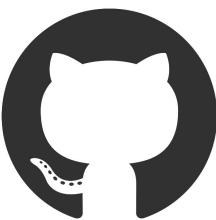




Introduction to Git and Github

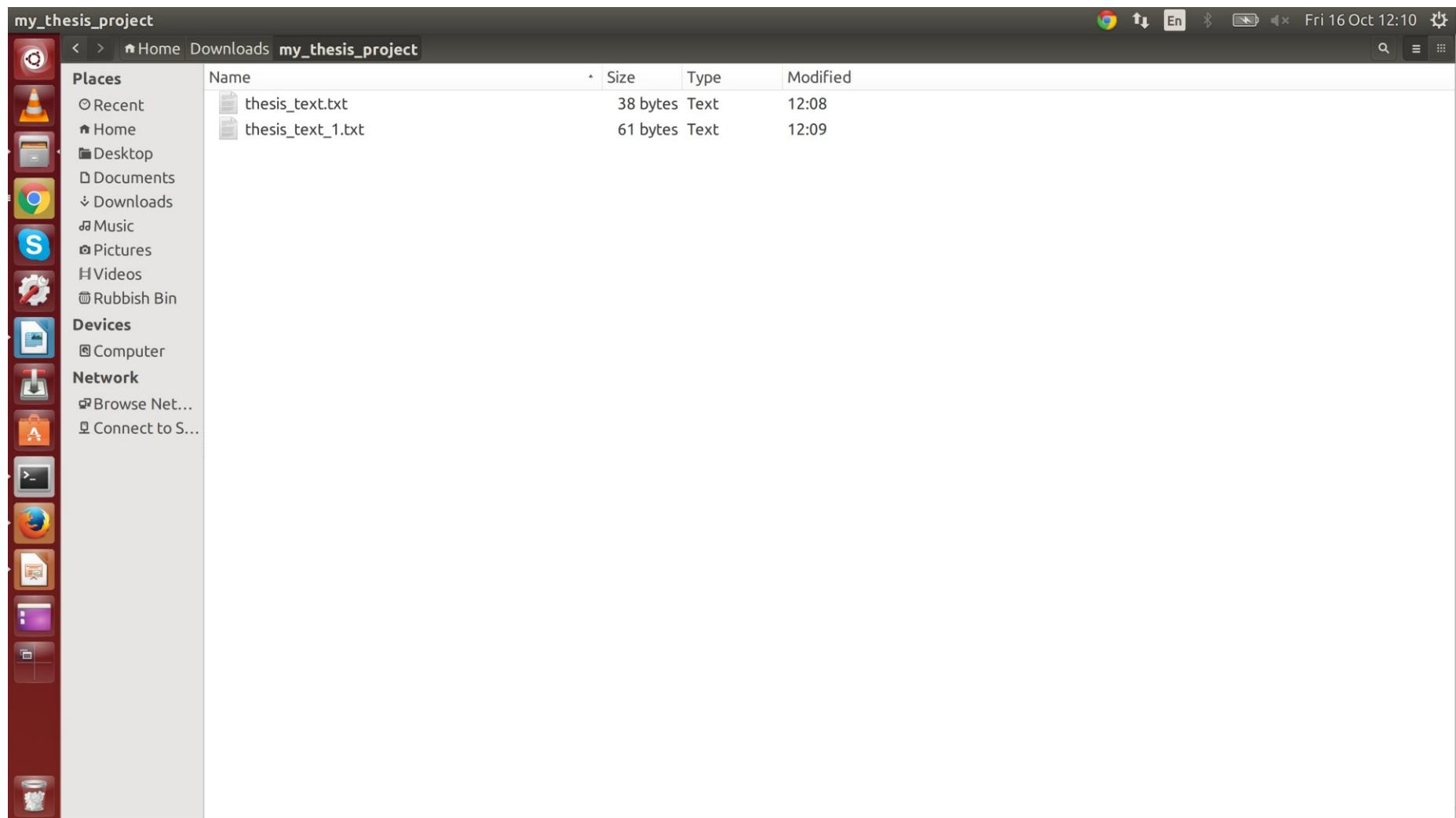
Irina Pulyakhina
Katie Burnham
Kate Elliott
Hai Fang
Wan Lee

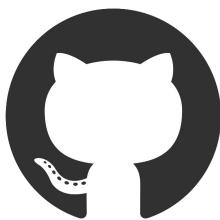
*Some material
was taken from
Peter Humburg*



The idea behind version control systems

1. Keep track of different versions of your documents.

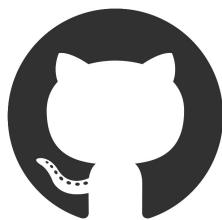




The idea behind version control systems

1. Keep track of different versions of your documents.

Name	Size	Type	Modified
thesis_text_1.txt	570 bytes	Text	12:16
thesis_text.txt	535 bytes	Text	12:16
thesis_text_2.txt	535 bytes	Text	12:17
thesis_text_last_edit.txt	535 bytes	Text	12:17
thesis_text_last_edit_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_2.txt	535 bytes	Text	12:17
thesis_text_to_submit.txt	535 bytes	Text	12:18
thesis_text_to_submit_1.txt	535 bytes	Text	12:18
thesis_text_to_submit_2.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_1.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_2.txt	535 bytes	Text	12:18



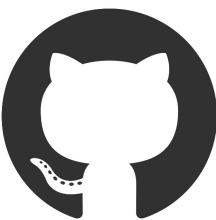
The idea behind version control systems

1. Keep track of different versions of your documents.

A screenshot of a Linux desktop environment showing a terminal window titled "my_thesis_project". The window displays a list of files in the current directory, all named "thesis_text_<version>.txt". The files are listed in chronological order from oldest to newest. An arrow points from the text "whaaaat?" to the list of files, indicating surprise at the number of versions. The terminal window has a dark theme with a light-colored title bar and a dark background. The desktop interface includes a vertical dock on the left with various icons for applications like the Dash, Home, Desktop, Documents, Downloads, Music, Pictures, Videos, and Rubbish Bin. The system tray at the top shows the date and time as "Fri 16 Oct 12:25".

