



git



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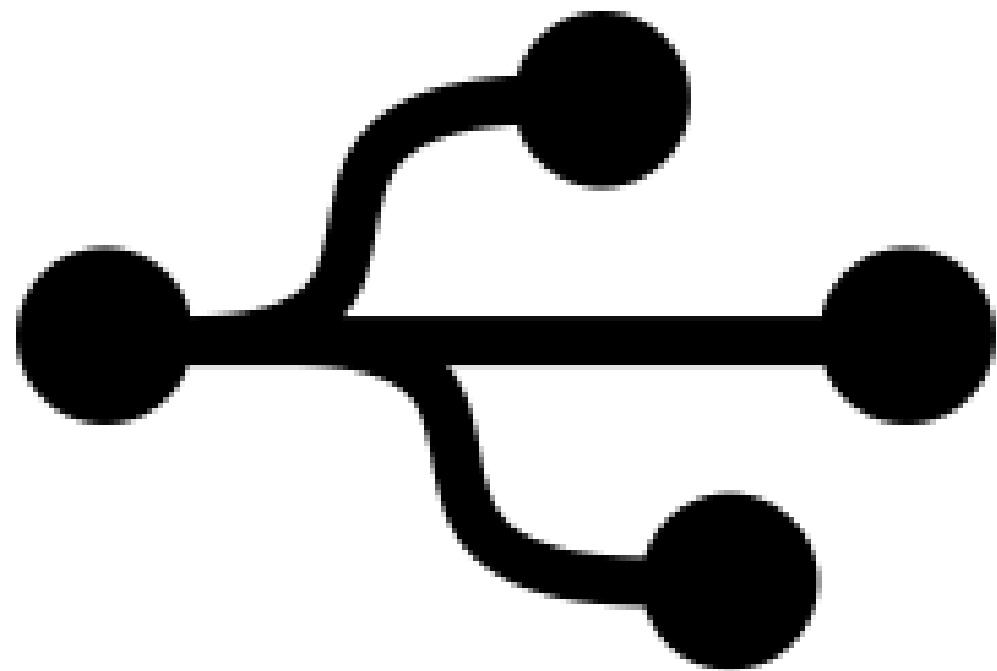
Produced by:

Dr. Siobhán Drohan ([siobhan.drohan@setu.ie](mailto:siobhan.drohan@setu.ie)),

Mairead Meagher([mairead.Meagher@setu.ie](mailto:mairead.Meagher@setu.ie))

Source:

