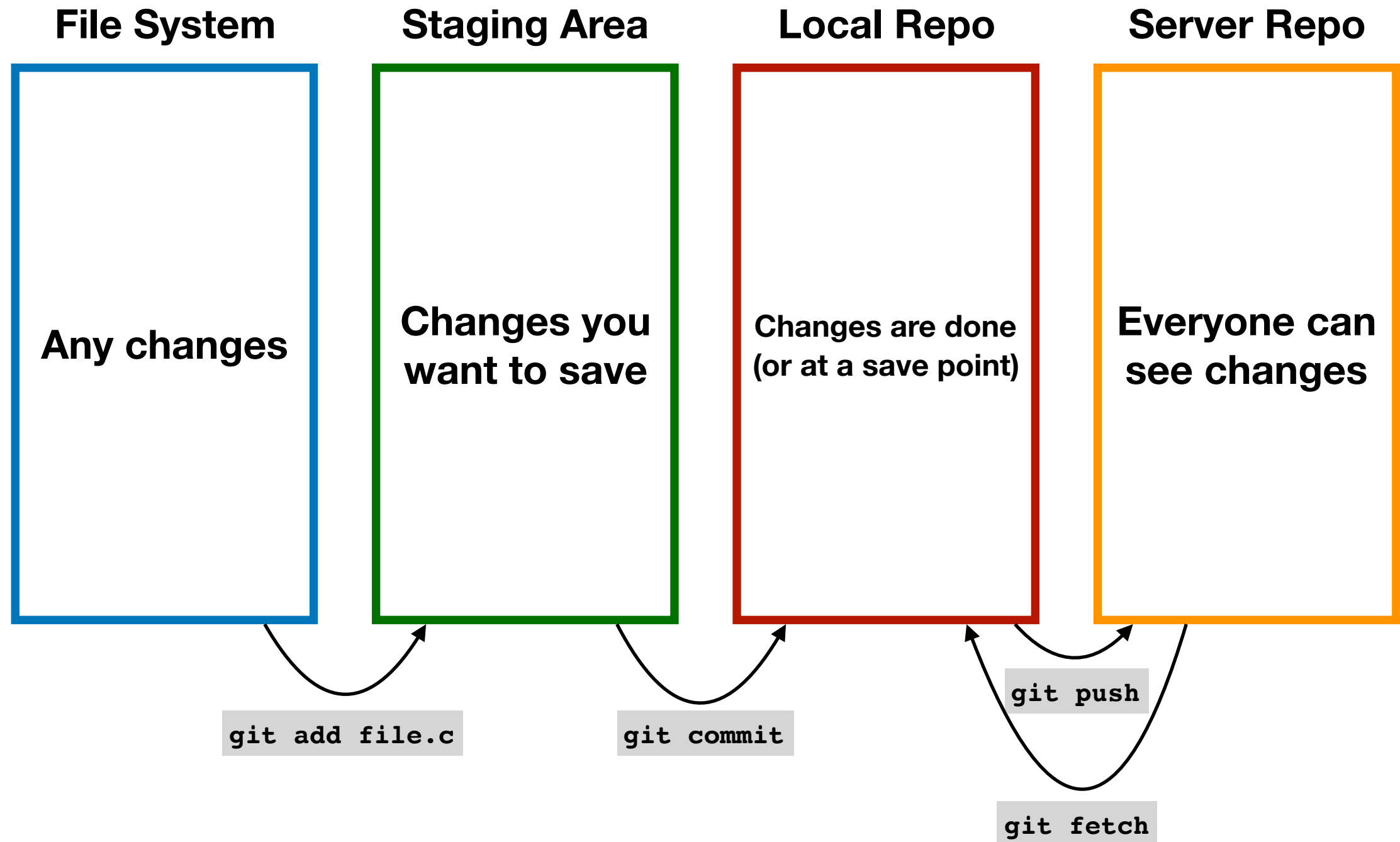


Git Workshop

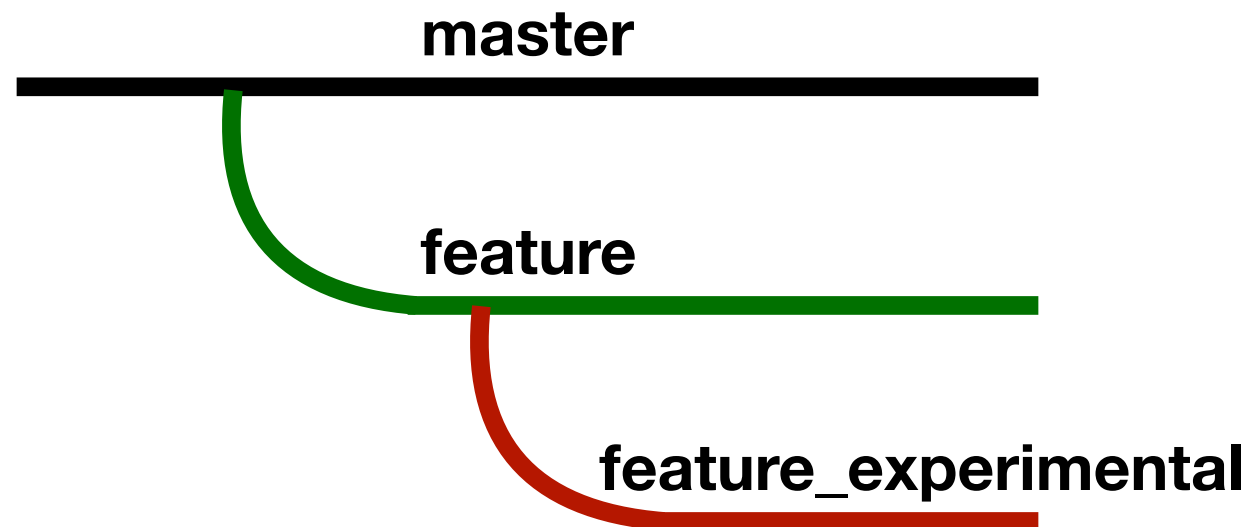
Turning y'all into mini gizzards

Git Overview



Branching

Used to commit features currently being worked on / tested



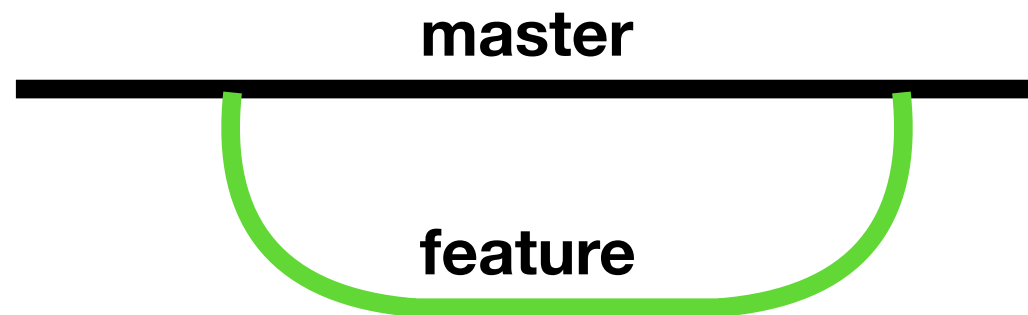
