GitHub workflow for Contributing to community open source projects

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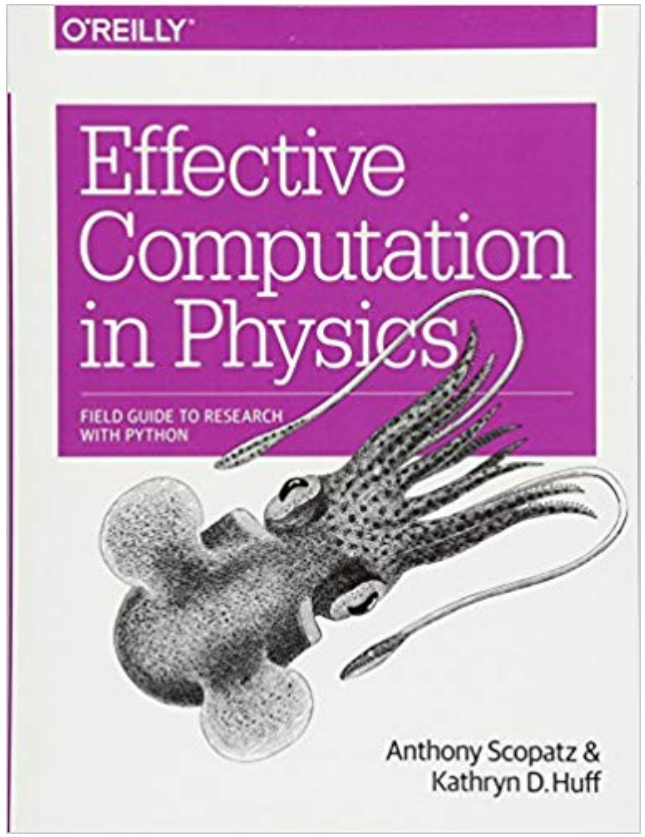
Group GitHub workflow structure

- The Billinge-group GitHub/GitLab workflow is based on the Numpy workflow, widely used in community software development projects.
- Lists of commands to follow and some details are available the Billingegroup github (url below):
- Another excellent resource, with some lower-level explanations is thanks to John Chodera (lower url):
- And this is our goto book for this:



`https://github.com/Billingegroup/group_git_workflow`

`https://github.com/choderalab/software-development/blob/master/README.md`

Numpy GitHub workflow

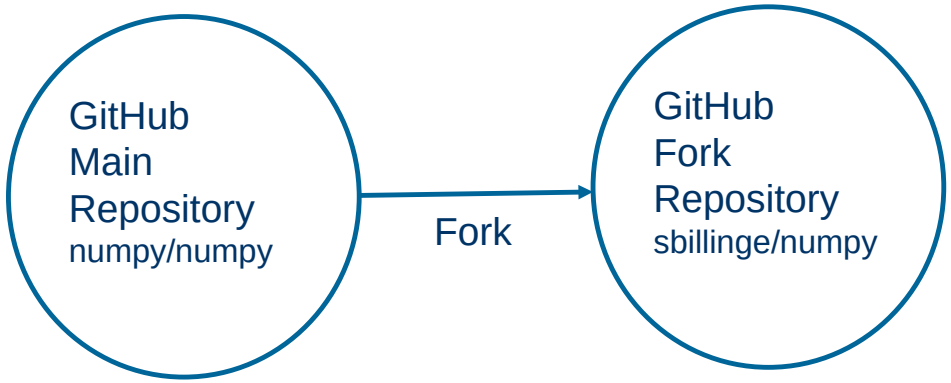
The following viewgraphs lay out graphically the different repositories and code directories that are the basis of the Group GitHub workflow. It may help to have this visual in your mind as you carry out the workflow by executing the commands found in the group workflow instructions:

`https://github.com/Billingegroup/group_git_workflow`

Numpy GitHub workflow

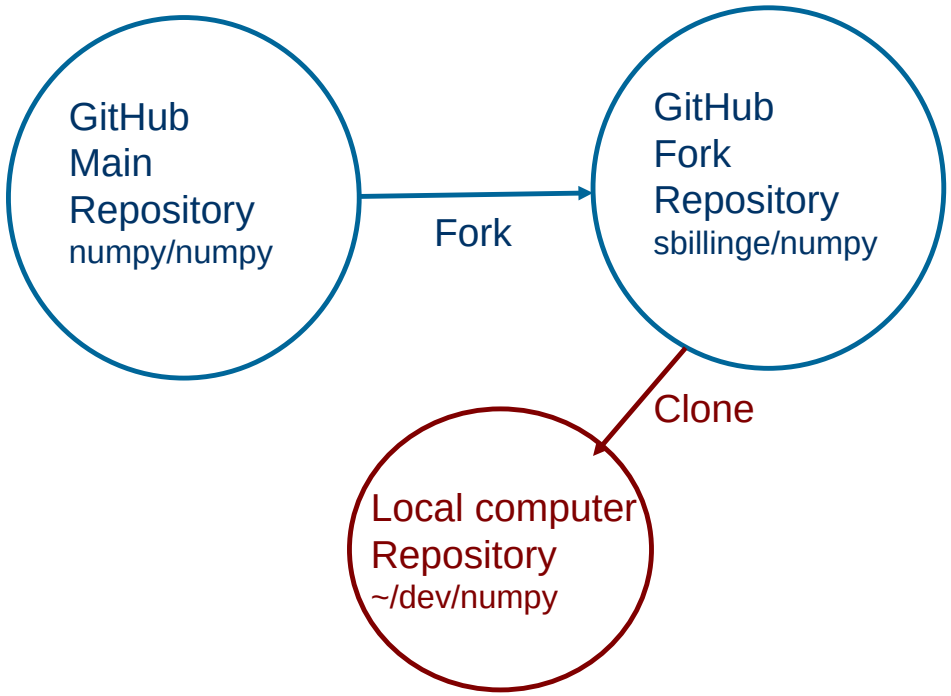
OK, so we want to contribute a PR to someone else's, or a community, project, such as numpy, sitting on GitHub

Numpy GitHub workflow



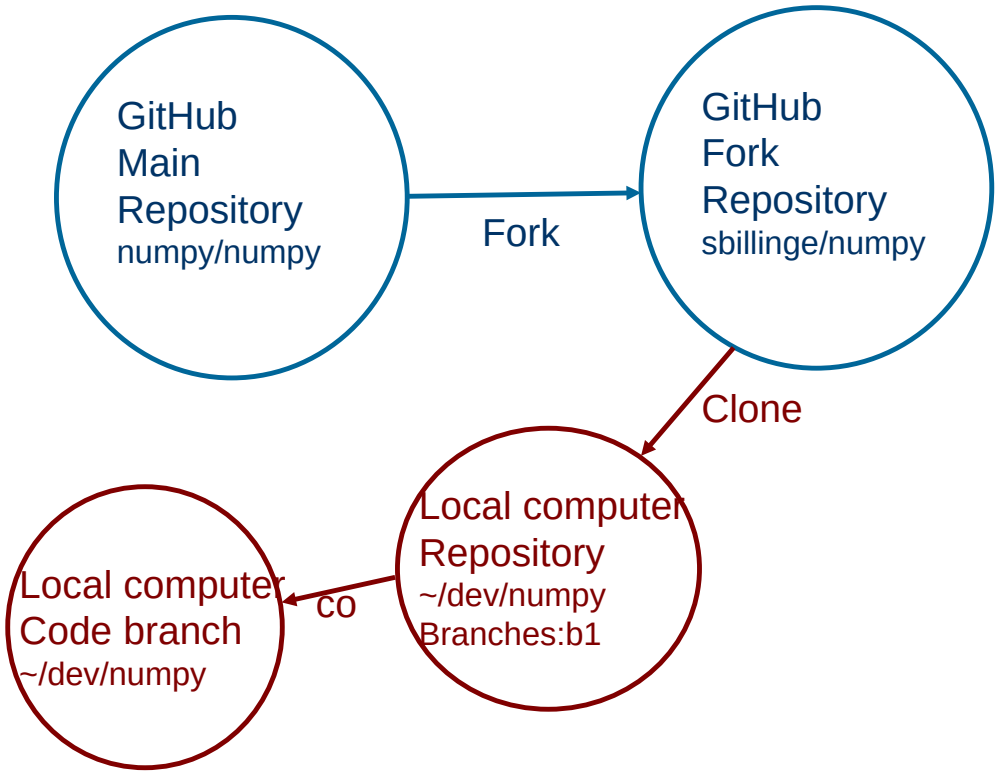
By forking numpy we create a complete copy of the repo on GitHub in our own GitHub account, linked to the original repo