<https://www.linkedin.com/learning/learning-github?u=57077417>



# Version Control

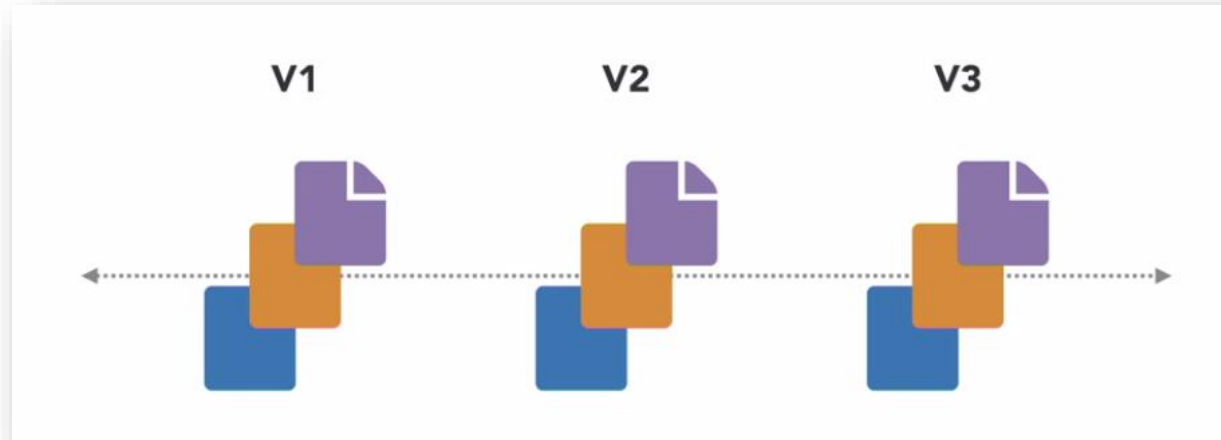
What is git



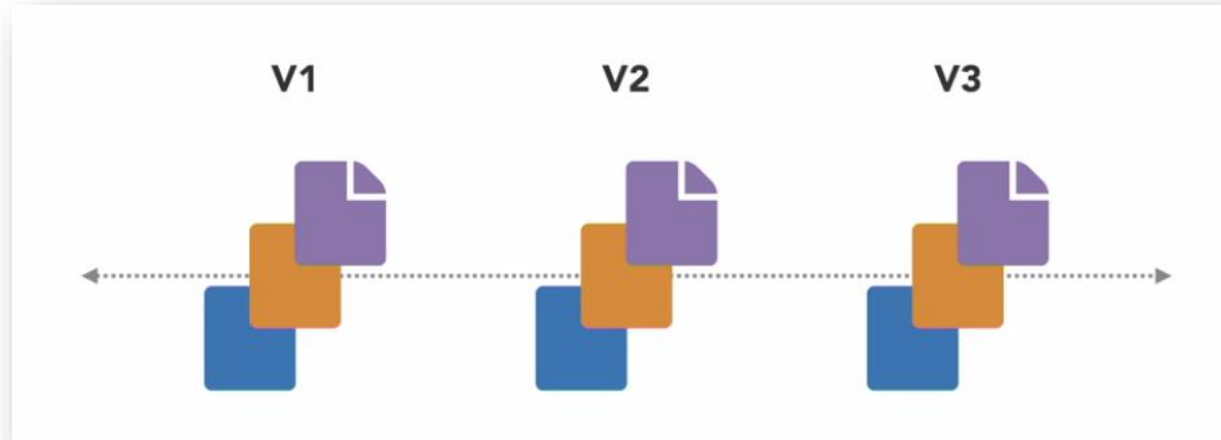
# git

"Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency."

Developed by [Linus Torvalds](#)



A Version Control System (VCS) is software designed to record **changes** made to a file or set of files over time.

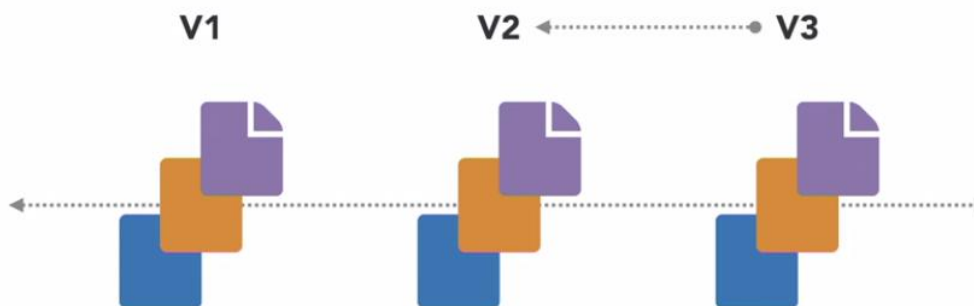


A Version Control System (VCS) is software designed to record **changes** made to a file or set of files over time.

This gives you the ability to revert or recall changes to a file, or set of files after you have made them.



If you want to go back to a version, you can revert one file to a previous version, or a selection of files to their previous versions, or even the entire project back to a specific version in time.





Date:  
Author:  
Message:



Date:  
Author:  
Message:

You can see what changes were made between files e.g.:

- When the change was introduced
- Who introduced the change
- What was changed
- Why was it changed



You can version control any type of file on git, not just source code files:







# Basics of git - 1

- Git is a the version control system. Git manages all the repo's history, etc.
- When using Git, we have a Git repository (repo) which contains:
  - ❖ Source code and any other files
  - ❖ Files needed to keep the information of the various versions (these are contained in the hidden .git subdirectory)
- The user works away on the local repo.
- Usually (but not necessarily), the user will also use a remote server so that
  - ❖ They can backup their work;
  - ❖ They can publish their work;
  - ❖ They can share their work with collaborators. This sharing is the most productive use of Git but as a starting point, not necessary.



