



Chaste infrastructure

- How to get help
- How to help out

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“Cancer Heart
and Soft
Tissue
Environment”

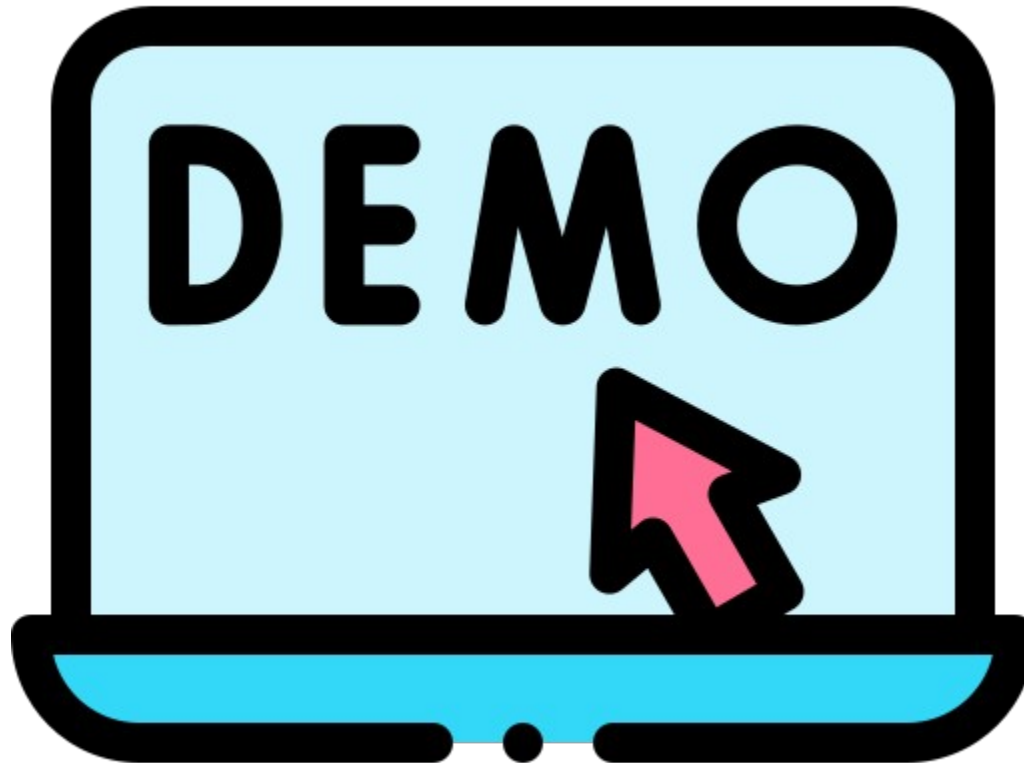


<https://chaste.github.io/>



Demonstrations

- Please try some of this, or ask for a live demo





Getting help: passive

- Tutorial pages (for now)

<https://chaste.cs.ox.ac.uk/trac/wiki/UserTutorials>

- Code documentation (for now)

<https://chaste.cs.ox.ac.uk/public-docs/>

- Chaste Github webpages (in future)

<https://chaste.github.io/>

The screenshot shows a web browser window with the title 'UserTutorials - Chaste'. The address bar shows the URL <https://chaste.cs.ox.ac.uk/trac/wiki/Use>. The page features the Chaste logo and a navigation bar with links: Login, Help/Guide, About Trac, Register, and Preferences. Below the navigation bar is a tabbed interface with tabs: Getting Started, Wiki (selected), Timeline, Roadmap, Browse source, Test results, Documentation, View tickets, and Search. The main content area is titled 'Chaste Tutorials' and includes a section 'Before you start' with a warning about the latest development version. A sidebar on the right lists various tutorial topics.

