

Obtaining and Compiling Fluidity

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Session Overview

- ▶ Installing Fluidity from packages
- ▶ Obtaining Fluidity sourcecode
- ▶ GitHub and Buildbot
- ▶ Configuring, building, testing and installing
- ▶ A brief introduction to running Fluidity
- ▶ Updating Fluidity

How to obtain Fluidity

- ▶ **Binary** (release only)
Prebuilt packages are available for Ubuntu LTS, Red Hat 6 (and derivatives), and OpenSuSE (not officially supported)
- ▶ **Source** (release, trunk or branch)
Available from GitHub as a tarball (release only) or git repository

Installing the Fluidity package: Ubuntu

Add the Fluidity package repository to your system:

```
sudo apt-add-repository -y ppa:fluidity-core/ppa  
sudo apt-get update
```

Then install Fluidity:

```
sudo apt-get -y install fluidity
```

This is a ready-to-run binary package and comes with a PDF manual and the Fluidity examples.

Installing the Fluidity package: Red Hat

RHEL (Or CentOS) 6.5 is recommended for Fluidity, and requires the EPEL repository to be enabled
(see <http://fedoraproject.org/wiki/EPEL>).

Add the Fluidity repository to your system:

```
sudo yum-config-manager --add-repo \  
https://fluidityproject.github.com/yum/fluidity-rhel6.repo
```

Then install Fluidity:

```
sudo yum install fluidity
```

This is a ready-to-run binary package and comes with a PDF manual and the Fluidity examples.

Downloading Sourcecode

The source code for the latest release of Fluidity can be downloaded from:

```
https://github.com/FluidityProject/fluidity/releases/latest
```

The latest development source for Fluidity ('master branch') can be cloned using git:

```
git clone https://github.com/FluidityProject/fluidity.git
```

<http://github.com/FluidityProject>

The screenshot shows the GitHub repository page for the Fluidity Project. The browser's address bar displays 'GitHub, Inc.' and the repository URL. The page header includes the GitHub logo, a search bar, and navigation links for 'Explore', 'Gist', 'Blog', and 'Help'. The repository name 'Fluidity Project' is prominently displayed with its logo, a description: 'The Fluidity Project develops an open source, general purpose, multi-phase computational fluid dynamics code.', and a link to the project's website. Below this, there are filters and a search bar for repositories, along with a '+ New repository' button. The repository list shows 'fluidity' by 'FORTTRAN' with 14 stars and 5 forks, and 'training' by 'TeX' with 0 stars and 0 forks. On the right side, there are sections for 'People' (showing 44 members) and 'Teams' (showing 2 teams).

GitHub, Inc.

Search GitHub

Explore Gist Blog Help

tmbgreaves

Fluidity Project

The Fluidity Project develops an open source, general purpose, multi-phase computational fluid dynamics code.

<http://fluidityproject.github.io/>

Filters Find a repository...

+ New repository

fluidity

Fluidity

Updated 2 hours ago

training

Files pertaining to Fluidity training sessions

Updated 2 days ago

People 44

Invite someone

Teams 2

Jump to a team

<http://github.com/FluidityProject>

The screenshot shows the GitHub repository page for FluidityProject/fluidity. The repository has 7,781 commits, 71 branches, 1 release, and 24 contributors. The main branch is master. The repository description is "Xhost -> xHost in libadaptivity." The commit history shows a list of commits with their descriptions and dates. The right sidebar contains links to Issues, Pull Requests, Wiki, Pulse, Graphs, and Settings. The HTTPS clone URL is https://github.com/FluidityProject/fluidity.

FluidityProject / fluidity

Unwatch 48 Star 14 Fork 5

Fluidity <http://fluidityproject.github.io/> — Edit

7,781 commits 71 branches 1 release 24 contributors

branch: master fluidity +

Xhost -> xHost in libadaptivity.

drhodrid authored 8 days ago latest commit 3c0e7a2ee5

adjoint	Burgers equation and Shallow water models also now compile.	2 years ago
assemble	Allowing users to specify which multimaterial mean to use in the bulk...	3 months ago
bathymetry	Introduced a new marco for checking libraries which first checks if t...	2 years ago
climatology	Introduced a new marco for checking libraries which first checks if t...	2 years ago
debian	With the move to testing on Ubuntu Trusty (14.04) an error was	3 months ago
debug	This commit focuses on adding the make install rule.	3 years ago
diagnostics	Allowing users to specify which multimaterial mean to use in the bulk...	3 months ago
error_measures	Reorder modules and other hacks for intel 14 build.	12 days ago

<> Code

Issues 5

Pull Requests 5

Wiki

Pulse

Graphs

Settings

HTTPS clone URL

<https://github.com/FluidityProject/fluidity>

You can clone with HTTPS, SSH, or Subversion.

