

A woman in a white short-sleeved shirt and dark pants stands at the front of a meeting room, pointing at a whiteboard. Three people are seated around a large wooden conference table, looking towards her. The room has large windows and modern lighting.

MIT GSL 2018

week 4 | Thursday

Intro to git

Agenda

- Questions on UI/UX?
- Intro to git
- Intro to heroku
- Good coding habits

What is git?



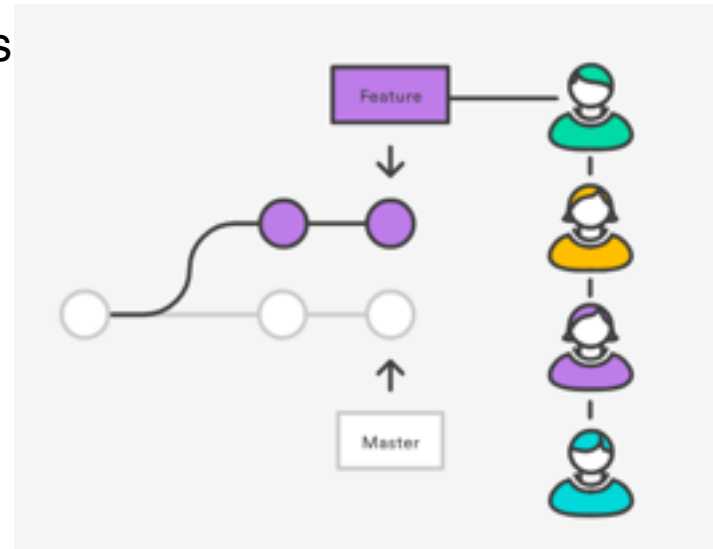
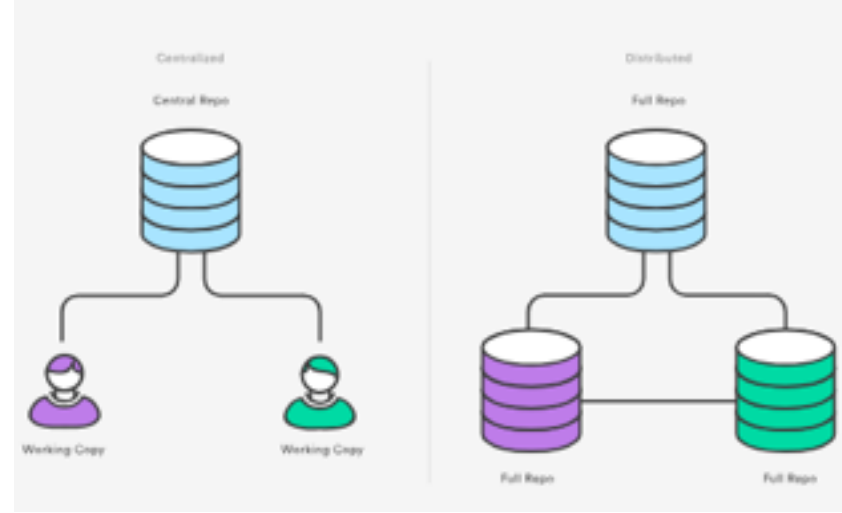
What is git?

- Git is a version control system--lets you reference old versions of documents, code, websites, etc. so you can review changes you made and even have the option to go back to previous iterations of the product
- The git repository is like a big storage unit for your code--useful for bugs
- The nice thing about git is that it's really convenient to work with groups in
 - You can have branches where you work on parts separately, but also have the opportunity to merge those branches when you want to compile your work back together
- Perfect for teams!
- Started by the Linux guy



Why should we use git?

- As we previously mentioned, it's great for teams
- You have complete annotated history of all your code
- You can still work on different versions of your code, even while offline--full local history
- Pull request -- merging your branch into their repository (good for team leads)



Why should we use git?

- Faster release cycle
- All around a better environment for continuous integration and deployment




What is the difference between git and github?

- Git and Github are not the same thing!
- Github is a host for repositories

transtutors
Get Answers, Get Feedback, Study Smarter

Git vs. GitHub



Git	GitHub
a tool that allows creating a local repository	allows hosting the central repository on a remote server
a version control system	a repository hosting service

Downloading git

- Some of you might already have git
 - Run this line in your terminal to verify that you have the software downloaded

```
jennahhaque — bash — 80x24
Last login: Tue Jul 10 08:43:06 on ttys000
Jennahts-MacBook-Air:~ jennahhaque$ git --version
git version 2.15.1
Jennahts-MacBook-Air:~ jennahhaque$ █
```