Chaste Tutorials

Before you start

If you are viewing this on the Chaste wiki, **the tutorials here are automatically updated to work with the latest development version of Chaste**. They are not guaranteed to work with any release version, in fact they are unlikely to! If you are working with a release version of the code then this page is archived upon releases; the tutorials corresponding to each release version of Chaste can be found at <https://chaste.cs.ox.ac.uk/chaste/tutorials/>

The basics

These tutorials assume prior knowledge or understanding of various C++ language features and some libraries, including (at least): `std::vector`s, `c_vector`s, and object-oriented inheritance including abstract classes and virtual methods.

Chaste Tutorials

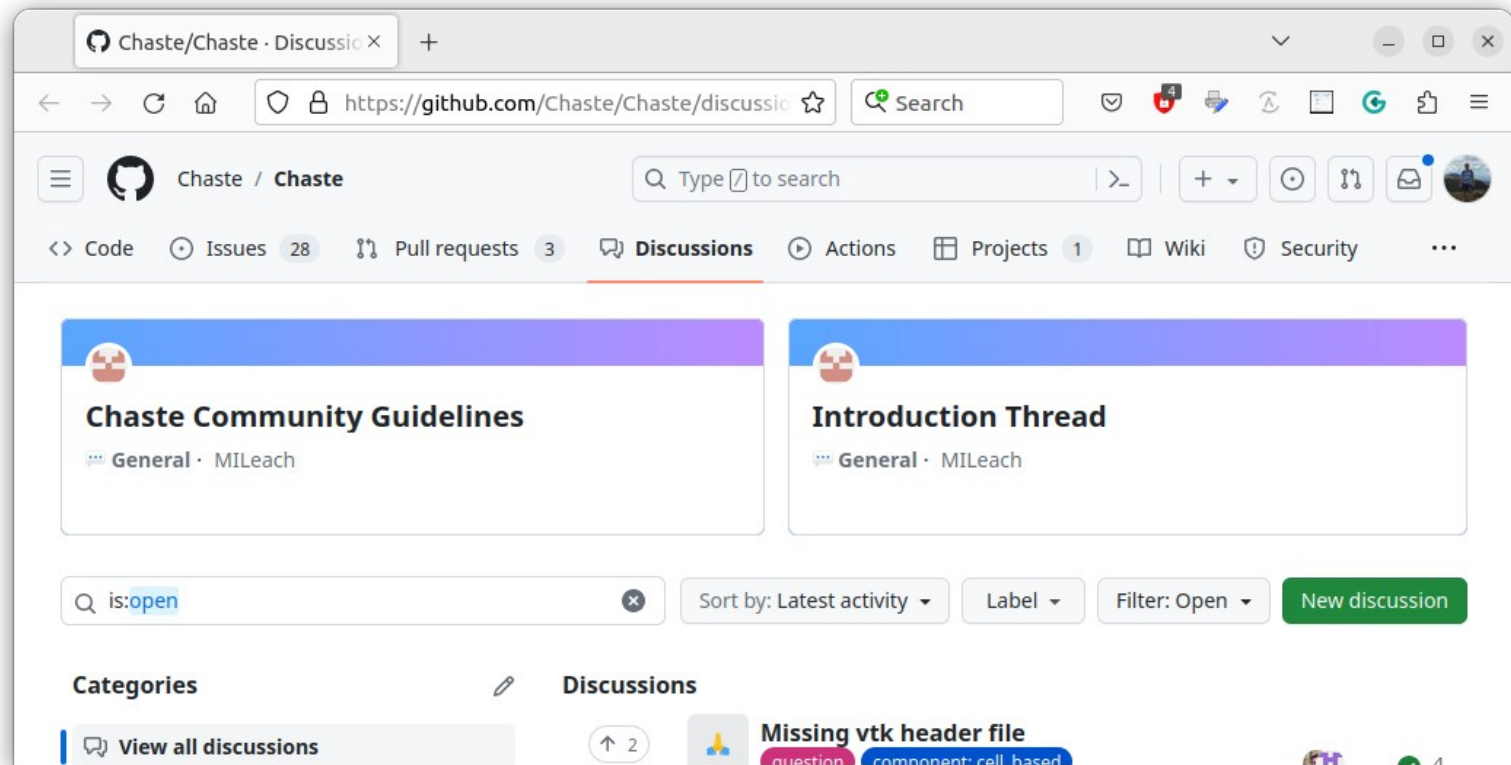
- Before you start
- The basics
- Core functionality
 - Solving ODEs
 - Solving PDEs
 - Writing new PDE solvers (advanced)
- Solid Mechanics
- Cardiac Chaste
- Cell-based Chaste
- Lung Chaste
- Automatically generated alphabetical listing