## Basics of git - 2

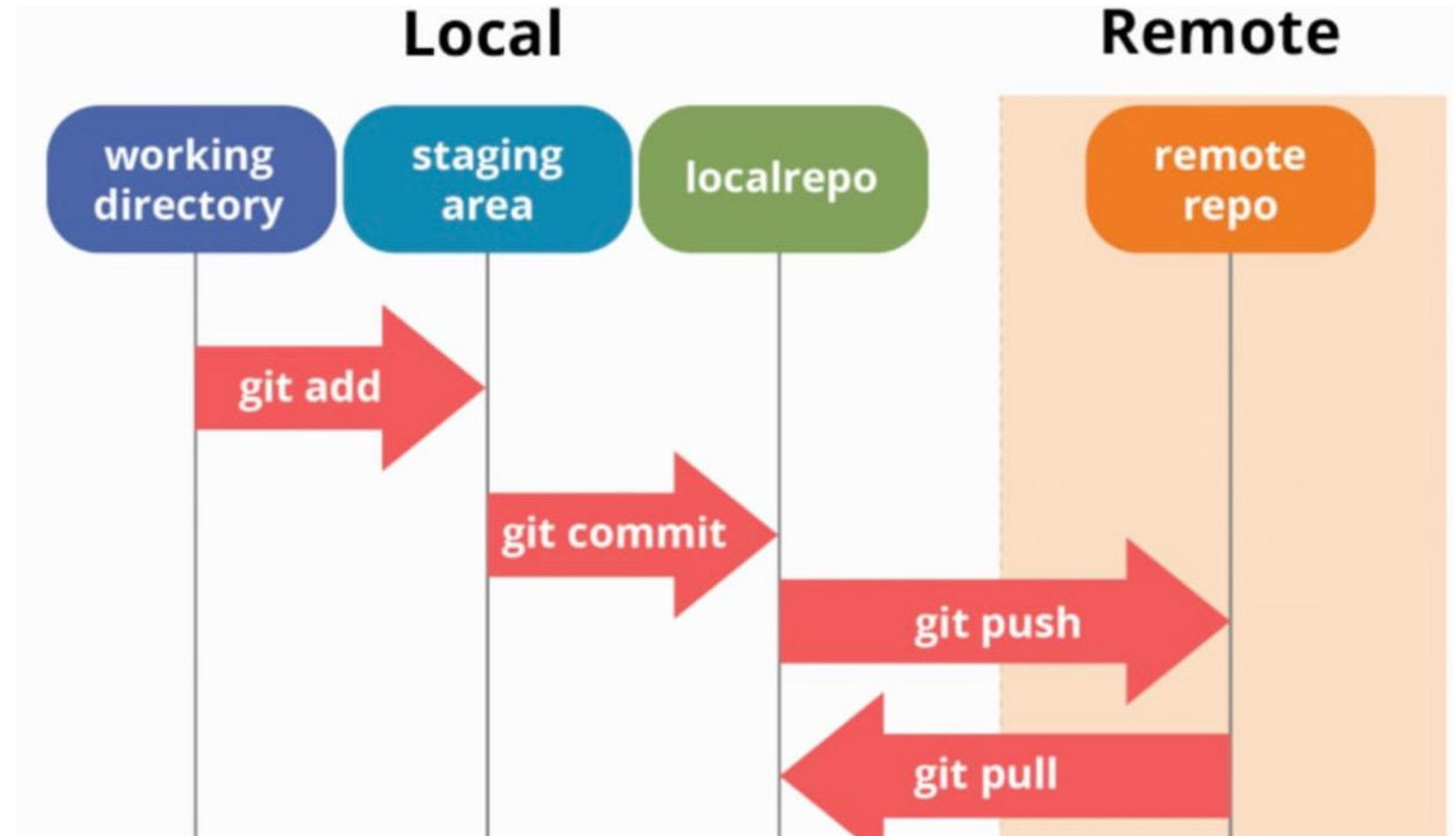
- To see a very good intro on git , see here :

<https://www.freecodecamp.org/news/learn-the-basics-of-git-in-under-10-minutes-da548267cc91/>



## Basics of git - 3

Basic commands



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bc66ed5 21 hours ago 2 commits

[.idea](#) Initial commit of Hello World 23 hours ago[src](#) Initial commit of Hello World 21 hours ago[HelloWorld.iml](#) Initial commit of Hello World 23 hours ago

Add a README with an overview of your project.