Numpy GitHub workflow



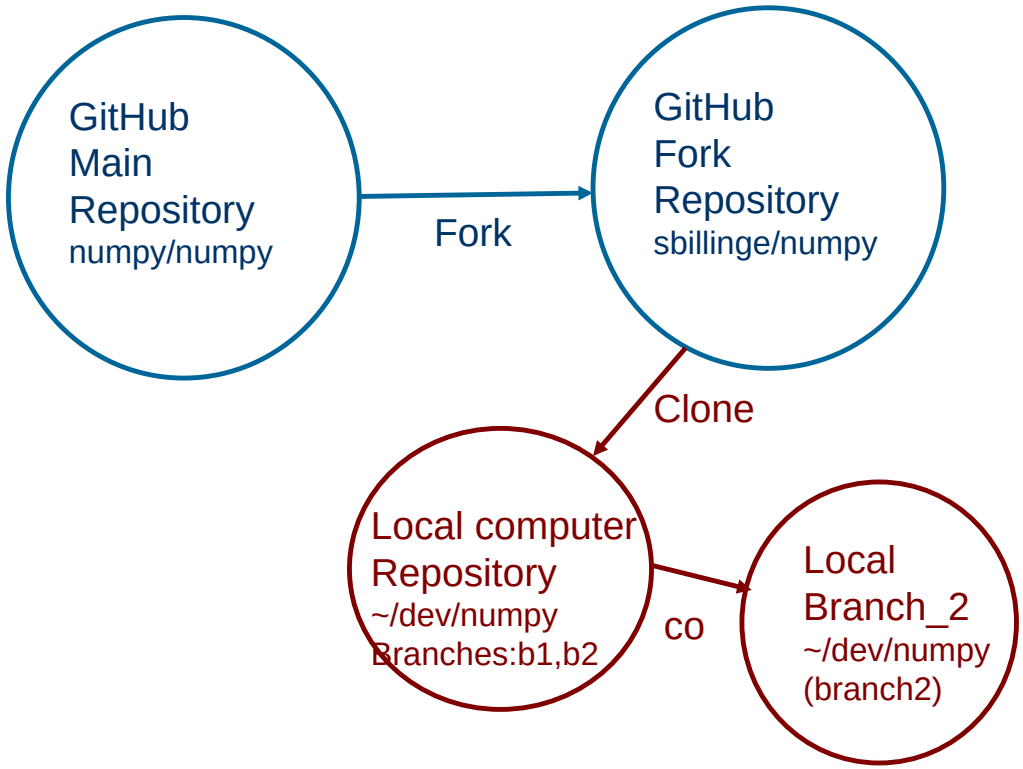
Next we clone our fork, so there is a complete copy of the repo on our local computer