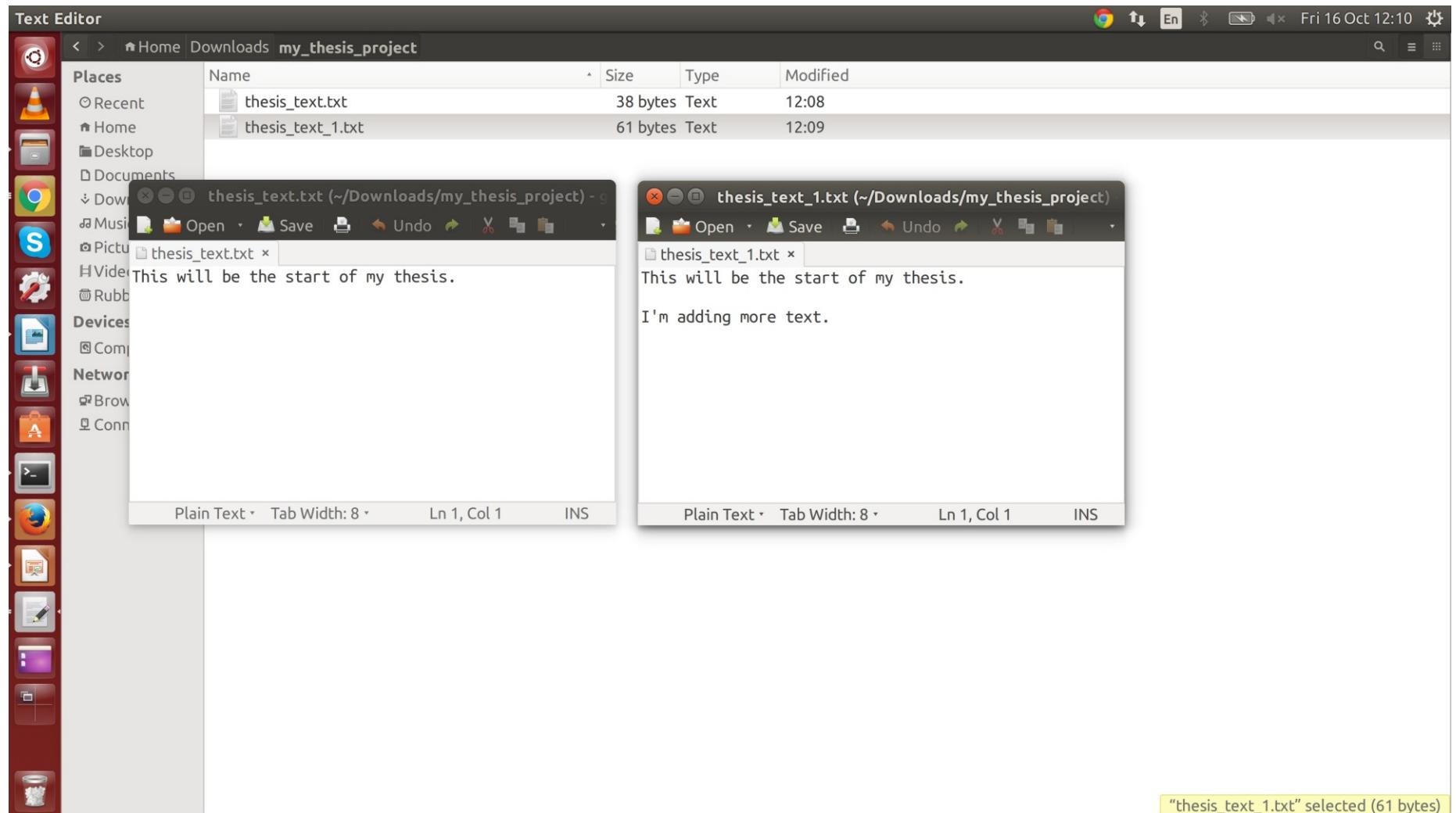
Name	Size	Type	Modified
thesis_text_1.txt	570 bytes	Text	12:16
thesis_text.txt	535 bytes	Text	12:16
thesis_text_2.txt	535 bytes	Text	12:17
thesis_text_last_edit.txt	535 bytes	Text	12:17
thesis_text_last_edit_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_2.txt	535 bytes	Text	12:17
thesis_text_to_submit.txt	535 bytes	Text	12:18
thesis_text_to_submit_1.txt	535 bytes	Text	12:18
thesis_text_to_submit_2.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_1.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_2.txt	535 bytes	Text	12:18

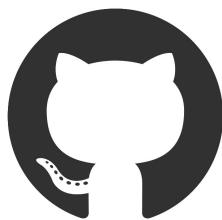
whaaaat?



The idea behind version control systems

2. Keep track of the changes you made – remember what you changed.





The idea behind version control systems

2. Keep track of the changes you made – remember what you changed.

A screenshot of a desktop environment showing a file manager window and two text editor windows. The file manager window shows a directory named 'my_thesis_project' containing two files: 'thesis_text.txt' (38 bytes) and 'thesis_text_1.txt' (61 bytes). The left text editor window shows the content of 'thesis_text.txt': "This will be the start of my thesis. I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole. They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I personally consider them as birds.)". The right text editor window shows the content of 'thesis_text_1.txt': "This will be the start of my thesis. I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole (or is it the South Pole as well?). They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I". A yellow status bar at the bottom right indicates "'thesis_text_1.txt' selected (61 bytes)'.

Text Editor

Places

Name

Size Type Modified

Places

Recent Home Desktop Documents Downloads Music Pictures Videos Rubber Devices Computer Network Browser Connections

*thesis_text.txt (~/Downloads/my_thesis_project)

Open Save Undo Redo Cut Copy Paste

This will be the start of my thesis.

I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole. They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I personally consider them as birds.)

Plain Text Tab Width: 8 Ln 1, Col 1 INS

*thesis_text_1.txt (~/Downloads/my_thesis_project)

Open Save Undo Redo Cut Copy Paste

This will be the start of my thesis.

I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole (or is it the South Pole as well?). They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I

Plain Text Tab Width: 8 Ln 3, Col 218 INS

"thesis_text_1.txt" selected (61 bytes)



The idea behind version control systems

2. Keep track of the changes you made – remember what you changed.

A screenshot of a desktop environment showing a file manager window and two text editor windows. The file manager window shows a directory named 'my_thesis_project' containing two files: 'thesis_text.txt' (38 bytes) and 'thesis_text_1.txt' (61 bytes). The left text editor window ('thesis_text.txt') contains the text: "This will be the start of my thesis. I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole. They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I personally consider them as birds.)". The right text editor window ('thesis_text_1.txt') contains the same text, with the last sentence highlighted in red: "(By the rest of the world -- I never said I personally consider them as birds.)". A yellow status bar at the bottom right of the screen says "'thesis_text_1.txt' selected (61 bytes)".

Text Editor

Places

Name

Size Type Modified

Places

Recent Home Desktop Documents Downloads Music Pictures Videos Rubber Devices Computer Network Browser Connections

*thesis_text.txt (~/Downloads/my_thesis_project)

Open Save Undo Redo Cut Copy Paste

This will be the start of my thesis.
I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole. They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I personally consider them as birds.)

Plain Text Tab Width: 8 Ln 1, Col 1 INS

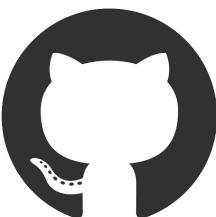
*thesis_text_1.txt (~/Downloads/my_thesis_project)

Open Save Undo Redo Cut Copy Paste

This will be the start of my thesis.
I'm just writing some text here. It doesn't have to make sense. In fact, it won't make sense -- I'll talk about penguins here. Penguins are great creatures that live in the North Pole (or is it the South Pole as well?). They are considered birds but they can't fly. Let's face it -- how can you be called a bird when you can't fly? I don't think you deserve an honour to be called a bird when you can't fly. Nevertheless, penguins are considered birds. (By the rest of the world -- I never said I personally consider them as birds.)