<http://github.com/FluidityProject>

FluidityProject / fluidity

Unwatch 48 Star 14 Fork 5

Fluidity <http://fluidityproject.github.io/> — Edit

7,781 commits 71 branches 1 release 24 contributors

branch: master fluidity / +

Switch branches/tags

Find or create a branch...

Branches Tags

fluidity-intel-build

aso/wetdryaspect_merge_proposal

bathymetry_from_vtu

cianwilson/bulk_viscosity

cianwilson/bulk_viscosity-rebase

dmpalexreader

f-mithaler/fsi-model

latest commit 3c0e7a2ee5

ow water models also now compile. 2 years ago

ch multimaterial mean to use in the bulk... 3 months ago

checking libraries which first checks if t... 2 years ago

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HTTPS clone URL

<https://github.com/>

You can clone with HTTPS, SSH, or Subversion.

Open "https://github.com/FluidityProject/fluidity/tree/fluidity-intel-build" in a new tab behind the current one

<http://github.com/FluidityProject>

The screenshot shows the GitHub repository page for FluidityProject/fluidity. The repository is owned by tmbgreaves and has 48 Unwatch, 14 Star, and 5 Fork actions. The repository has 7,806 commits, 71 branches, 1 release, and 24 contributors. The current branch is Fluidity-intel... and the latest commit is a5052a122a. The repository is 37 commits ahead and 12 commits behind master. The commit history shows a list of commits with their descriptions and dates. The right sidebar contains links to Code, Issues, Pull Requests, Wiki, Pulse, Graphs, and Settings. The bottom of the page shows the HTTPS clone URL and a note about cloning with HTTPS, SSH, or Subversion.

Fluidity <http://fluidityproject.github.io/> — Edit

7,806 commits 71 branches 1 release 24 contributors

branch: Fluidity-intel... fluidity / +

This branch is 37 commits ahead, 12 commits behind master Pull Request Compare

Update comment.

stephankramer authored on Oct 3 latest commit a5052a122a

adjoint	Burgers equation and Shallow water models also now compile.	2 years ago
assemble	Allowing users to specify which multimaterial mean to use in the bulk...	3 months ago
bathymetry	Introduced a new marco for checking libraries which first checks if t...	2 years ago
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Code

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HTTPS clone URL

<https://github.com/FluidityProject/fluidity>

You can clone with HTTPS, SSH, or Subversion.

<http://github.com/FluidityProject>

The screenshot shows the GitHub interface for the `FluidityProject / fluidity` repository. The browser address bar shows `github.com`. The repository page includes a search bar, navigation links (Explore, Gist, Blog, Help), and user avatars. The repository name is `FluidityProject / fluidity`. Below the repository name are buttons for `Unwatch`, `Star` (14), and `Fork` (5). The `Issues` tab is selected, showing a list of open issues. The issues are:

- `Intel GMSH bug...` (#27) opened 4 days ago by `drhodrid`
- `Unitialised variables in ocean forcing` (#16) opened on Aug 12 by `stephankramer` (marked as `bug`)
- `No vtkGhostLevels when dgify_fields is true with continuous model` (#11) opened on Jul 24 by `markgoffin` (marked as `bug` and `question`)
- `Balzano wetting and drying cases are using LinearMomentum` (#3) opened on Jun 10 by `stephankramer`
- `Free surface mesh movement with LinearMomentum is broken` (#2) opened on Jun 10 by `stephankramer`

At the bottom of the page, there is a `ProTip!` message: `Updated in the last three days: updated>2014-10-30.`

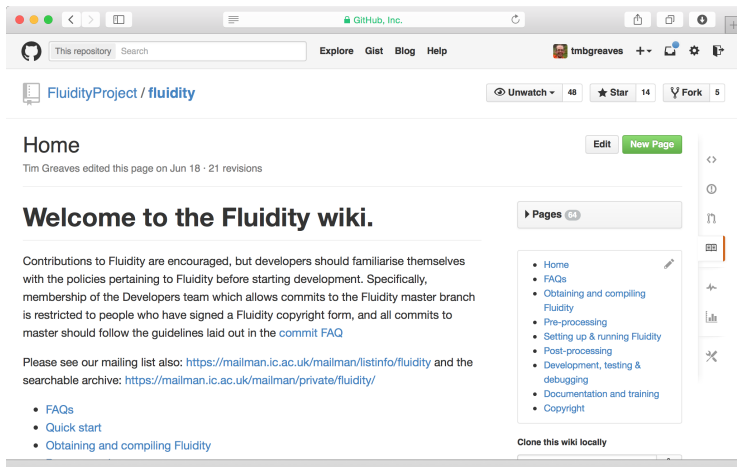
<http://github.com/FluidityProject>

The screenshot shows the GitHub interface for the `FluidityProject / fluidity` repository. The repository has 48 Unwatched items, 14 Stars, and 5 Forks. The 'Pull requests' tab is selected, showing a list of 5 open pull requests and 11 closed ones. The pull requests are:

- Allow running project_vtu without donor mesh.** (#20) opened on Aug 15 by stephankramer
- Fix pvtu2vtu for DG pvtus.** (#19) opened on Aug 15 by stephankramer
- Fix face local node numbering for hex elements** (#14) opened on Aug 4 by markgoffin
- Include element halos in dg-ify fields process in vtk_write_fields** (#13) opened on Jul 31 by markgoffin
- Change configure scripts to allow out-of-tree builds.** (#7) opened on Jun 22 by stephankramer

At the bottom, there is a ProTip! that says: "Check team mentions with `team:FluidityProject/fluidity-developers`."