Getting help: active

- Github discussions

<https://github.com/Chaste/Chaste/discussions>

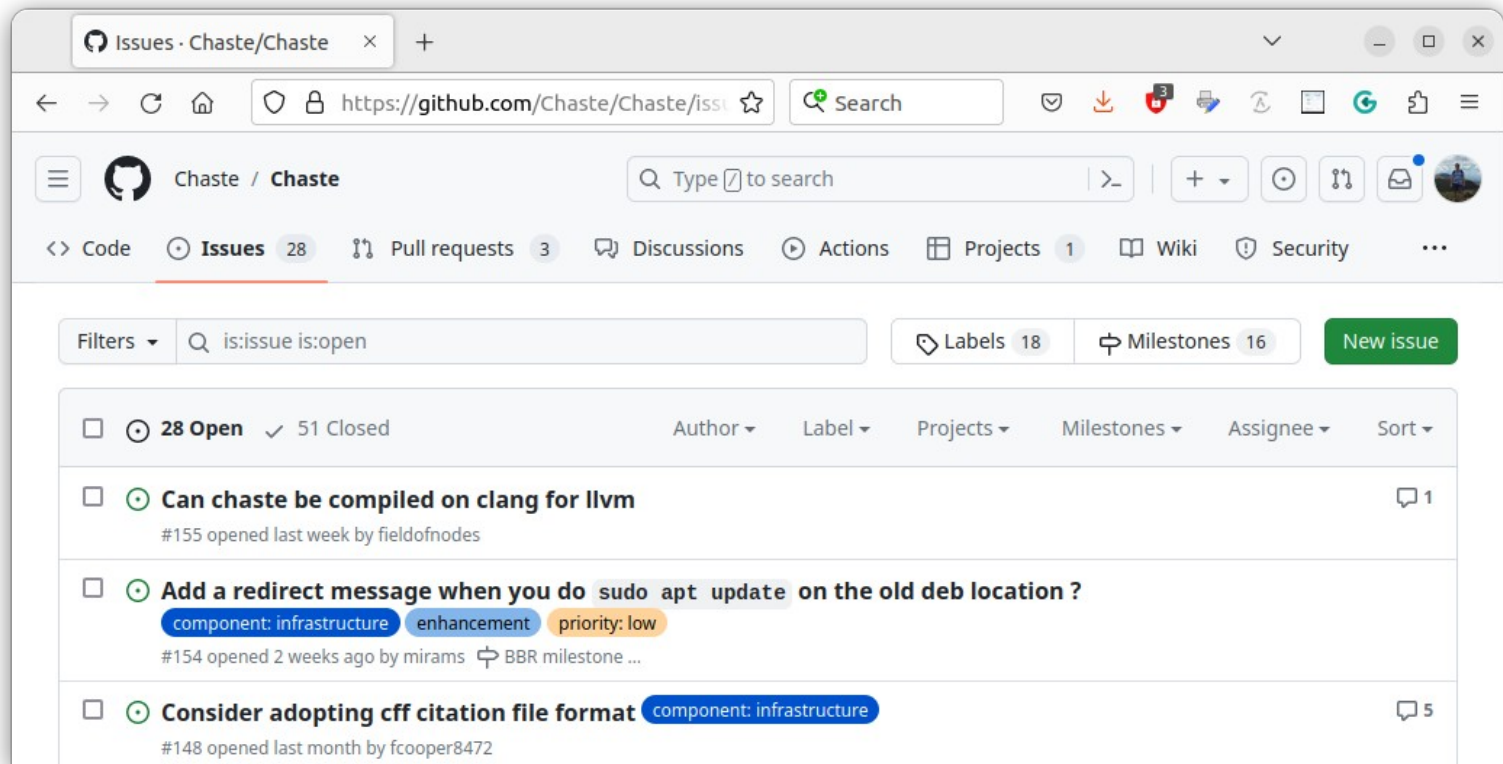




Getting help: more active

- Raise a Github issue (bug report)