Create new branch: `git checkout -b branch_name`

Switch to branch: `git checkout branch_name`

Rebasing / Merging

Used to combine two branches

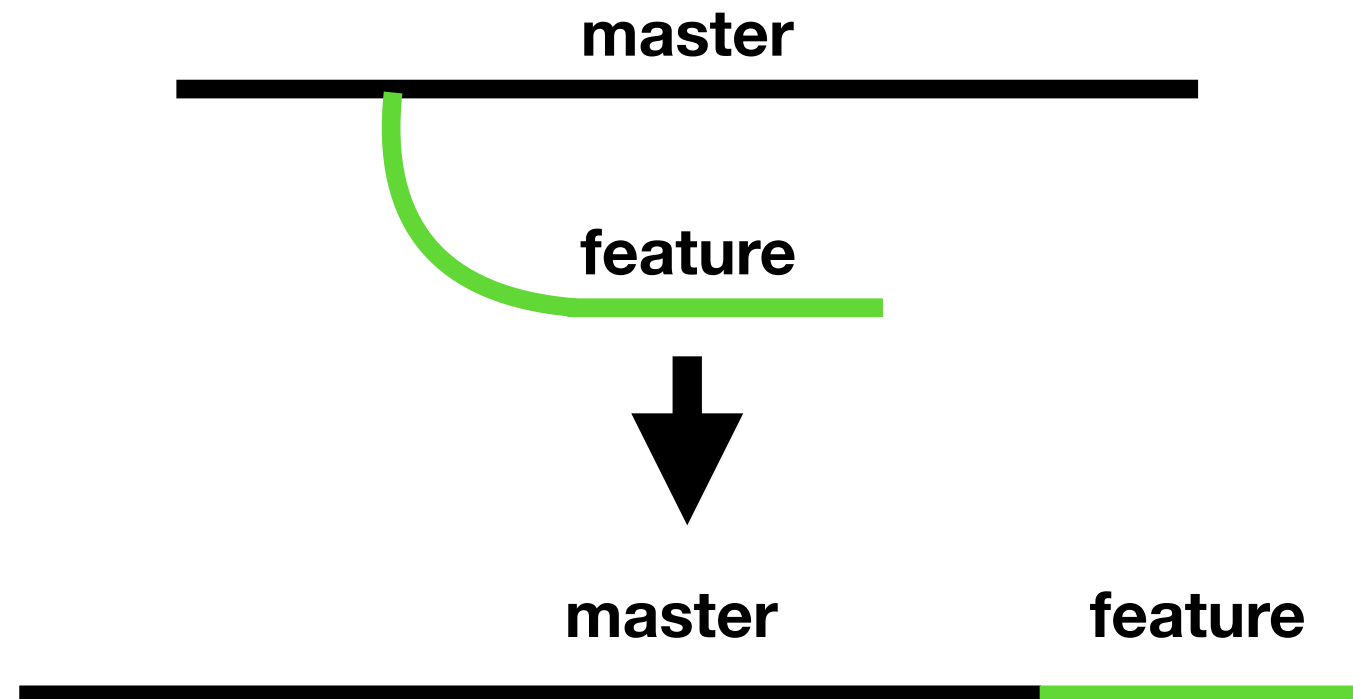
Merge



```
git merge feature
```

(While master is checked out)