[Add a README](#)

## About

Demo app

0 stars

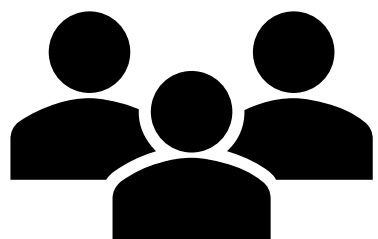
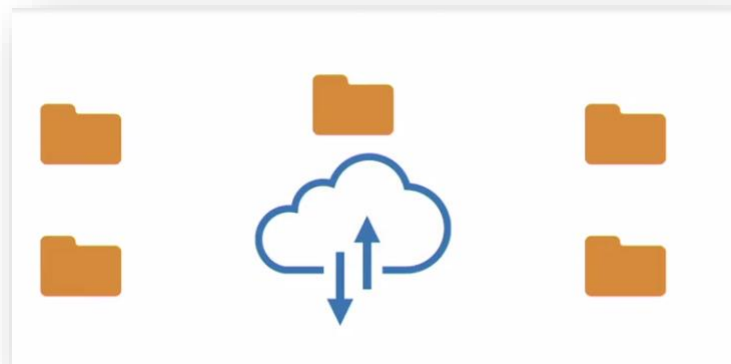
1 watching

0 forks

## Releases

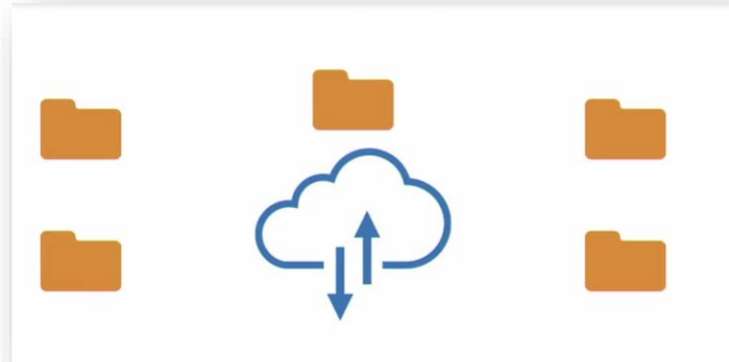
No releases published

[Create a new release](#)



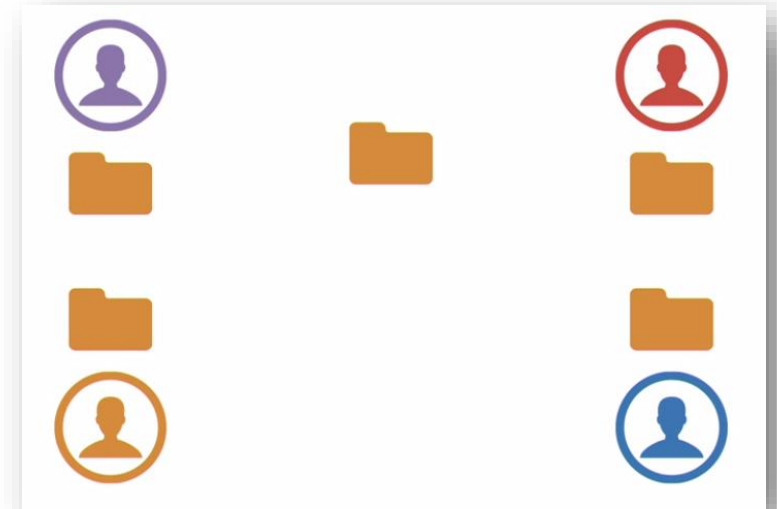
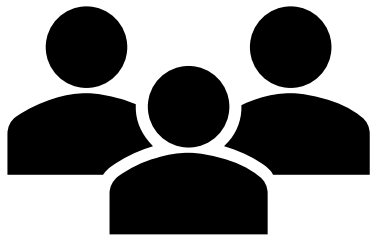
Distributed Version Control  
allows for collaboration.

Each client fully mirrors the  
project by pulling down the  
entire repository.