Plain Text Tab Width: 8 Ln 3, Col 218 INS

"thesis_text_1.txt" selected (61 bytes)



The idea behind version control systems

3. Collaborate and access changes your collaborators made easily.

A screenshot of a Linux desktop environment showing a file manager window titled "my_thesis_project". The left sidebar shows "Places" with links to Recent, Home, Desktop, Documents, Downloads, Music, Pictures, Videos, and Rubbish Bin. The "Devices" and "Network" sections are also present. The main pane displays a list of files under "my_thesis_project". A red box highlights a group of five files: "thesis_text_last_edit_julians_comments.txt", "thesis_text_last_edit_katies_comments.txt", "thesis_text_last_edit_irinas_comments.txt", "thesis_text_last_edit_irinas_comments_on_top_of_julians_comments.txt", and "thesis_text_last_edit_irinas_comments_on_top_of_julians_comments_1.txt".

Name	Size	Type	Modified
thesis_text_1.txt	570 bytes	Text	12:16
thesis_text.txt	535 bytes	Text	12:16
thesis_text_2.txt	535 bytes	Text	12:17
thesis_text_last_edit.txt	535 bytes	Text	12:17
thesis_text_last_edit_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_1.txt	535 bytes	Text	12:17
thesis_text_last_edit_1_2.txt	535 bytes	Text	12:17
thesis_text_last_edit_julians_comments.txt	535 bytes	Text	12:17
thesis_text_last_edit_katies_comments.txt	535 bytes	Text	12:17
thesis_text_last_edit_irinas_comments.txt	535 bytes	Text	12:17
thesis_text_last_edit_irinas_comments_on_top_of_julians_comments.txt	535 bytes	Text	12:17
thesis_text_last_edit_irinas_comments_on_top_of_julians_comments_1.txt	535 bytes	Text	12:17
thesis_text_to_submit.txt	535 bytes	Text	12:18
thesis_text_to_submit_1.txt	535 bytes	Text	12:18
thesis_text_to_submit_2.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_1.txt	535 bytes	Text	12:18
thesis_text_this_was_submitted_2.txt	535 bytes	Text	12:18



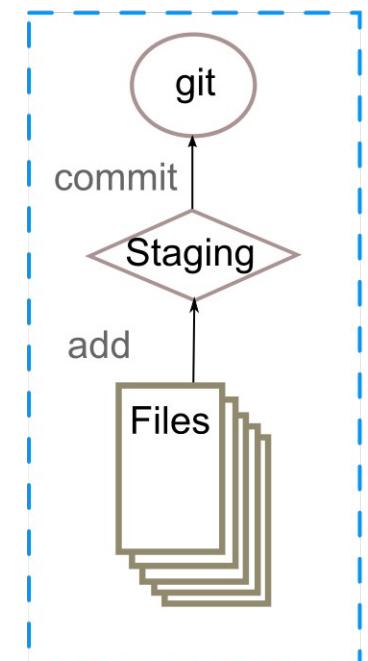
The idea behind version control systems

4. Recover previous versions.

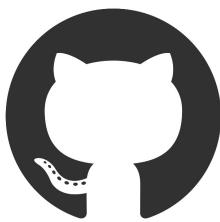
5. Backup your files.



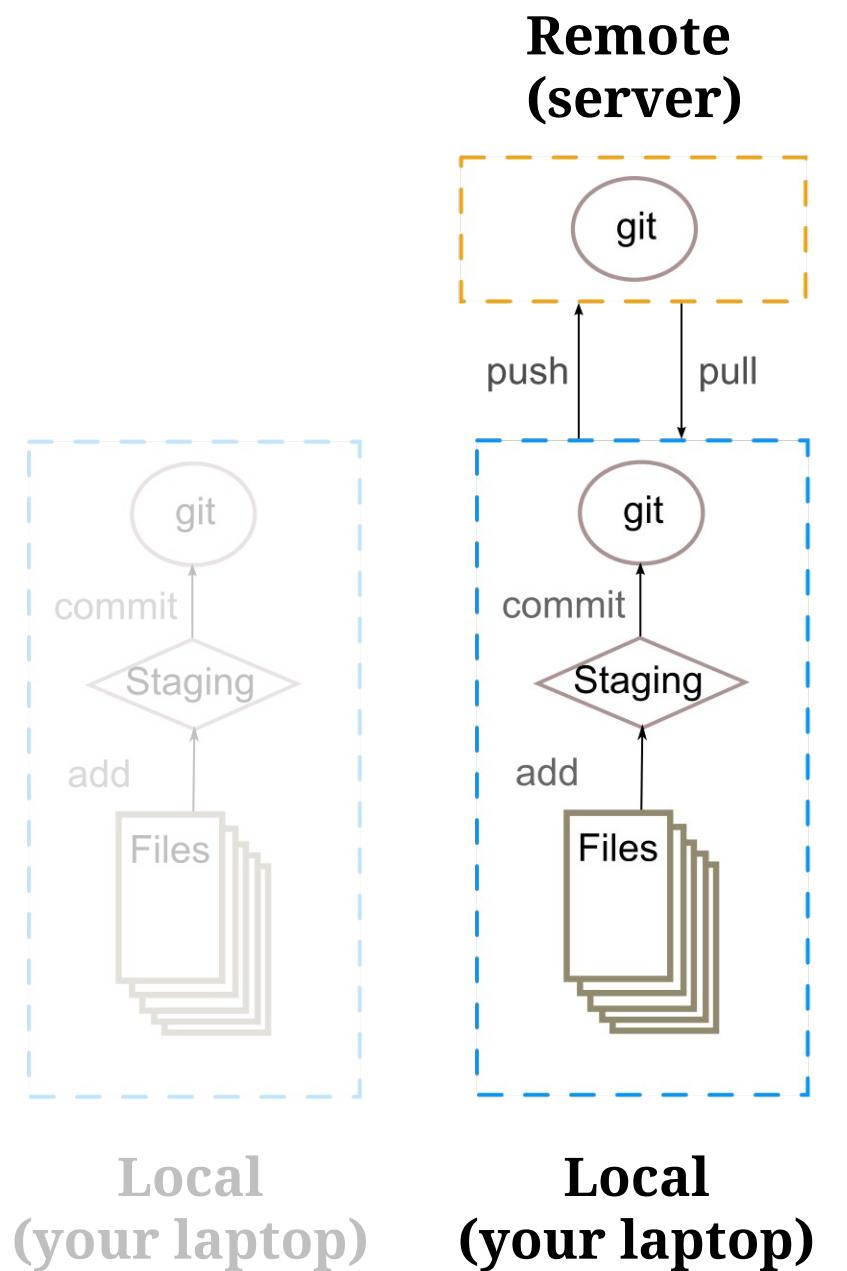
The idea behind git

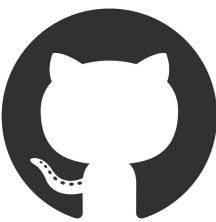


Local
(your laptop)