<https://github.com/Chaste/Chaste/issues>





Getting help: more active


- A new “bug” issue contains a template
- You can edit, add or delete things as needed








New Issue · Chaste/Chaste × +

← → ↻ 🏠 🔒 https://github.com/Chaste/Chaste/issues/new ⭐ 🔍 Search 📧 🔔 🖨️ 🔄 📄 🌐 📌 ☰

Issue: Bug report

Create a report to help us improve. If this doesn't look right, [choose a different type](#).

 The bug I found today

Write Preview H B I       

Please see the [\[guides\]](https://chaste.cs.ox.ac.uk/trac/wiki/ChasteGuides)(https://chaste.cs.ox.ac.uk/trac/wiki/ChasteGuides), and [\[discussions\]](https://github.com/Chaste/Chaste/discussions)(https://github.com/Chaste/Chaste/discussions) for answers to common problems.

****Describe the bug****
A clear and concise description of the problem.

****To Reproduce****
Steps to reproduce the problem.








Attach files by dragging & dropping, selecting or pasting them.

Assignees

Assign up to 10 people to this issue

Type or choose a user

Suggestions

-  **jmpf** Joe Pitt-Francis
-  **AlexFletcher** Alex Fletcher
-  **bdevans** Ben Evans
-  **BJackal** Jack
-  **chastedevelopment** Chaste Bot
-  **ChastePi** Chaste Raspberry Pi
-  **fcooper8472** Fergus Cooper



Helping out: overview

- Main code in the Github *develop* branch
- *develop* is updated with tested, reviewed code
- Work is only pushed via other branches
- Changes tested **before** appearing in *develop*
- Automatic testing on Pull Request
- Testing on Github/University hardware
- Peer-review **before** merge to *develop*...
- ...but you get to merge your own changes



