** 0

Link issues together to show that they're related. [Learn more.](#)

**Activity**

- Gildas Cambon changed milestone to %RELEASE\_2.1 3 hours ago
- Gildas Cambon added **bug** label 3 hours ago

Create merge request

Create merge request and branch

✓ Create branch

Branch name

194-bug-into-toto-f

Branch name is available

Source (branch or tag)

for\_2024devmeeting

Create branch

You can change name

Work in branch 194-bug-into-toto-f

## CROCO – Git workflow : Issues and branch creation

Work on branch 194-bug-into-toto-f ....



## CROCO – Git workflow : Issues and branch creation

Work on branch 194-bug-into-toto-f ....

	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFJ	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.



## CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

## CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

Now merge request into master and release ...

## CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

Now merge request into master and release ...





## CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

Now merge request into master and release ...

The process of propagating your commit into another branch  
=> master and release branches to be useful for others



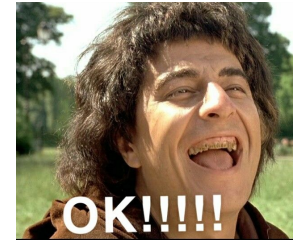


## CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

Now merge request into master and release ...

The process of propagating your commit into another branch  
=> master and release branches to be useful for others

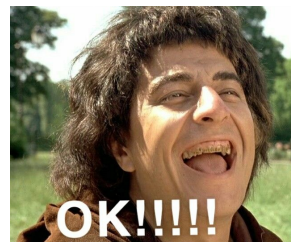


# CROCO – Git workflow : merge request

Work on branch 194-bug-into-toto-f is finished

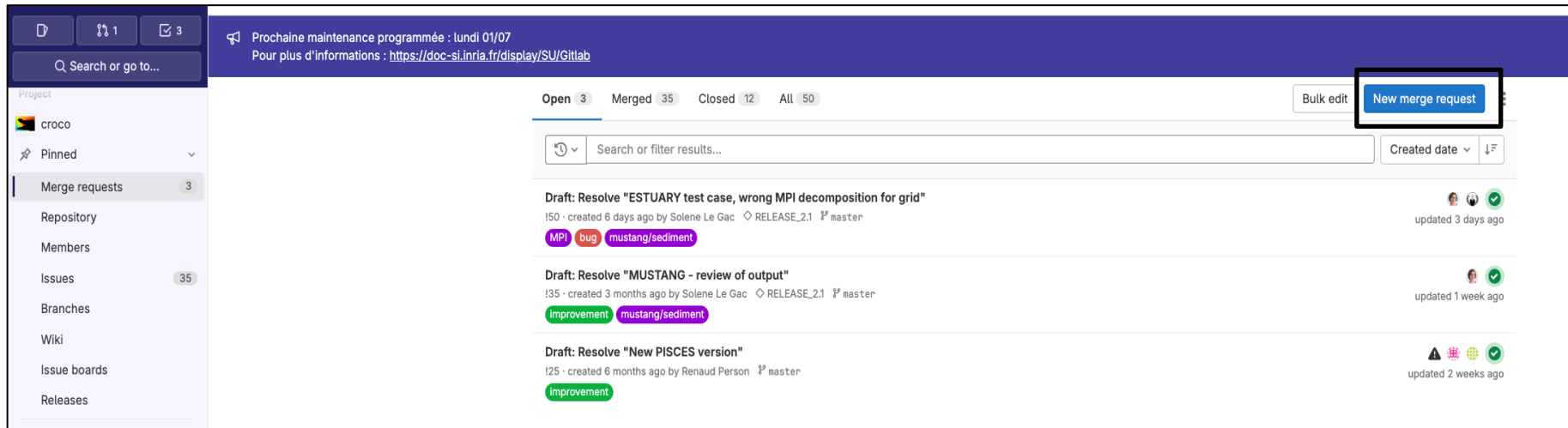
Now merge request into master and release ...

The process of propagating your commit into another branch  
=> master and release branches to be useful for others



A screenshot of the GitLab web interface for the 'croco' project. The left sidebar shows navigation options like 'Project', 'Pinned', 'Merge requests' (with 3 items), 'Repository', 'Members', 'Issues' (with 35 items), 'Branches', 'Wiki', and 'Issue boards'. The main content area is titled 'Merge Requests' and includes a 'Last edited by Solene Le Gac 3 weeks ago' notice. It contains instructions on how to create a merge request, a link to the GitLab documentation, and a section titled 'Squash : merging several commits before push' which explains the purpose of squashing commits. The right sidebar shows options to 'Clone repository', 'Templates', and 'Edit sidebar', along with a 'HOME' section and a 'Development Guide' section where 'Merge Requests' is highlighted in a red circle.