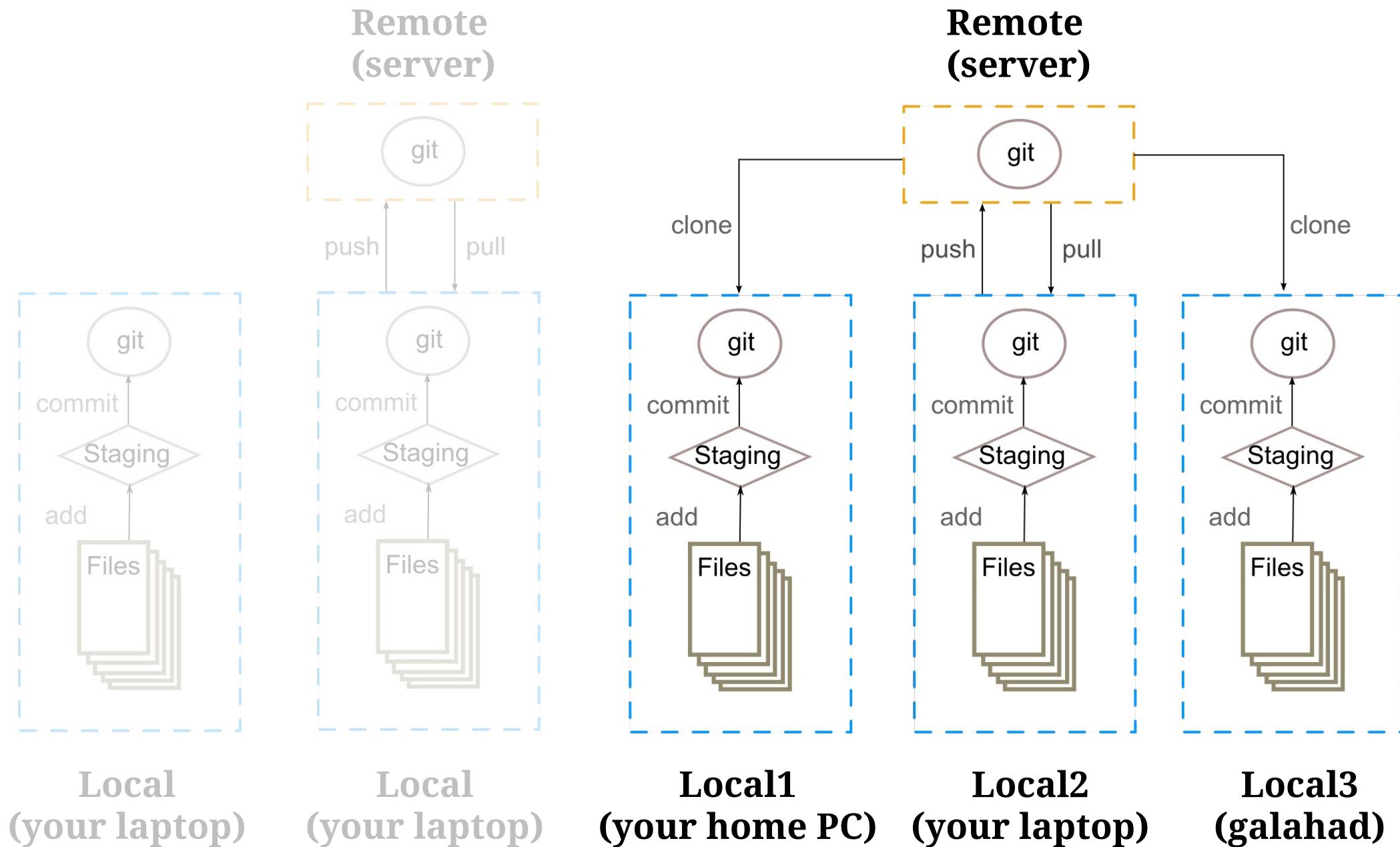


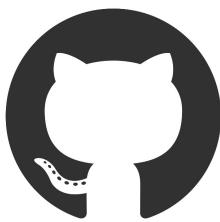
The idea behind git





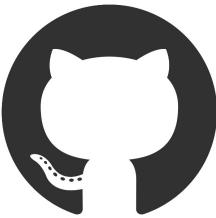
The idea behind git





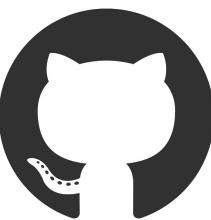
What you get when you use Git

- * Keeping track of changes:
 - Record changes as they happen.
 - Complete version history.
- * Collaborate:
 - Multiple people can edit the same file without overwriting each others changes.
 - Get an overview of who changed what.
- * Understand what happened:
 - Each change comes with a (hopefully) useful description.
 - Did something break? Identify the change that caused the problem.



What you get when you use Git

- * Recover previous versions:
 - Can return to any version.
 - Did something break? Just restore the last working version.
- * Backup
 - Repository (on a remote server) can serve as backup for source code.
- * Access 24/7 from anywhere in the world without Internet connection!
 - Create local copies of your projects and upload your changes to the server later.



What we will learn today

1. Create a new “folder” – *repository* or *project*.
2. Add and modify files.
3. Leave explanatory comments to your changes.
4. Recover previous versions of files.
5. Make projects public/private/accessible by certain people.
6. Copy – or *clone* – already existing project.



Demo time



GitHub





Helps and hints from demo

Github (Git server) – works for any operating system:

1. Create a new “folder” – *repository or project*.

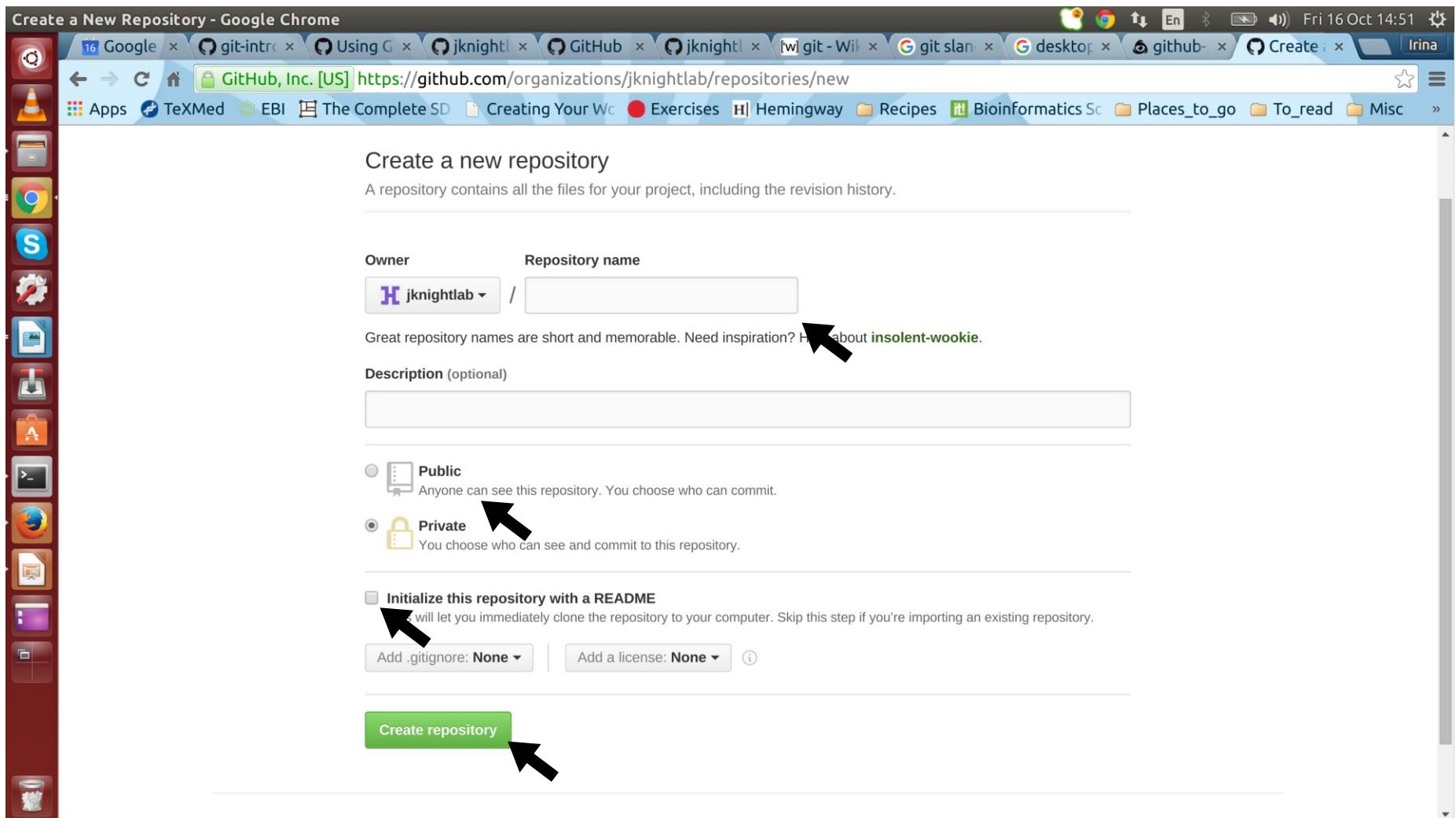
A screenshot of a Google Chrome browser window. The address bar shows the URL <https://github.com/jknightlab>. The page displays the GitHub organization profile for 'jknightlab'. On the left, there's a sidebar with various application icons. The main content area shows the organization's repositories: 'capture_c' (updated 4 hours ago), 'haplotype-mapping' (PRIVATE, updated 14 hours ago), and 'eQTLs-MHC' (PRIVATE, updated 2 days ago). To the right of the repositories is a 'People' section showing 18 users, each with a small profile picture. At the top right of the main content area, there's a green button labeled '+ New repository' with a black arrow pointing to it. The status bar at the bottom of the browser window shows the URL <https://github.com/organizations/jknightlab/repositories/new>.



Helps and hints from demo

Github (Git server) – works for any operating system:

1. Create a new “folder” – *repository or project*.



The screenshot shows the 'Create a New Repository' form in Google Chrome. The URL in the address bar is <https://github.com/organizations/jknightlab/repositories/new>. The page title is 'Create a new repository'. The owner is set to 'jknightlab'. The repository name field is empty. A placeholder text 'Great repository names are short and memorable. Need inspiration? How about **insolent-wookie**' is visible. The 'Description (optional)' field is empty. There are two radio button options: 'Public' (selected) and 'Private'. Below these is a checkbox for 'Initialize this repository with a README'. At the bottom are buttons for 'Add .gitignore: None' and 'Add a license: None'. A large green 'Create repository' button is at the bottom right. Three black arrows point to the 'README' checkbox, the 'Private' radio button, and the 'Create repository' button.

Create a New Repository - Google Chrome

GitHub, Inc. [US] https://github.com/organizations/jknightlab/repositories/new

Owner: jknightlab / Repository name:

Great repository names are short and memorable. Need inspiration? How about **insolent-wookie**.

Description (optional):

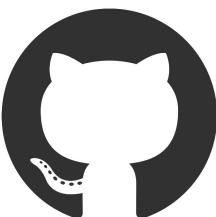
Public Anyone can see this repository. You choose who can commit.

Private You choose who can see and commit to this repository.

Initialize this repository with a README

Add .gitignore: None Add a license: None

Create repository



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

When you are “inside” your project, you can add new files by clicking the “+” next to the porject name (in this example, “capture_c”).

jknightlab / **capture_c**

Description

Short description of this repository

8 commits 1 branch

Branch: master capture_c / +

pulyakhina this should be visible in desktop git

test files 18 days ago

README.md this should be visible in desktop git 4 hours ago

Test_data_analysis_workflow.md wrapping lines with commands 25 days ago

README.md

capture_c

This repository contains the information about the analysis of CaptureC data.

Wiki

Pulse

Graphs

Settings

HTTPS clone URL

https://github.com/jknightlab/capture_c

You can clone with HTTPS, SSH, or Subversion.

Download ZIP



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

The screenshot shows a Google Chrome browser window with multiple tabs open. The active tab is GitHub, Inc. [US] at https://github.com/jknightlab/capture_c/new/master. The page displays a code editor for a file named `new_file.txt` containing the following text:

```
Hello jknight group!  
Welcome to github! I hope you like it.  
Irina
```

Below the editor is a commit dialog box with the following fields:

- Commit new file** (button)
- Commit directly to the `master` branch** (radio button)
- Create a new branch for this commit and start a pull request** (radio button)
- Commit message:** "created new test file"
"This file contains some welcoming sentences."
- Commit new file** (button)

A black arrow points to the **Commit new file** button at the bottom left of the commit dialog. Two blue callout boxes provide additional instructions:

- Brief comment ~50 symbols (will be seen in your history)**
- If you need/wish, you can add a more detailed description here.**



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

The screenshot shows a Linux desktop environment with a red dock on the left containing various application icons. A Google Chrome window is open, displaying the GitHub repository `jknightlab/capture_c`. The `new_file.txt` file is being edited. A black arrow points to the `Preview` button in the editor interface. The preview pane shows the content of the file: "Hello jknight group", "Welcome to github! I will edit it.", and "Irina". A blue callout box with white text provides instructions: "Click on ‘preview’ to see what your changes are going to look like". At the bottom of the editor, there is a "Commit new file" dialog box with the message "created new test file" and a note "This file contains some welcoming sentences." It includes two radio button options: "Commit directly to the `master` branch" and "Create a `new branch` for this commit and start a pull request." Below the dialog are "Commit new file" and "Cancel" buttons. The bottom of the screen shows the GitHub footer with links to Terms, Privacy, Security, Contact, Help, Status, API, Training, Shop, Blog, About, and Pricing.

Click on “preview” to see what your changes are going to look like



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

A screenshot of a Linux desktop environment showing a Google Chrome window. The window title is "Editing capture_c/README.md at master · jknightlab/capture_c - Google Chrome". The address bar shows the URL "https://github.com/jknightlab/capture_c/edit/master/README.md". The page content is the README.md file for the "capture_c" repository, which contains the following text:

```
capture_c

This repository contains the information about the analysis of CaptureC data.

added an extra line for desktop git.

hello!!! :)

Dugine by Irina Pulyakhina irina@well.ox.ac.uk
```

A blue callout box with the text "Changes are highlighted" is overlaid on the right side of the screen, pointing to the word "Dugine". A black arrow points to the word "Dugine" in the original screenshot. The desktop environment includes a dock on the left with various application icons.