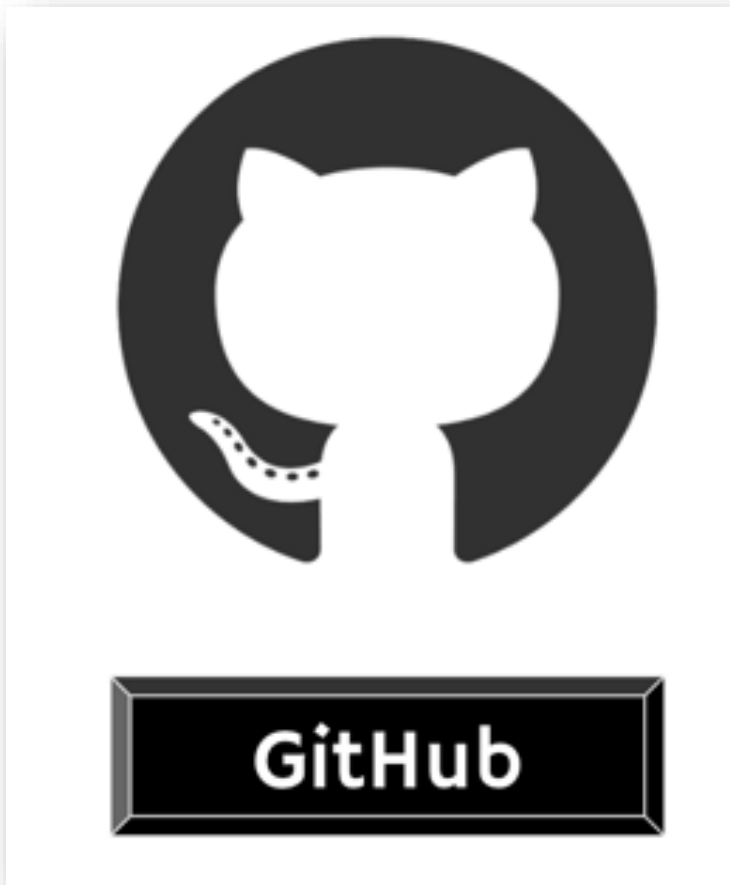


Distributed Version Control  
allows for collaboration.

Each client fully mirrors the  
project by pulling down the  
entire repository.



Everyone has a local copy  
of the entire project  
history → full back up.



# A tour of a repository

<https://github.com/atom/github>

## Hosting services for Git repositories



**Bit Bucket**



**GitHub**



**GitLab**



atom/github: Git and GitHub inte x +

github.com/atom/github

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<> Code Issues 401 Pull requests 33 Actions Projects 2 Wiki Security Insights

master 95 branches 166 tags Go to file Add file Code

smashwilson Merge pull request #2534 from DeeDeeG/fix-redownload-electron-... 5a8faf5 2 days ago 11,458 commits

.dependabot	whitelist a bunch of dependencies (mostly only used in tests) to allo...	2 years ago
.github/workflows	Flip back to nightly	3 days ago
actions	Bump node-fetch from 2.6.0 to 2.6.1 in /actions/schema-up	21 days ago
bin	That variable was renamed	12 months ago
docs	Merge remote-tracking branch 'origin/master' into aw/fr/blank-slate	15 months ago
graphql	GraphQL schema	7 days ago
img	Inexpert but hopefully passable unlock icon	8 months ago
keymaps	Standardize `github:selectbox-` events	12 months ago
lib	Scroll to first conflict when opening editor	5 days ago
menus	move the the Jump to file from the generic FilePatchView menu to the ...	11 months ago
script	redownload-electron-bins.js: Correct path	2 days ago
styles	CSS tweaks	6 months ago
test	Oh yeah it's assert	5 days ago
.babelrc.js	Electron version from env when transpiling in a non-Electron process	2 years ago
.eslintignore	Tell eslint to ignore snapshotting output	2 years ago

About

Git and GitHub integration for Atom

github.atom.io

atom github git atom-package atom-editor

Readme

MIT License

Releases

166 tags

Packages

No packages published

Contributors 62

## Code View

All files and folders in project.