# CROCO – Git workflow : merge request



The screenshot displays the GitLab web interface for the 'croco' project. The left sidebar contains navigation links: Project, Pinned, Merge requests (3), Repository, Members, Issues (35), Branches, Wiki, Issue boards, and Releases. The main content area shows a list of merge requests. At the top, a purple banner contains a maintenance notice: 'Prochaine maintenance programmée : lundi 01/07' and a link to documentation. Below the banner, filters for 'Open' (3), 'Merged' (35), 'Closed' (12), and 'All' (50) are visible. A search bar and a 'New merge request' button are also present. The list of merge requests includes three entries, each with a title, author, branch, and status icons.

Prochaine maintenance programmée : lundi 01/07  
Pour plus d'informations : <https://doc-si.inria.fr/display/SU/Gitlab>

Open 3 Merged 35 Closed 12 All 50

Search or filter results...

Created date


**Draft: Resolve "ESTUARY test case, wrong MPI decomposition for grid"**  
!50 · created 6 days ago by Solene Le Gac · RELEASE\_2.1 · master  
MPI bug mustang/sediment  
updated 3 days ago

**Draft: Resolve "MUSTANG - review of output"**  
!35 · created 3 months ago by Solene Le Gac · RELEASE\_2.1 · master  
improvement mustang/sediment  
updated 1 week ago

**Draft: Resolve "New PISCES version"**  
!25 · created 6 months ago by Renaud Person · master  
improvement  
updated 2 weeks ago

# CROCO – Git workflow : merge request

Project

 croco

Pinned

Merge requests 3

Repository

Members

Issues 35

Branches

Wiki

Issue boards


Releases

## New merge request


Source branch

croco-ocean/croco

194-bug-into-toto-f

 Second commit : ...  
Gildas Cambon authored Jun 28, 2024

e2023c03




Compare branches and continue


Target branch

croco-ocean/croco

for\_2024devmeeting


 Resolve "Mismatch between PISCES code and input name variables for BSI, DSI and GSI"  
Renaud Person authored Jun 18, 2024 and Rachid Benshila committed Jun 18, 2024

feb25194



# CROCO – Git workflow : merge request

Project

 croco

Pinned

Merge requests 3

Repository

Members

Issues 35

Branches

Wiki

Issue boards

Releases

New merge request

From 194-bug-info-toto-F into for\_2024devmeeting [Change branches](#)

Title (required)










Draft: Second commit :

☒ Mark as draft

Drafts cannot be merged until marked ready.

Description

Preview

B I         

- add a line in toto.F

Closes #194

Switch to rich text editing

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

Assignee

Gildas Cambon

Reviewer

Solene Le Gac

Target branch

RELEASE\_2.1

Labels

bug

Merge options

☐ Delete source branch when merge request is accepted.

☒ Squash commits when merge request is accepted. [?](#)

Create merge request Cancel

Commits 2 Pipelines 2 Changes 1

Jun 28, 2024

Second commit : ...

Gildas Cambon authored 6 minutes ago

e2823c83

Jun 27, 2024

Update file toto.F

Gildas Cambon authored 16 hours ago

3b691df1

for\_2024devmeeting

smatch between PISCES code and input files for BSI, DSI and GSI"

on authored Jun 18, 2024 and Rachid

mitted Jun 18, 2024

feb25194

16

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## Draft: update toto.F

Open

Gildas Cambon requested to merge 194-bug-into-toto-f into for\_2024devmeeting 41 minutes ago

Overview2

Commits8

Pipelines6

Changes2

Various commit that will be squashed. We add a new file containing a 3 lines

Closes #194

👍0

👎0

🗨️

✓ Pipeline #998706 passed

Pipeline passed for 8289b740 on 194-bug-into-toto-f 1 minute ago

8

Approve

Approval is optional ?

⊖ Merge blocked: 1 check failed

Merge request must not be draft. Mark as ready

Merge details

- 1 commit will be added to for\_2024devmeeting.
- Source branch will not be deleted.

Activity

All activity

- Gildas Cambon changed milestone to %RELEASE\_2.1 41 minutes ago
- Gildas Cambon added bug label 41 minutes ago
- Gildas Cambon requested review from @x-SLeGac 41 minutes ago
- Gildas Cambon assigned to @gcambon 41 minutes ago

Edit

Code

All threads resolved!