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

The screenshot shows a Google Chrome browser window with the URL https://github.com/jknightlab/mirna_pipeline/blob/master/Workflow_simplified.md. The page title is "mirna_pipeline/Workflow_simplified.md at master · jknightlab/mirna_pipeline - Google Chrome". The GitHub interface includes a sidebar with various icons, a search bar, and navigation links like "Pull requests", "Issues", and "Gist". The main content area shows the file "Workflow_simplified.md" with a preview. The preview toolbar at the top right of the file content includes buttons for "Raw", "Blame", and "History". A black arrow points to the "Raw" button. A blue callout box with white text provides the following hint:

After you clicked on a filename in your project tree (list of files within a project), you can modify it, view “raw” and look at the history of changes.

Detailed description of the file content preview:

Differential microRNA expression

The goal of this project was, starting from the sequencing files provided by the Sequencing Core of WTCHG, to generate a list of candidate microRNAs differentially expressed between Th17 and non-Th17 cells, which could then be tested for further experimental validation. Sequencing projects were performed on the Illumina HiSeq 2500 platform.

Experimental Design

Two groups of cells -- Th17 and non-Th17 -- were sequenced. The samples were run on a HiSeq2500 Flowcell. The samples were run in two lanes, so two sequencing files will be produced for one sample (message from the core).



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

A screenshot of a Linux desktop environment (Ubuntu) showing a Google Chrome browser window. The window displays a GitHub repository page for 'mirna_pipeline' at the 'Workflow_simplified.md' file. The code editor shows a file containing text about differential microRNA expression and experimental design. At the bottom of the editor, there is a 'Commit changes' dialog box. A black arrow points to the input field where 'I added some lines' is typed. Another black arrow points to the 'Commit changes' button at the bottom of the dialog box.

```
Differential microRNA expression
-----
The goal of this project was, starting from the sequencing files provided by the Sequencing Core of WCHG, to generate a list of candidate microRNAs differentially expressed in healthy controls versus patients with ankylosing spondylitis for further experimental validation. Sequencing project number is "P150188".
...
### Experimental Design
...
Two groups of cells -- [Th17](https://en.wikipedia.org/wiki/T_helper_17_cell) and non-Th17 -- were separately sequenced for healthy controls and AS patients. This table provides the names of the samples and the names of the corresponding sequencing files. Note that one of the samples ("AS3-Th17") was not sequenced because library prep (message from the core: "one sample, AS3-Th17, failed the library prep and could not be included.")
...
The miRNA samples were run on a HiSeq2500 Rapid mode. With "Rapid mode" the libraries are run on a single sequencing flowcell that has two lanes, so two sequencing files
```

Commit changes

I added some lines

Add an optional extended message

Commit directly to the `master` branch

Create a new branch for this commit and start a pull request. Learn more about pull requests.

Commit changes Cancel



Helps and hints from demo

Github (Git server) – works for any operating system:

4. Recover previous versions of files.

The screenshot shows a Google Chrome browser window with multiple tabs open. The active tab is 'jknightlab/mirna_pipeline' on GitHub. The page displays the repository details: 130 commits, 2 branches, 0 releases, and 1 contributor. Below this, a list of recent commits is shown, each with a file diff icon, the author's name, a brief description, and the time of the commit. On the right side of the repository page, there are sections for 'Code', 'Issues', 'Pull requests', 'Wiki', 'Pulse', 'Graphs', and 'Settings'. At the bottom, there is an 'HTTPS clone URL' field containing the URL https://github.com/jknightlab/mirna_pipeline, and a 'Download ZIP' button. A vertical toolbar on the left contains icons for various applications like TeXMed, EBI, and Bioinformatics Sc.

bioinformatics pipeline to analyze micro RNA sequencing data — Edit

130 commits 2 branches 0 releases 1 contributor

Branch: master / +

pulyakhina correct layout of the figures Latest commit 7ac815 9 days ago

ANOVA.md reformatting long lines a month ago

Alignment_process.md renamed README into the alignment_process file a month ago

Alignment_results.md changed the name of the page a month ago

Diff_expression.md removed falty results and only kept the code a month ago

Filtering_steps_code.md editing (removing empty lines) 29 days ago

HC_Th17_vs_AS_Th17_log2... scatter plot with logfoldchange in HC_th17 vs AS_th17 29 days ago

WTCHG_189135_292_1.cut... added link to one sample for which QC failed (sample 189135) 2 months ago

WTCHG_189136_285_1_fast... updated fastqc report files a month ago

WTCHG_189136_285_1_fast... updated fastqc report files a month ago

Workflow_simplified.md editing 9 days ago

candidates_AS_Th17_VS_AS... formatting 28 days ago

candidates_HC_Th17_VS_AS... formatting 28 days ago

HTTPS clone URL
https://github.com/jknightlab/mirna_pipeline

You can clone with HTTPS, SSH, or Subversion.

Download ZIP



Helps and hints from demo

Github (Git server) – works for any operating system:

4. Recover previous versions of files.

The screenshot shows a Google Chrome browser window with multiple tabs open. The active tab is GitHub, displaying the commit history for the repository `jknightlab/mirna_pipeline`. The commits are listed by date, with a focus on October 7, 2015. A blue callout box points to the commit hash `7ac8158`, labeled "unique tag of each commit". Another blue callout box points to the right side of the commit list, labeled "browse the repository at this point in history".

Commits · `jknightlab/mirna_pipeline` - Google Chrome

GitHub, Inc. [US] https://github.com/jknightlab/mirna_pipeline/commits/master

This repository Search

`jknightlab / mirna_pipeline`

Branch: master

Commits on Oct 7, 2015

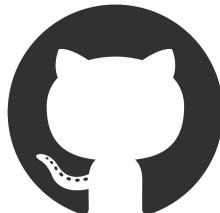
- `correct layout of the figures` pulyakhina authored 9 days ago
- `editing` pulyakhina authored 9 days ago
- `added info about comparison of qPCR and RNA-Seq expression values bas...` pulyakhina authored 9 days ago
- `comparison of qPCR and RNA-Seq data using only samples used for DGE a...` pulyakhina authored 9 days ago

Commits on Oct 6, 2015

- `all miRNAs with their expression and targets` pulyakhina authored 10 days ago

Commits on Oct 5, 2015

- `temp` Irina Pulyakhina authored 11 days ago
- `file with miRNA expressions and gene targets`



Helps and hints from demo

Github (Git server) – works for any operating system:

2. Add and modify files.

A screenshot of a Linux desktop environment showing a GitHub commit page in a Google Chrome browser window. The desktop has a red taskbar on the left with various application icons. The browser window shows a commit page for a file named 'Workflow_simplified.md'. The commit message is: "Workflow_simplified.md". The commit was authored by 'pulyakhina' 9 days ago, with 1 parent commit '8a23aa2'. The commit hash is 'd4fd506bc118c33877bd04be238bd54f2667c294'. The diff view shows changes between two versions of the file. A blue callout box on the right side of the screen contains the text: "Click on the unique commit tag (see previous slide) and view changes which happened after a certain commit".

editing - jknightlab/mirna_pipeline@d4fd506 - Google Chrome

Fri 16 Oct 16:48

GitHub, Inc. [US] https://github.com/jknightlab/mirna_pipeline/commit/d4fd506bc118c33877bd04be238bd54f2667c294#diff-42e1839df3996a1

Showing 1 changed file with 2 additions and 2 deletions.