Numpy GitHub workflow



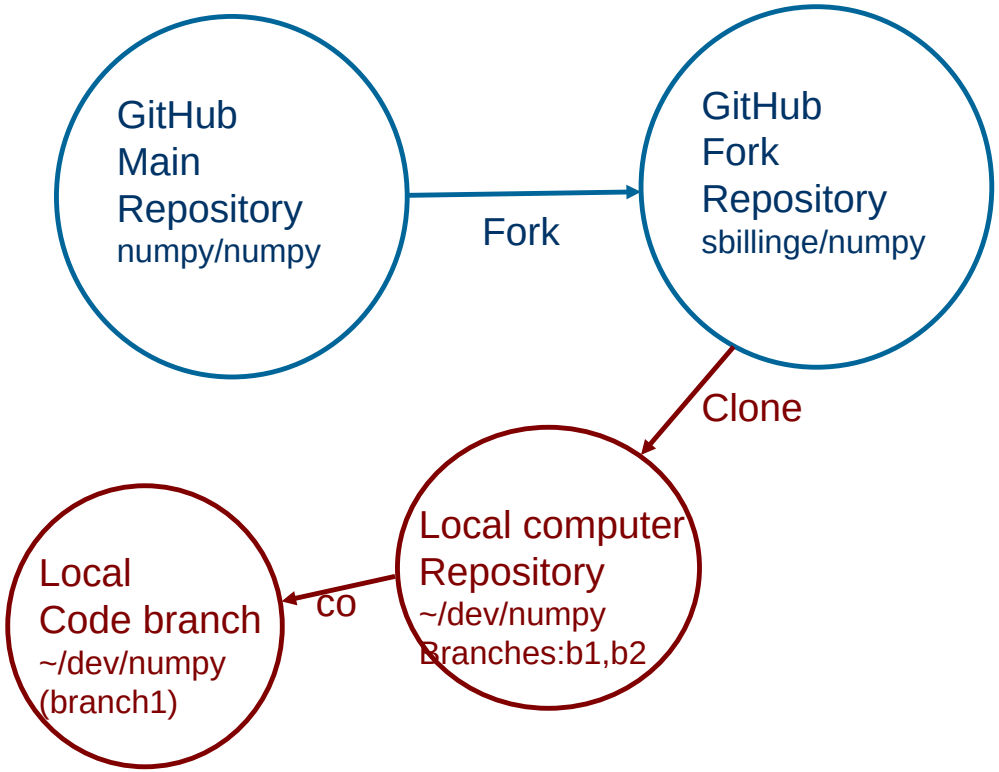
When we checkout (co) a branch, all the code in that branch appears on our hard-drive in the relevant directories

Numpy GitHub workflow



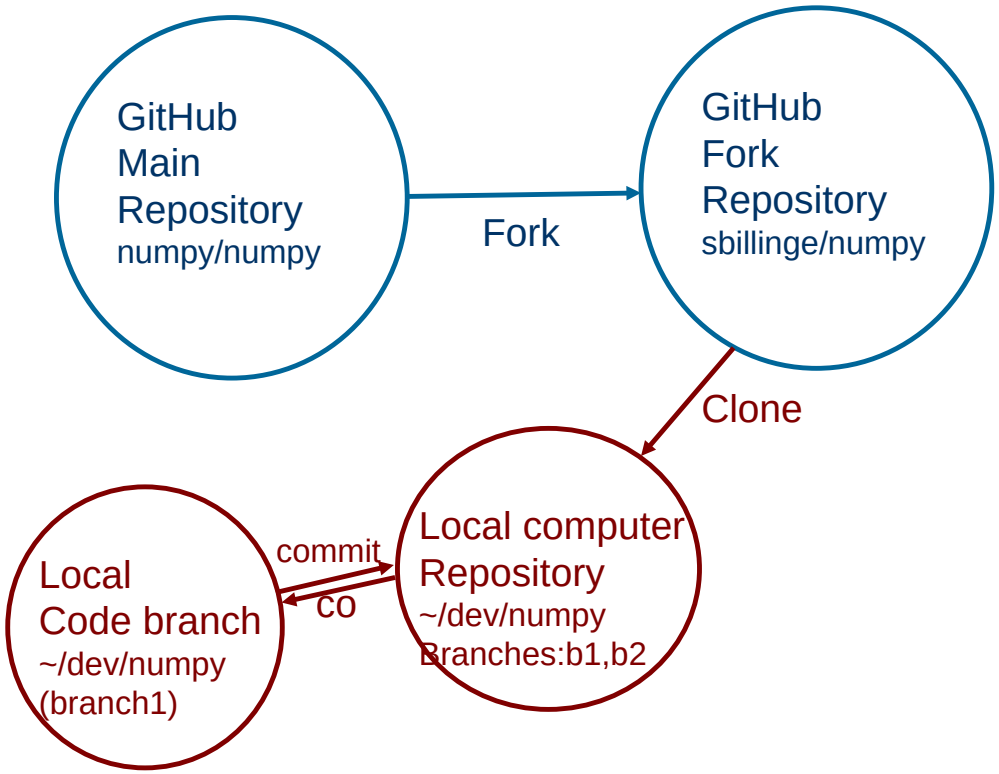
We can check out a different branch and the code on our hard-drive will all change, but don't worry, the code for all the branches is safe in the repo