Add a to do

Assignee

Gildas Cambon

Reviewer

Solene Le Gac

Labels

bug

Milestone

RELEASE\_2.1

Time tracking

No estimate or time spent

2 Participants

meeting

feb25194

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croco

Pinned

Merge requests

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## update toto.F



 **Gildas Cambon** requested to merge `194-bug-into-toto-f` into `for_2024devmeeting` 41 minutes ago

**Overview** 2 Commits 8 Pipelines 6 Changes 2



Various commit that will be squashed. We add a new file containing a 3 lines


Closes #194


 0  0 


 **Pipeline #998706 passed** 

Pipeline passed for `8289b740` on `194-bug-into-toto-f` 1 minute ago

8  Approval is optional 

 **Ready to merge!**

☐ Delete source branch ☒ Squash commits  ☒ Edit commit message


**Squash commit message** Use an existing commit message 

Various update :


- add a file toto.F
- make various modifications on it
- accept some suggestions
- modify the `.gitlab-ci.yml`


To change this default message, edit the template for squash commit messages. [Learn more.](#)



1 commit will be added to `for_2024devmeeting`.





Edit


Code 






All threads resolved!  Add a to do 


**Assignee** 


 Gildas Cambon

**Reviewer** 



 Solene Le Gac 

**Labels** 





**Milestone** 

RELEASE\_2.1

**Time tracking**  

No estimate or time spent

**2 Participants**

meeting

feb25194

# CROCO – Git workflow : merge request

Project

croco

Pinned

Merge requests

Repository

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## update toto.F

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**Overview** 2 Commits 8 Pipelines 6 Changes 2

Various commit that will be squashed. We add a new file containing a 3 lines

Closes #194

0 0

**Pipeline #998706 passed**  
Pipeline passed for 8289b740 on 194-bug-into-toto-f 1 minute ago

8 **Approve** Approval is optional

**Ready to merge!**

☐ Delete source branch ☒ Squash commits ☒ Edit commit message

**Squash commit message** Use an existing commit message

Various update :

- add a file toto.F
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1 commit will be added to for\_2024devmeeting.

Edit Code

All threads resolved! Add a to do

**Assignee** Gildas Cambon

**Reviewer** Solene Le Gac

**Labels** bug

**Milestone** RELEASE\_2.1

**Time tracking** No estimate or time spent

**2 Participants**

meeting

feb25194

# CROCO – Git workflow : merge request

Project

croco

Pinned

Merge re

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Member

Issues

Branche

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Issue bo

Release

## update toto.F

Merged

Gildas Cambon requested to merge `194-bug-into-toto-f` into `for_2024devmeeting` 41 minutes ago

Overview 2

Commits 8

Pipelines 6

Changes 2

Various commit that will be squashed. We add a new file containing a 3 lines

Closes #194

👍 0

👎 0

😊

✓ Pipeline #998706 passed

Pipeline passed for `8289b740` on `194-bug-into-toto-f` 1 minute ago

8 Approval is optional

Merged by Gildas Cambon just now

Revert Cherry-pick Delete source branch

Merge details

- Changes merged into `for_2024devmeeting` with `c45f66b8` (commits were squashed).
- Did not delete the source branch.

● Pipeline #998725 created

Pipeline created for `c45f66b8` on `for_2024devmeeting`

Edit Code

All threads resolved!

Add a to do

Assignee

Gildas Cambon

Reviewer

Solene Le Gac

Labels

bug

Milestone

RELEASE\_2.1

Time tracking

No estimate or time spent

2 Participants

feb25194

16

# CROCO – Git workflow : merge request

Project

croco

Pinned

Merge re

Reposito

Member

Issues

Branche

Wiki

Issue bo

Release

## update toto.F

[Merged](#) Gildas Cambon requested to merge [194-bug-into-toto-f](#) into [for\\_2024devmeeting](#) 41 minutes ago

Overview 2

Commits 8

Pipelines 6

Changes 2

Various commit that will be squashed. We add a new file containing a 3 lines

Closes [#194](#)

👍 0

👎 0

😊

🟢 Pipeline #998706 passed

Pipeline passed for [8289b740](#) on [194-bug-into-toto-f](#) 1 minute ago

8 Approval is optional

Merged by [Gildas Cambon](#) just now

[Revert](#) [Cherry-pick](#) [Delete source branch](#)

Merge details

- Changes merged into [for\\_2024devmeeting](#) with [c45f66b8](#) (commits were squashed).
- Did not delete the source branch.