Unified Split

Workflow_simplified.md

@@ -418,7 +418,7 @@ microRNAs in qPCR vs RNA-Seq data (results of qPCR experiments were provided by Taejong Kim). Unfortunately the results of miRNA sequencing do not confirm the results of qPCR.

-** Different number of samples was used for qPCR and for RNA-Seq**

+**Different number of samples was used for qPCR and for RNA-Seq**

| miR-155-5p | HC Th17 | HC nonTh17 | AS Th17 | AS non Th17 |

| ----- | ----- | ----- | ----- | ----- |

@@ -445,7 +445,7 @@ miRNA sequencing do not confirm the results of qPCR.

![alt text](https://github.com/jknightlab/mirna_pipeline/blob/master/miR-210-3p_miR-210-5p)

-** Same samples were used for qPCR and for RNA-Seq**

+**Same samples were used for qPCR and for RNA-Seq**

| miR-155-5p | HC Th17 | HC nonTh17 | AS Th17 | AS non Th17 |

| ----- | ----- | ----- | ----- | ----- |

0 comments on commit d4fd506

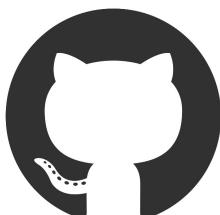
Write Preview

Leave a comment

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

Comment on this commit

Click on the unique commit tag (see previous slide) and view changes which happened after a certain commit



Helps and hints from demo

Github (Git server) – works for any operating system:

5. Make projects public/private/accessible by certain people.

The screenshot shows a Google Chrome browser window with multiple tabs open. The active tab is for the GitHub repository `jknightlab/mirna_pipeline`. The page displays the repository's details, including 130 commits, 2 branches, 0 releases, and 1 contributor. A list of recent commits is shown, along with links to various files like ANOVA.md, Alignment_process.md, etc. On the right side, there are sections for Code, Issues, Pull requests, Wiki, Pulse, Graphs, and Settings. A large black arrow points to the "Settings" section, specifically highlighting the "HTTPS clone URL" field which contains the URL `https://github.com/jknightlab/mirna_pipeline`.

bioinformatics pipeline to analyze micro RNA sequencing data — Edit

130 commits 2 branches 0 releases 1 contributor

Branch: master mirna_pipeline / +

pulyakhina correct layout of the figures Latest commit 7ac815 9 days ago

ANOVA.md reformatting long lines a month ago

Alignment_process.md renamed README into the alignment_process file a month ago

Alignment_results.md changed the name of the page a month ago

Diff_expression.md removed faulty results and only kept the code a month ago

Filtering_steps_code.md editing (removing empty lines) 29 days ago

HC_Th17_vs_AS_Th17_log2... scatter plot with logfoldchange in HC_th17 vs AS_th17 29 days ago

WTCHG_189135_292_1.cut... added link to one sample for which QC failed (sample 189135) 2 months ago

WTCHG_189136_285_1_fast... updated fastqc report files a month ago

WTCHG_189136_285_1_fast... updated fastqc report files a month ago

Workflow_simplified.md editing 9 days ago

candidates_AS_Th17_VS_AS... formatting 28 days ago

candidates_HC_Th17_VS_AS... formatting 28 days ago

HTTPS clone URL
https://github.com/jknightlab/mirna_pipeline

You can clone with **HTTPS**, **SSH**, or **Subversion**.

Download ZIP



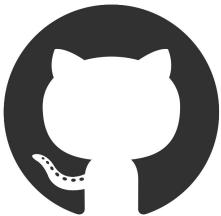
Helps and hints from demo

Github (Git server) – works for any operating system:

5. Make projects public/private/accessible by certain people.

A screenshot of a Google Chrome browser window showing the GitHub repository settings for 'jknightlab / mirna_pipeline'. The sidebar on the left lists options like 'Options', 'Collaborators & teams', 'Branches', 'Webhooks & services', and 'Deploy keys'. A large black arrow points upwards from the bottom towards the 'Options' button. In the main content area, there are sections for 'Settings' (repository name 'mirna_pipeline'), 'Features' (Wikis, Issues), 'GitHub Pages' (Automatic page generator), and 'Custom and Jekyll-based sites'. At the bottom is a red 'Danger Zone' section with three buttons: 'Make this repository private', 'Transfer ownership', and 'Delete this repository'. Three black arrows point downwards from the top towards each of these buttons respectively.

Helps and hints from demo



Desktop – works for Windows or Mac OS:

1. Clone a project from Github to your own computer.

This screenshot shows a GitHub repository page for 'jknightlab / mirna_pipeline'. The repository has 130 commits, 2 branches, and 0 releases. The master branch is selected. The sidebar on the right includes links for Code, Issues, Pull requests, Wiki, Pulse, Graphs, and Settings. At the bottom right, there are two buttons: 'Clone in Desktop' and 'Download ZIP', with an arrow pointing to the 'Download ZIP' button.

bioinformatics pipeline to analyze micro RNA sequencing data — Edit

130 commits 2 branches 0 releases 1 contributor

Branch: master mirna_pipeline / +

polyakhina correct layout of the figures Latest commit 7ac815 9 days ago

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Workflow_simplified.md editing 9 days ago

candidates_AS_Th17_VS_A... formatting 28 days ago

candidates_HC_Th17_VS_A... formatting 28 days ago

candidates_HC_Th17_VS_A... formatting 28 days ago

candidates_HC_Th17_VS_H... formatting 28 days ago

candidates_HC_nonTh17_VS... formatting 28 days ago

candidates_HC_nonTh17_VS... formatting 28 days ago

diff_expression_AS_Th17_V... updated files with the results of differential mirna expression a month ago

diff_expression_HC_Th17_V... updated files with the results of differential mirna expression a month ago

diff_expression_HC_Th17_V... updated files with the results of differential mirna expression a month ago

diff_expression_HC_Th17_V... temporary example files to illustrate differential expression analysi... a month ago

Code Issues Pull requests Wiki Pulse Graphs Settings

HTTPS clone URL <https://github.com/>

You can clone with HTTPS, SSH, or Subversion.

Clone in Desktop Download ZIP



Helps and hints from demo

Desktop – works for Windows or Mac OS:

... or create a new project on your laptop

The screenshot shows the GitHub desktop application interface. On the left, a dialog box for creating a new repository is open, with a black arrow pointing to the '+' button. The main window displays a commit history for a repository named 'Test_data_analysis_workflow'. The most recent commit, by Alicia Lledo, is shown with the message:

```
write your commit message here
Alicia Lledo 4c7bc4e
Test_data_analysis_workflow.md
...
1 1 @@ -1,5 +1,7 @@
2 2 # capture_c
3 + hi
4 +
5 5 ### Getting the data and the scripts
6 6
7 7 Test data was downloaded from
```

The commit history also includes several other commits from Irina and pulyakhina, such as 'Initial commit' and 'page with the analysis of the test data'. The bottom of the screen shows the Windows taskbar with various pinned icons, and the system tray indicates the date and time as 16/10/2015 at 17:02.