<http://github.com/FluidityProject>



The screenshot shows a web browser window displaying the GitHub repository page for `FluidityProject / fluidity`. The browser's address bar shows the URL `http://github.com/FluidityProject`. The repository page includes a search bar, navigation links (Explore, Gist, Blog, Help), and user avatars. The repository name `FluidityProject / fluidity` is prominently displayed. Below the repository name, there are buttons for `Unwatch`, `Star`, and `Fork`. The main content area features a `Home` section with a message from Tim Greaves. A sidebar on the right contains a `Pages` section with a list of links: `Home`, `FAQs`, `Obtaining and compiling Fluidity`, `Pre-processing`, `Setting up & running Fluidity`, `Post-processing`, `Development, testing & debugging`, `Documentation and training`, and `Copyright`. At the bottom of the sidebar, there is a button to `Clone this wiki locally`.

Home

Tim Greaves edited this page on Jun 18 · 21 revisions

Welcome to the Fluidity wiki.

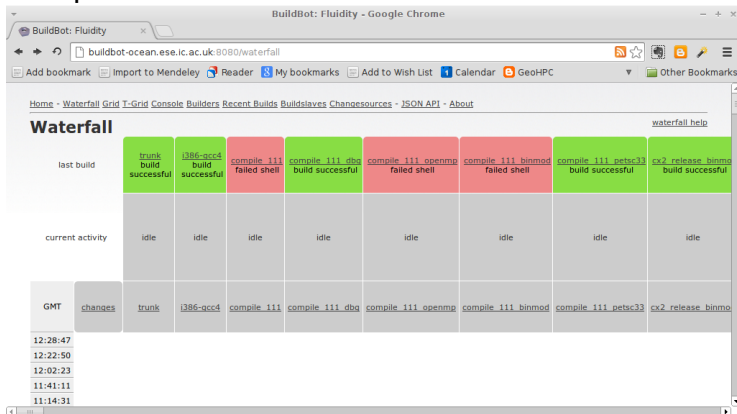
Contributions to Fluidity are encouraged, but developers should familiarise themselves with the policies pertaining to Fluidity before starting development. Specifically, membership of the Developers team which allows commits to the Fluidity master branch is restricted to people who have signed a Fluidity copyright form, and all commits to master should follow the guidelines laid out in the [commit FAQ](#)

Please see our mailing list also: <https://mailman.ic.ac.uk/mailman/listinfo/fluidity> and the searchable archive: <https://mailman.ic.ac.uk/mailman/private/fluidity/>

- [FAQs](#)
- [Quick start](#)
- [Obtaining and compiling Fluidity](#)

Clone this wiki locally

<http://buildbot-ocean.ese.ic.ac.uk:8080/waterfall>



Configure

Set up compile-time options, such as:

- ▶ External non-LGPL libraries
- ▶ Non-standard library locations
- ▶ Compiler flags
- ▶ Debugging

```
cd [fluidity directory]  
./configure --enable-2d-adaptivity
```

Building

Before building Fluidity, clean your source code:

```
make clean
```

Now make the main code:

```
make -j 4
```

And build the Fluidity tool suite:

```
make fltools
```


Python

Fluidity contains several Python packages that are required for it to run. Where you have not installed Fluidity system-wide, the Fluidity python directory must be added to the existing environment variable PYTHONPATH.

From the fluidity/ directory, run:

```
export PYTHONPATH=$PYTHONPATH:$PWD/python
```

This can be checked by using the echo command.

```
echo $PYTHONPATH
```

Tests

To check that all the verification tests run and pass with your Fluidity build, you can issue the following commands:

```
make unittest  
make test  
make mediumtest
```

Installing

Installing Fluidity enables access for all other users of your computer; this may require 'sudo' or other administrative access.

```
make install  
make install-diamond  
make install-user-schemata
```

Running Fluidity

From source:

```
<fluidity-clone>/bin/fluidity -v2 -l  
[filename].flml
```

From binary:

```
fluidity -v2 -l [filename].flml
```

Updating

If you want to update your local clone of the Fluidity repository to the newest commit, run:

```
git pull
```

from within the local clone.