Pipeline #998725 created

Pipeline created for [c45f66b8](#) on [for\\_2024devmeeting](#)

Edit

Code

All threads resolved!

Add a to do

Assignee

[Gildas Cambon](#)

Edit

Reviewer

[Solene Le Gac](#)

Edit

Labels

[bug](#)

Edit

Milestone

[RELEASE\\_2.1](#)

Edit

Time tracking

No estimate or time spent

2 Participants

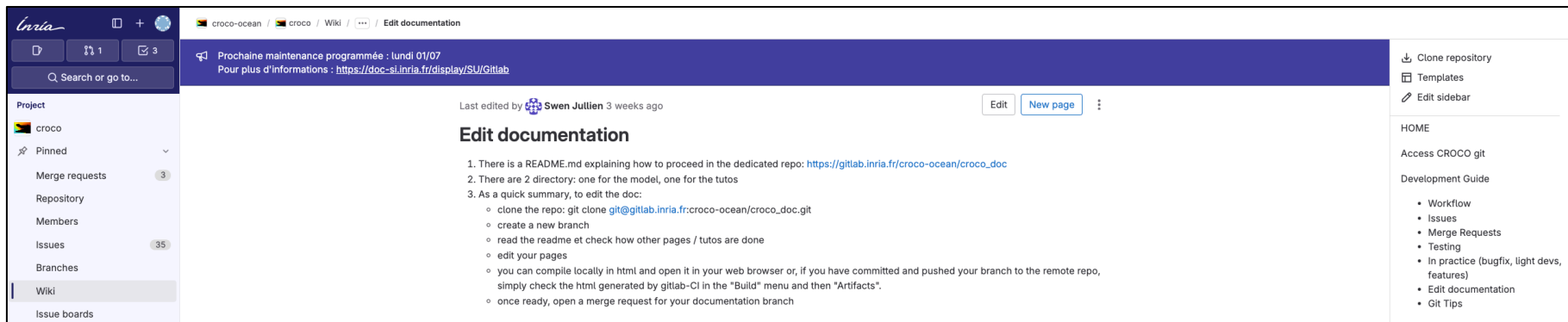
[Gildas Cambon](#) [Solene Le Gac](#)

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## CROCO – Git workflow , important things to remember


- If you find a bug, report it in an **ISSUE**
- If you want to treat a bug, create a **BRANCH**, fix it and open a **MERGE REQUEST**. Do not forget to link with the dedicated issue
- If you want to develop a feature, create a **BRANCH**, work on it and finally open a **MERGE REQUEST** to integrate it. If the work takes long, do not forget to SYNCHRONIZE with a GIT MERGE MASTER
- Do not forget to update **DOCUMENTATION** about your code
- Do not forget to **TEST** your code

# CROCO – Git workflow , important things to remember



The screenshot shows the Inria CROCO Git repository page. The left sidebar contains navigation links: Project, croco, Pinned, Merge requests (3), Repository, Members, Issues (35), Branches, Wiki (selected), and Issue boards. The main content area is titled 'Edit documentation' and shows a list of instructions for editing the documentation. The right sidebar contains links for 'Clone repository', 'Templates', 'Edit sidebar', 'HOME', 'Access CROCO git', and 'Development Guide'.

Prochaine maintenance programmée : lundi 01/07  
Pour plus d'informations : <https://doc-si.inria.fr/display/SU/Gitlab>

Last edited by  **Sven Jullien** 3 weeks ago

## Edit documentation

1. There is a README.md explaining how to proceed in the dedicated repo: [https://gitlab.inria.fr/croco-ocean/croco\\_doc](https://gitlab.inria.fr/croco-ocean/croco_doc)
2. There are 2 directory: one for the model, one for the tutos
3. As a quick summary, to edit the doc:
  - clone the repo: `git clone git@gitlab.inria.fr:croco-ocean/croco_doc.git`
  - create a new branch
  - read the readme et check how other pages / tutos are done
  - edit your pages
  - you can compile locally in html and open it in your web browser or, if you have committed and pushed your branch to the remote repo, simply check the html generated by gitlab-CI in the "Build" menu and then "Artifacts".
  - once ready, open a merge request for your documentation branch

Clone repository  
Templates  
Edit sidebar

HOME

Access CROCO git

Development Guide

- Workflow
- Issues
- Merge Requests
- Testing
- In practice (bugfix, light devs, features)
- Edit documentation
- Git Tips

# CROCO – Git workflow , important things to remember

The screenshot displays the CROCO web interface for the `croco_doc` repository. The interface is divided into several sections:

- Header:** Includes the CROCO logo, a search bar, and a notification about upcoming maintenance on Monday 01/07.
- Left Sidebar:** Contains navigation links for Project, Pinned, Merge requests, Repository, Members, Issues, Branches, Wiki, and Issue boards.
- Repository View:** Shows the `croco_doc` repository with a table of files and their commit history.
- Right Sidebar:** Contains project information, including commit counts, branches, tags, and storage usage.