Numpy GitHub workflow



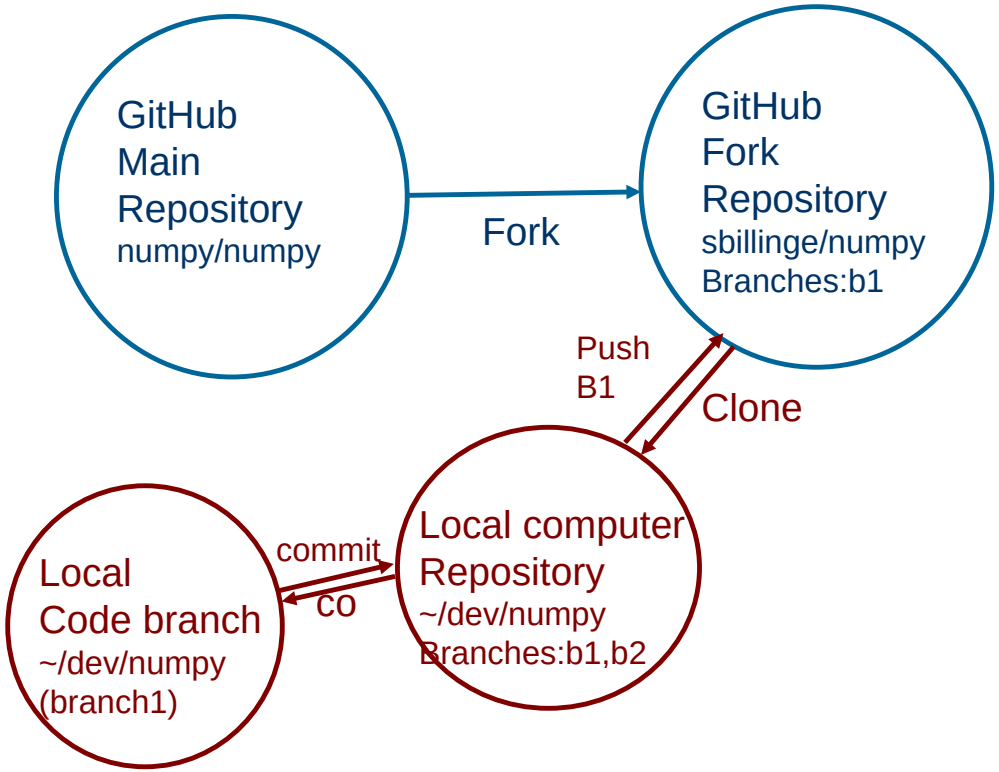
OK, let's check out b1 again and work on it

Numpy GitHub workflow



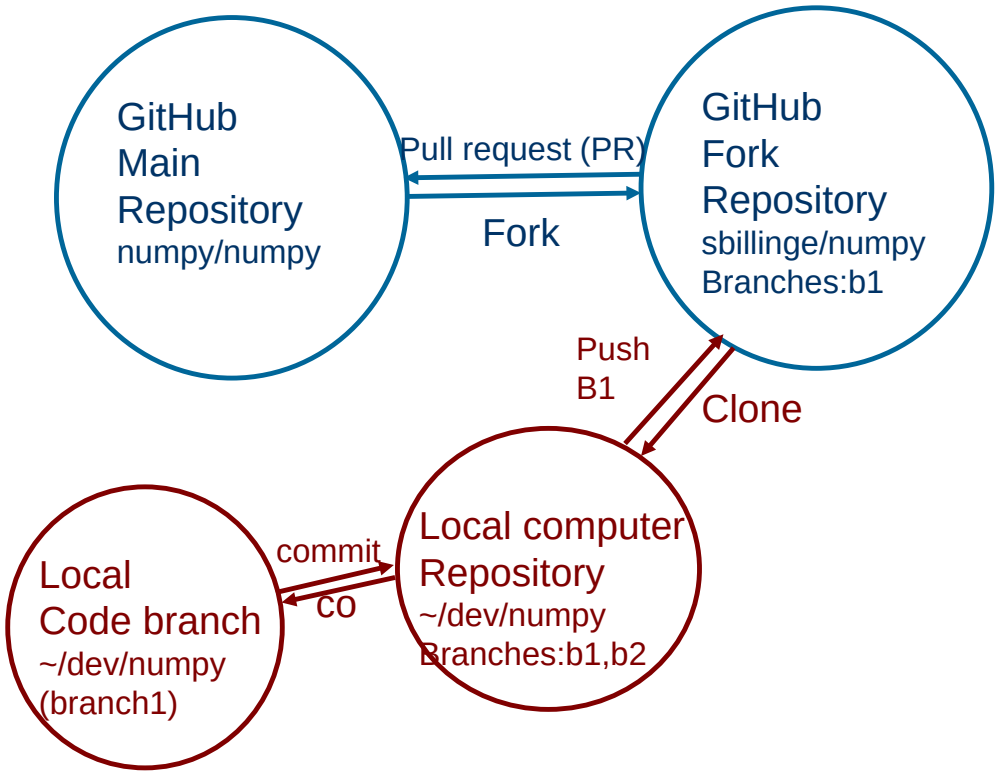
When we commit our changes, they go into the relevant branch in the copy of the repo on our local computer