Helps and hints from demo

Desktop – works for Windows or Mac OS:

This is how your commits are displayed:

The screenshot shows the GitHub Desktop application interface. The main window displays a commit history for the 'master' branch of the repository 'capture_c'. The commits are listed in chronological order, starting with an initial commit and followed by several test files and a merge commit. A specific commit by Alicia Lledo is highlighted, showing a diff view for the 'README.md' file. The diff view highlights a line of code that was added for desktop git but is intended to be visible in GitHub. The GitHub Desktop interface includes a sidebar for filtering repositories, a navigation bar with tabs for 'Changes' and 'History', and a bottom status bar showing recent file operations.

Uninstalling GitHub | GitHub Desktop | jknightlab/mirna_pip | Collaborators | jknightlab/mirna_pip | GitHub, Inc. [US] https://github.com/jknightlab/mirna_pipeline

This repository Search Pull requests Issues Gist

+ master Changes History Pull request Sync

Compare master

capture_c

mirma_pipeline

Other

Tutorial

Revert "added an extra line that should be..." 5 hours ago by Alicia Lledo

added an extra line that should be visible in... 5 hours ago by Alicia Lledo

this should be visible in desktop git 5 hours ago by Irina

Merge branch 'master' of https://github.co... 17 days ago by pulyakhina

test files 17 days ago by pulyakhina

added very general introduction 25 days ago by pulyakhina

page with the analysis of the test data 25 days ago by pulyakhina

Initial commit 25 days ago by Irina

Revert "added an extra line that should be visible in github" 5 hours ago by Alicia Lledo df717d6

This reverts commit 8801dca6130972d6e4407a26dc837c32c810eab1.

README.md

@@ -6,6 +6,6 @@ the analysis of CaptureC data.

6 6

7 7 added an extra line for desktop git.

8 8

9 - and this line should be visible in github.

9 +

10 10

11 11 ##### Designed by Irina Pulyakhina irina@well.ox.ac.uk

diff_expression_HC_Th17_V... updated files with the results of differential mirna expression a month ago

diff_expression_HC_Th17_V... updated files with the results of differential mirna expression a month ago

diff_expression_HC_Th17_V... temporary example files to illustrate differential expression analysi... a month ago

16:56 16/10/2015

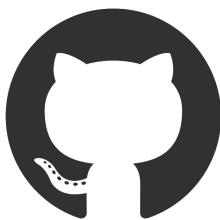


Helps and hints from demo

Desktop – works for Windows or Mac OS:

2. Modify a file the same way you would change any file:

A screenshot of the GitHub Desktop application interface. On the left, there's a sidebar with repository navigation and a commit history for the 'master' branch. The commit history shows several commits, including a merge commit and some test files. In the center, a large blue callout box contains the text: "Click here and you'll see a file within a folder on your computer – and you can modify it the same way as you normally change any other file (via a text editor)". On the right, a context menu is open over a commit, with the "Open in Explorer" option highlighted. A black arrow points to this option. The status bar at the bottom shows system icons and the date/time: 16:56 16/10/2015.



Helps and hints from demo

Desktop – works for Windows or Mac OS:

2. Modify a file the same way you would change any file:

A screenshot of the GitHub desktop application interface. On the left, there's a sidebar with repository filters and a list of repositories: capture_c (selected), mirna_pipeline, Other, and Tutorial. The main area shows a 'Changes' tab with a single change: README.md. A large blue callout box with white text is overlaid on the right side, pointing towards the commit buttons. The text in the callout box reads: 'After you modified a file, click here and you'll see a template for your commit message'. Below the callout, another arrow points from the bottom-left towards the 'Commit to master' button at the bottom of the commit message input area. The status bar at the bottom shows various system icons and the date/time: 17:10 16/10/2015.



Helps and hints from demo

Desktop – works for Windows or Mac OS:

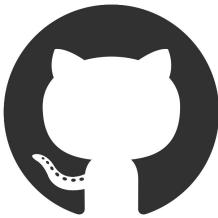
3. Synchronize your laptop with Github

The screenshot shows the GitHub Desktop application interface. On the left, there's a sidebar with repository filters and a list of repositories: capture_c, mirna_pipeline, and Tutorial. The main area displays the history of the 'master' branch of the 'capture_c' repository. A red arrow points to the 'Sync' button in the top right corner of the main window. A blue callout box contains the text: "Click here to make sure you are up-to-date with Github; when you changed something, also click here to ‘push’ your Changes to Github". At the bottom, the taskbar shows several open applications including Microsoft Word, Google Chrome, and the GitHub desktop client.

Sync

Click here to make sure you are up-to-date with Github; when you changed something, also click here to “push” your Changes to Github

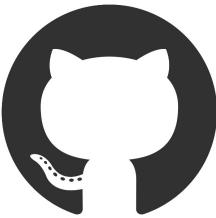
Do / don't



Do:

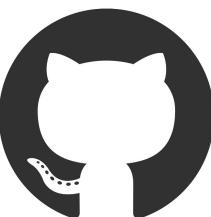
1. Commit early and often (sausage making)
2. Keep up to date – pull every time before you make new changes.
3. Write VERY explicit comments in your commit messages.
4. Make folders and subfolders, don't dump everything in one folder.
5. Use git. Please.

Do / don't



Don't:

1. Copy the same file for security reasons (it is silly...).
2. Push large (over 100 Mb) file.
3. Make a new project for each *small* new part of your project.
4. Make everything private by default (and forever).
5. Delete a repository!!!



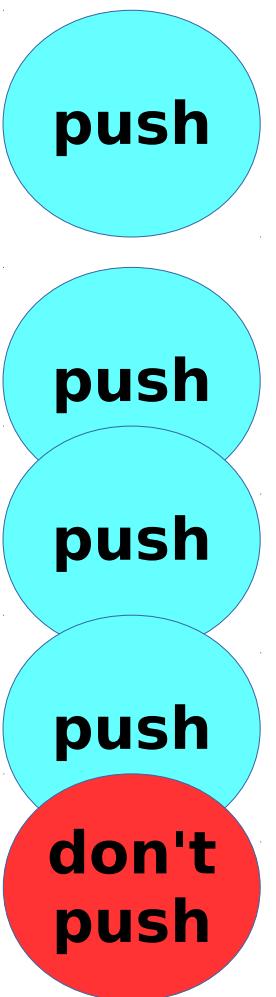
Suggested folder structure

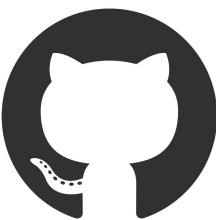
Create a git repository and keep *everything* there:

- project description (xls tables with data, original doc files with project description)
- a file with project layout/workflow (what you did and how: used protocols, used criteria for sample selection, customizations you made to the protocols)
- documentation (protocols, scripts, very detailed description of certain procedures)
- results (gene lists, eQTL lists, pictures of a gel, etc)
- large files (fastq files, bam files)

Push *not everything* !!!

But try to keep everything in one location.





Suggested folder structure

Create a git repository and keep *everything* there:

- project description (xls tables with data, original doc files with project description)
- a file with project layout/workflow (what you did and how: used protocols, used criteria for sample selection, customizations you made to the protocols)
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