Helping out: fixing stuff

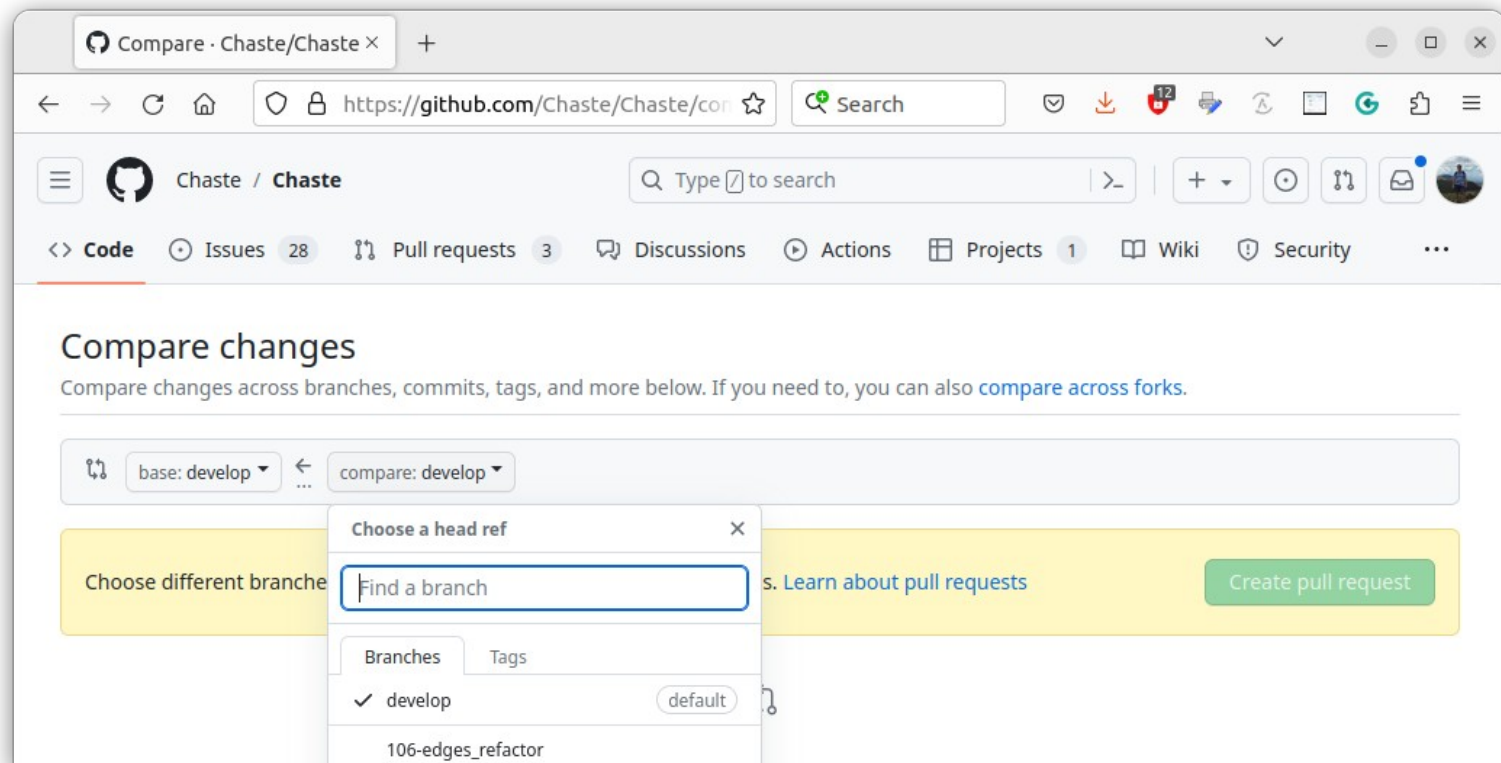
- Work and commit in a branch (or a fork)
- Use your C++ development environment (Ubuntu or Docker)

```
### Get code
$ git clone https://github.com/Chaste/Chaste.git
### Make a local branch from devel
$ git checkout devel
$ git branch issue_999_my_bug
$ git checkout issue_999_my_bug
### Do the work and regularly keep it up-to-date
$ git merge devel
$ git commit -m "#999 First attempt at fix"
### Push local commits back to Chaste Github
$ git push
```




Helping out: fixing stuff

- Make the branch into a Pull Request
- Choose reviewers
- Start getting emails about automated tests





Helping out: fixing stuff

- Deal with criticism and failing tests
- Note that pushes to the branch will change the Pull Request and re-trigger the testing