**Repository Files Table:**

Name	Last commit	Last update
source	Update authors lis in html	2 months ago
<code>.gitignore</code>	update gitignore	2 years ago
<code>.gitignore_old</code>	update gitignore	2 years ago
<code>gitlab-ci.yml</code>	Fix #5, side effect of 1ec574ad with title...	4 months ago
Makefile	add a tuto page for installation, and up...	5 years ago
README.md	Update README.md	5 years ago

**Project Information:**

- 329 Commits
- 3 Branches
- 4 Tags
- 339.9 MiB Project Storage
- 2 Releases

**README Content:**

**croco\_doc**

- What do you need to compile your doc ?
  - a sphinx distribution ( see <http://www.sphinx-doc.org/en/master/usage/installation.html>)
- How to compile your doc ?
  - You have many output formats available (html, latex, pdf, epub, texinfo, man pages)
  - Once you have sphinx installed you just have to do

```
make html
```

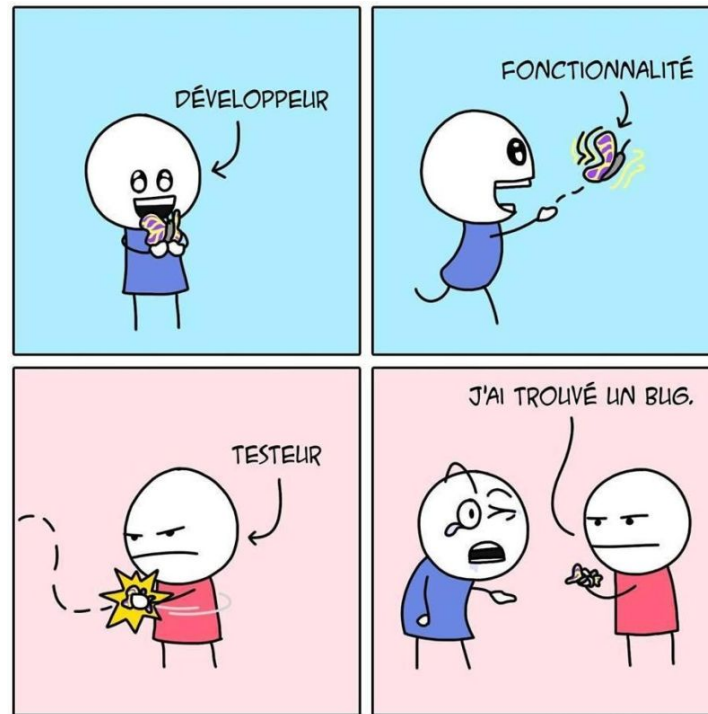
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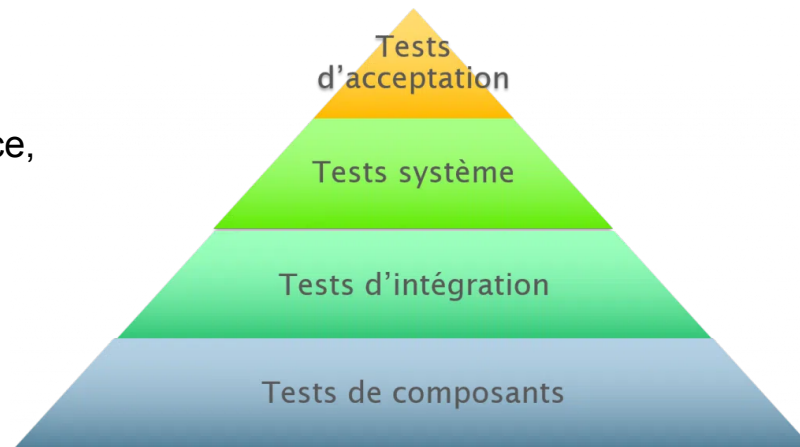
## Why testing ?