Rebase



```
git rebase master
```

(While feature is checked out)

Rebasing is preferable because it creates a cleaner branch history

Tips

Copy leo.adberg.com/gitconfig into your ~/.gitconfig

Now, `git lg` gives nice looking git histories:

```
* 58fa1a8 (3 weeks ago) Moved everything to 'old' folder. --Jacob Posner (origin/master, origin/HEAD)
* f15b7c2 (5 months ago) updated arduino code to be nicer --Neelay Junnarkar
* 20140e9 (5 months ago) updating arduino code to not have limits --Neelay Junnarkar
* ab5bdc2 (5 months ago) code for arduino to take messages from uart and control stepper motors --Neelay Junnarkar
* 8c04e3e (5 months ago) propulsion ejection board radio <--> uart passthrough --Neelay Junnarkar
* 345863b (6 months ago) Update servo_test.cpp --s-keegan
* b5956bf (6 months ago) final comments ahead of A2 --Dinesh Parimi
* cdd070d (6 months ago) Update rover_ESC_test.cpp --s-keegan
* 8b7685e (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Sean Keegan
\
* 0d46161 (6 months ago) Updated PWM values for 755MG --Leo Adberg (HEAD -> master)
* c89e201 (6 months ago) Added some comments --Leo Adberg
* d6d4e0f (6 months ago) updated MC servo library to work, also added rover_basic.cpp for use at upcoming launch --Sean Keegan
/
* cb0375a (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Sean Keegan
\
* 8b28f6f (6 months ago) indentation --Nancy
* 9c5d6c0 (6 months ago) Fixed some deployment bugs --Leo Adberg
* bca490e (6 months ago) current rover test files with arduino core functions --Sean Keegan
/
* 278bb4f (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Nancy
\
* 6cc8976 (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Sean Keegan
\
* 0b01386 (6 months ago) fixed another typo in makefile base --Sean Keegan
* 5af0649 (6 months ago) updated pins --Nancy
/
* 0a57aa0 (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Nancy
\
* eaab384 (6 months ago) stepper motors work! --Neelay Junnarkar
/
* 7e91e82 (6 months ago) fixed pins --Nancy
/
* 718d7b8 (6 months ago) fixed typos in makefile --Sean Keegan
* 0782b02 (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Nancy
\
* 7207461 (6 months ago) added 644p pin mapping --Ryan-Iran
* 9554e8b (6 months ago) fixed compile errors in servo_test --Sean Keegan
* 8eb65fc (6 months ago) updated pins' --Nancy
/
* e03bbb1 (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Sean Keegan
\
* bbd6d38 (6 months ago) added sweep --Nancy
* 0ca4e2e (6 months ago) debugged ultrasonic tests --Dinesh Parimi
* 7d76733 (6 months ago) added uart debugging output to ultrasonic tests --Dinesh Parimi
* 7a10290 (6 months ago) ultrasonic test v1 --Dinesh Parimi
* 3972e8f (6 months ago) added MightyCore arduino core with libraries, configured makefile for rover to use new libs --Sean Keegan
* ff7237f (6 months ago) Merge branch 'master' of https://github.com/Jashaszun/calstar-electronics --Sean Keegan
```

Tips

Someone else pushed changes on the branch you were working on?

```
! [rejected]          feature -> feature (non-fast-forward)
error: failed to push some refs to 'git@github.com'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. Merge the remote changes (e.g. 'git pull')
hint: before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

FETCH AND REBASE!!!

```
git fetch
```

```
git rebase origin/feature
```

(While feature is checked out)

This keeps unnecessary merges from showing up

Tips

Forgot to add a file before committing?

```
git add file.c
```

```
git commit --amend
```

Already pushed the commit?

**Just make a new commit with the new changes,
overwriting server history is dangerous**

Tips

Use an SSH key to push without logging in

```
ssh-keygen -t rsa
```

Then add the public key (id_rsa.pub) to your Github account in settings

(Also, this works for any computer you SSH into, which is really useful for lab computers)

Test Repo

**Clone <https://github.com/neelayjunnarkar/git-workflow-test/>
and PM Neelay for contributor access to the repo**

Try completing these, feel free to ask for help:

- 1. Create your own branch under your name**
- 2. Add some files and commit and push to your branch**
- 3. Make changes to someone else's branch and push those**
- 4. Rebase your branch onto master2**
 - Hard Mode: Squash multiple commits from your branch into one commit**
 - Hint: rebase -i**
 - We do this so master isn't cluttered with WIP commits, but one commit per major change**
 - In this example, master2 is a substitute for a master that has been updated**