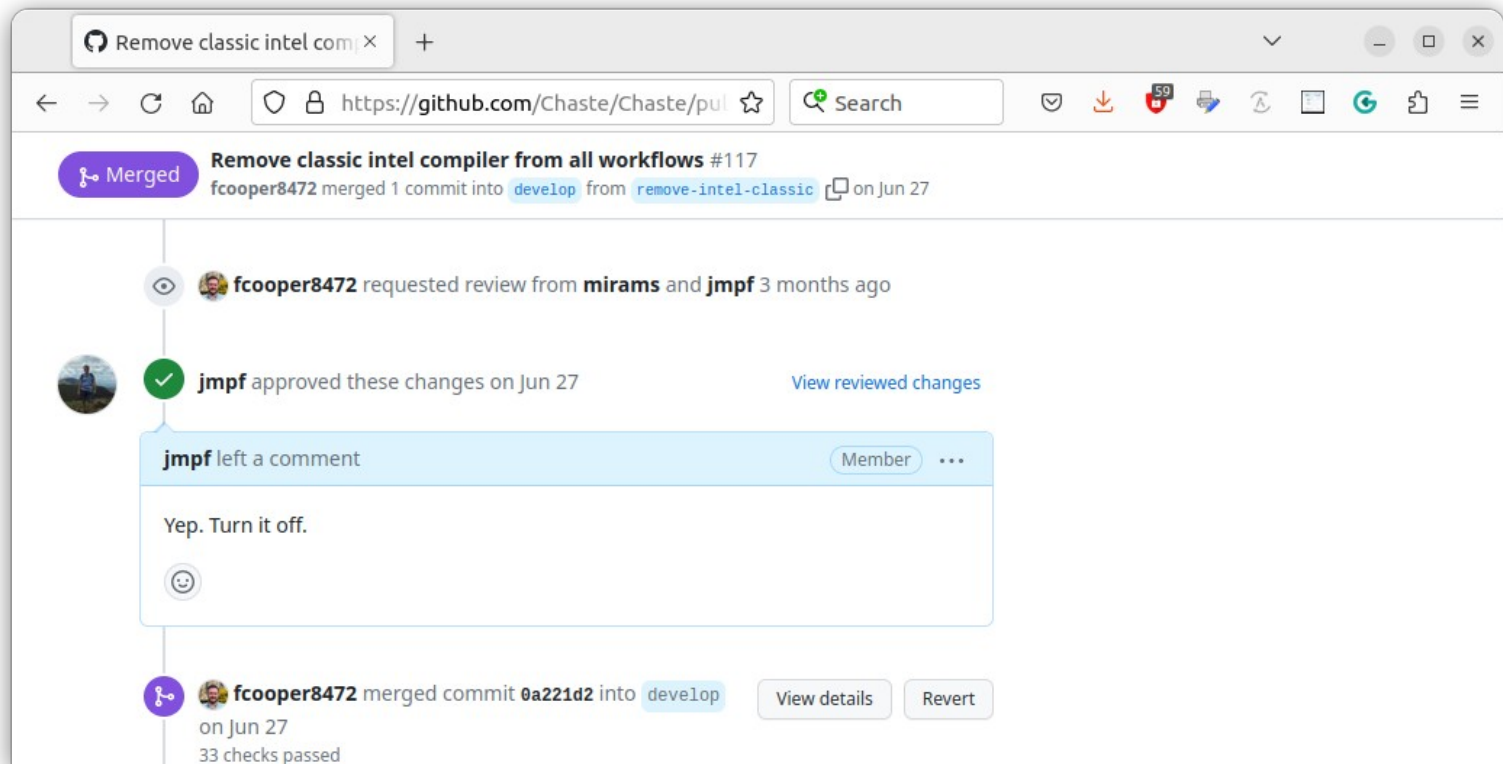
The screenshot shows the GitHub Actions interface for the 'Portability' workflow. The left sidebar lists various workflows, with 'Portability' selected. The main area displays '277 workflow runs' for the 'portability.yml' file. A blue banner indicates that the workflow has a 'workflow_dispatch' event trigger. Below this, two recent runs are shown:

Status	Run Name	Trigger	Actor	Time
Success (Green checkmark)	BBR WP 1.1 Immersed Boundary	Portability #277: Pull request #64 synchronize	mleach/immersed-boundary-...	15 hours ago, 1h 50m, 38s
Failure (Red X)	BBR WP 1.1 Immersed Boundary	Portability #276: Pull request #64 synchronize	mleach/immersed-boundary-...	19 hours ago, 1h 24m, 22s



Helping out: fixing stuff

- After passing tests and an approval: merge
- Now close the issue and delete the branch





Overview

- How to get help
 - Read the tutorials
 - Ask a question in Discussions
 - Raise an issue (bug report)
- How to help out
 - Make a branch and write a fix/feature
 - Turn branch into Pull Request
 - Wait for approval, then merges as needed