Numpy GitHub workflow



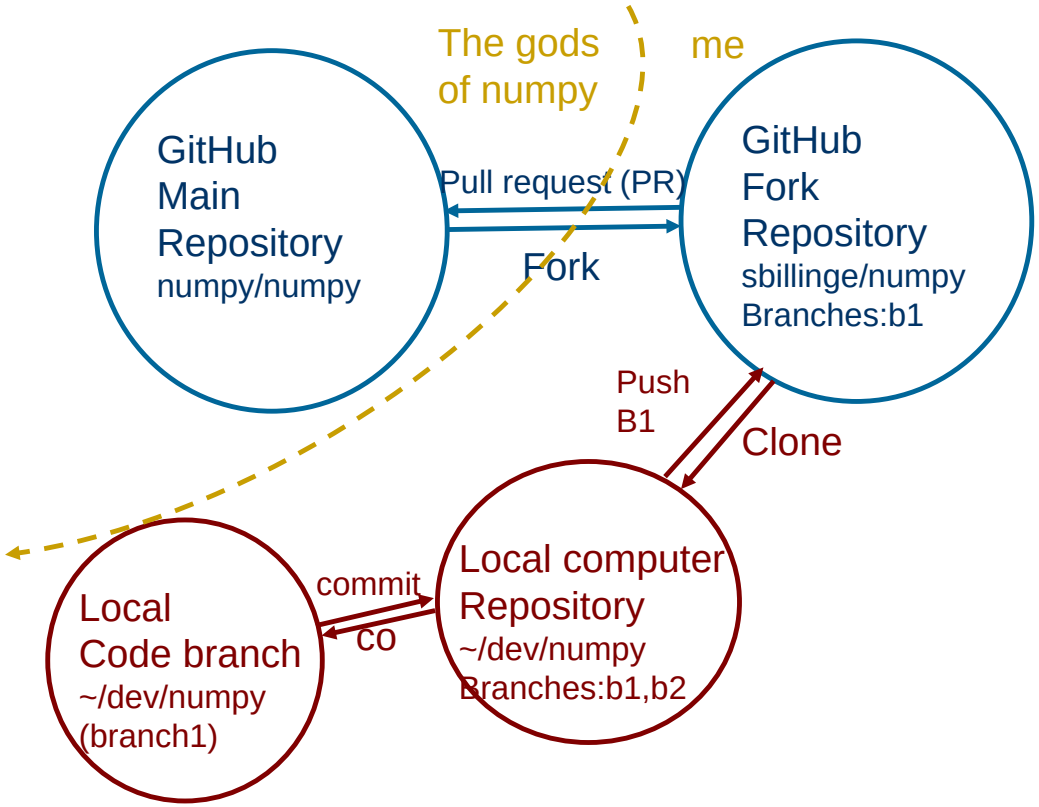
When we are ready to go public with our changes we can push to a branch with the same name on our Fork (which traditionally is called origin)

Numpy GitHub workflow



So now our branch b1 is on our Fork, we can use the tools on GitHub to issue a "Pull Request" or PR to the main repository that we don't own

Numpy GitHub workflow



The owners of numpy can then review our branch, suggest changes and modifications and make sure we do them before finally pulling our changes in to the main repo