- If you have an older version of git, consider installing the latest download

Downloading git

- General Git Cheat Sheet
 - <https://www.atlassian.com/git/tutorials/atlassian-git-cheatsheet>
- For Linux
 - <https://www.atlassian.com/git/tutorials/install-git#linux>
- For Windows
 - <https://www.atlassian.com/git/tutorials/install-git#windows>
- For Mac OSX (don't use the atlassian version--might have problems)
 - <https://github.com/cuminm/git-2.15.1-intel-universal-mavericks.dmg>

Useful git properties

- Git init
 - Initializes an empty repository
- Git status
 - Lets you see which files exist
- Git add <file name>
 - Lets you add a file to the staging environment
- Git commit -m “Your message about the commit”
 - Creates your commit (a history of the files that you’ve edited)

Useful git properties

- Git checkout -b <branch name>
 - Lets you change branches (git branch then lets you see that you are in the new branch)
- Git push origin <branch name>
 - Lets you push a branch to github
- Git pull origin master
 - Gets all the changes that you made from Github back onto your computer
- Git log
 - Lets you see all the new commits

Git Tutorial



Basic git tutorial

Remember to reference the cheat sheet if you are having trouble!

<https://product.hubspot.com/blog/git-and-github-tutorial-for-beginners>

A top-down view of a wooden desk. In the bottom-left corner, there is a white cup of black coffee on a dark grey spiral notebook. To the right of the notebook is a blue pencil and a small piece of crumpled paper. In the top-left corner, there are large green leaves of a plant. The text "What is Heroku?" is written in white on the right side of the desk.

What is Heroku?

What is Heroku? How is it different than Meteor?

- Heroku is a cloud platform that also allows you to create and deploy apps
- You can deploy a meteor created app on Heroku
 - You can use git push for deployment
- You don't have to worry about hosting or infrastructure (runs on Amazon Web Services--no need to build your own server)



The image shows a screenshot of the Heroku website homepage. At the top, the Heroku logo is followed by navigation links: Products, Marketplace, Pricing, Documentation, Support, and More. A search bar and a 'Log in' button are on the right. The main content area features a large illustration of a laptop displaying a dashboard with 'REVIEW', 'STAGING', and 'PRODUCTION' tabs, and a coffee cup. To the right, the text reads 'DEVELOPERS Focus on your apps' and 'Invest in apps, not ops. Heroku handles the hard stuff -- patching and upgrading, 24/7 ops and security, build systems, failovers, and more -- so your developers can stay focused on building great apps.' Below this is a 'SIGN UP FOR FREE' button and a link to 'Explore the Heroku Platform'. At the bottom, there are logos for various programming languages and frameworks: JS, Ruby, Python, PHP, Java, and .NET.

Heroku Tutorial



Basic Heroku tutorial

<https://devcenter.heroku.com/articles/getting-started-with-nodejs#introduction>

Look at how quick we can deploy an app



Good coding habits

Things to be aware of when coding

- Measure twice, cut once
- Use meaningful and obvious variable names
 - `// set variable for days passed since last visit`
 - `$dplastvisit = 5;`
 - or
 - `$days_passed_last_visit = 5;`
- Stay organized-- when you are editing new versions of code in git, explain what's the difference between the two versions
- Comment on your code often to keep track of what certain lines are doing-- also a way to identify what is done, what needs to be debugged, and more
- Explain the purpose of your algorithms with commenting too

Things to be aware of when coding

- Take advantage of for loops and arrays instead of repeating code

```
1 // get the current year and store in variable
2 $current_year = date('Y');
3
4 //echo out the next 10 years for expiration years
5 echo "<option value='". $current_year+1. "'>". $current_
6 echo "<option value='". $current_year+2. "'>". $current_
7 echo "<option value='". $current_year+3. "'>". $current_
8 echo "<option value='". $current_year+4. "'>". $current_
9 echo "<option value='". $current_year+5. "'>". $current_
10 echo "<option value='". $current_year+6. "'>". $current_
11 echo "<option value='". $current_year+7. "'>". $current_
12 echo "<option value='". $current_year+8. "'>". $current_
13 echo "<option value='". $current_year+9. "'>". $current_
14 echo "<option value='". $current_year+10. "'>". $current
```

Things to be aware of when coding

- Take advantage of for loops and arrays instead of repeating code

```
1 // get the current year and store in variable
2 $current_year = date('Y');
3 $last_year = $current_year+10;
4
5 //echo out the next 10 years for expiration years
6 for ($i=$current_year;$i<$last_year;$i++) {
7     echo "<option value='". $i. "'>".substr($i,2)."</optio
8 }
```

Things to be aware of when coding

- Your terminology should be understandable to every day users
- Cross Platform testing
- Take advantage of classes and functions (no need to be rewriting code)
- Test and debug your code often