- Help to identify and fix bugs early on in the development process
- Make CROCO more reliable
- Ensure portability (ex : different compilers)



Different types of tests for different purposes

- Functional testing
- Non-functional tests (compatibility, compliance, non-regression, performance)



In the current CROCO, tests are based on TEST-CASES defined by **cppkey**

Currently :

- 33 "schematic configurations"
- 2 realistic configurations (REGIONAL, COASTAL)

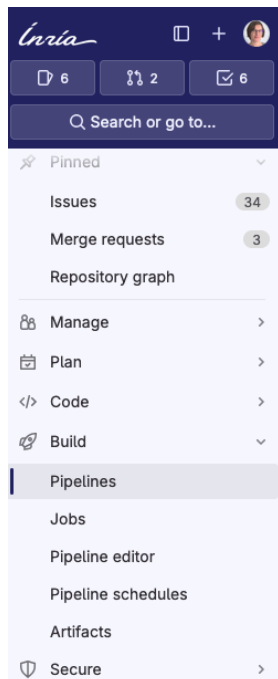
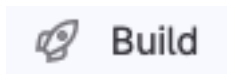
Tests are carried out :

- Manually by each developer to ensure the effects of code changes
- Automatically using gitlab-CI and RVTk cppkeys , based on bash scripts
  - Check parallel reproductibility for OPENMP and MPI
  - Check compilation on 2 compilers : gfortran and ifort (env from Docker containers)
  - 27 schematic and 1 realistic configurations tested

# CROCO – TESTING STRATEGY

How can I find out about automatic tests?

- See file `.gitlab-ci.yml`
- See Build menu in gitlab



croco-ocean / croco / Pipelines / #995535

## Resolve #187 - "move download for reg\_run from ci to docker container"

✓ Passed Solene Le Gac created pipeline for commit 719175ce 1 day ago, finished 1 day ago

For master

Scheduled 8 jobs 248 minutes 55 seconds, queued for 1 seconds

Pipeline Needs Jobs 8 Tests 0

run

✓ ana\_run\_gfortran

✓ ana\_run\_intel

✓ reg\_perfst\_gfortran

✓ reg\_perfst\_intel

✓ reg\_run\_gfortran

✓ reg\_run\_intel

✓ reg\_run\_gfortran

Limitations, areas for improvement ...

- No consistency in manual testing : poor traceability due to lack of history, everyone does what they want
- Very time consuming manual tests, automation to be rebuilt :  
But ... little flexibility in bash scripts

+

- No checking on physical results
- No test report
- Push tests took ~1h30, scheduled tests ~4h
- Unknown code coverage



**We should do something !!!**

BENCH python script developped by **Sebastien Vallat** :

- Automated bench script to handle various versions of configurations
- Dedicated branch : [for-team/proposal-master-bench](https://github.com/for-team/proposal-master-bench)
- Minimalist usage,  
example :

```
# jump in subdir & prep env
cd BENCH

# get python deps
python3 -m venv venv
pip install -r requirement.txt

# Run bench basic
./bench-croco.py --case BASIN --variants sequential

# More cases
./bench-croco.py --case BASIN,BASIN-LARGE --variants sequential,openmp-8,mpi-8,openacc-psyclone
```

Goals : add flexibility

- Not all tests will be run in the same way: some will be run on every push, others on schedule, and others only by the local user
- Rules may be different for the master and release branches than for the other branches
- Keep push tests as light as possible, while enabling problems to be reported quickly (by running `bench_croco.py` locally)

How ??

Categorize tests by :

- **Debug - functional**: compile and run a list of test cases, compilers and options
- **Performance**: compare test case computation times
- **Reproducibility**: compare results with the sequential case to detect non-reproducibility ("simple" repro test and the "RVTK" repro using binaries).
- **Regression**: compare results with a previously obtained reference version and generate associated plots

Test case types :

- analytical (no need of input files),
- semi-analytical/realistic (need of input files)



Implementation schedule for CROCO :  release end 2024

**STEP 1:** first set-up stage with 2 test cases: BASIN and BENGUELA

Step-by-step implementation:

- Debug-functional testing
- Repro-simple testing (level of -O to be defined)
- Repro-RVTK tests (be careful to modify the number of dt, USE\_CALENDAR case)
- Perf tests (std and optim)
- Regression test

**STEP 2:** addition of the other test cases and adding rules for CI

## CROCO – TESTING STRATEGY FUTURE PLANS

First implementation in gitlab-ci for  
BASIN test case in  
[for-team/proposal-master-bench](#)  
branch