Can edit file contents via GitHub UI.

atom/github: Git and GitHub inte x +

github.com/atom/github

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README.md	Link the README to GitHub Actions	6 months ago
assert-messages-plugin.js	Update Babel package imports to use "@babel/..." scope	2 years ago
codecov.yml	Disable the "changes" status from CodeCov	2 years ago
jsconfig.json	👑👑👑	3 years ago
package-lock.json	📦 Bump electron-devtools-installer from 2.2.4 to 3.1.1	15 days ago
package.json	📦 Bump electron-devtools-installer from 2.2.4 to 3.1.1	15 days ago

README.md

## Atom GitHub Package

Build	Code Coverage
ci passing	codecov 93%

The Atom GitHub package provides Git and GitHub integration for Atom. Check out [github.atom.io](https://github.com/atom/github) for more information.



Commit preview Git GitHub

### Code View

README.md  
file is  
displayed after  
files and  
folders

Issues · atom/github

github.com/atom/github/issues

atom / github

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<> Code **Issues 401** Pull requests 33 Actions Projects 2 Wiki Security Insights

Want to contribute to atom/github?

If you have a bug or an idea, read the [contributing guidelines](#) before opening an issue.  
If you're ready to tackle some open issues, [we've collected some good first issues for you](#).

Filters is:issue is:open Labels 63 Milestones 3 New issue

401 Open 861 Closed Author Label Projects Milestones Assignee Sort

- Links don't open in GNOME / Linux  
#2529 opened 6 days ago by atd 1 of 1
- Suggestion: Pressing the up arrow key in an empty commit message box shows the previous commit message  
#2501 opened on Aug 16 by sbri
- Cannot clone GitHub repository due to corporate proxy  
#2500 opened on Aug 14 by MyResearchExchange 6 of 6 4
- UI Interact Logic: User should be able to login when working on local repositories.  
#2497 opened on Aug 7 by PaperFlu 1 of 1 3
- Git commit failure (Mojave): client is not Apple-signed  
#2485 opened on Jul 11 by cstarkjp
- Change github user on atom  
#2481 opened on Jun 26 by willmendil 2

## Issues View

Used to track bugs, feature requests, etc.

Can be assigned to specific members/teams.

No code changes are attached.

atom / github

33 Pull requests

First time contributing to atom/github?

If you know how to fix an [issue](#), consider opening a pull request for it. You can read this repository's [contributing guidelines](#) or [GitHub Help](#) to learn how to open a good pull request.

Filters is:pr is:open

Labels 63 Milestones 3 New pull request

33 Open 1,212 Closed

	Author	Label	Projects	Milestones	Reviews	Assignee	Sort
Bump enzyme-adapter-react-16 from 1.7.1 to 1.15.5  dependencies							1
#2525 opened 7 days ago by dependabot-preview bot							
Bump babel-plugin-istanbul from 5.2.0 to 6.0.0  dependencies							
#2521 opened 14 days ago by dependabot-preview bot							
Bump relay-runtime from 5.0.0 to 10.0.1  dependencies							
#2493 opened on Jul 23 by dependabot-preview bot							
Bump react-relay from 5.0.0 to 10.0.1  dependencies							1
#2492 opened on Jul 23 by dependabot-preview bot							
Bump fs-extra from 4.0.3 to 9.0.1  dependencies							1
#2474 opened on Jun 4 by dependabot-preview bot							
Bump keytar from 4.13.0 to 6.0.1  dependencies							1
#2468 opened on May 27 by dependabot-preview bot							

## Pull Requests

Represents a change, such as adding, deleting, updating files that the author of the repo wants to make.

It includes code changes.

Actions · atom/github

github.com/atom/github/actions

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Code Issues 401 Pull requests 33 **Actions** Projects 2 Wiki Security Insights

Workflows

All workflows

ci

GraphQL schema update

All workflows

Filter workflows

1,095 results

	Event	Status	Branch	Actor
✓ Update README.md ci #135: Pull request #2536 opened by ankit4-com	ankit4-com:master	10 hours ago 14m 55s	...	
✓ Improved docs ci #134: Pull request #2535 opened by XSarthakJain	XSarthakJain:master	16 hours ago 16m 6s	...	
✓ Merge pull request #2534 from DeeDeeG/fix-redownlo... ci #133: Commit 5a8faf5 pushed by smashwilson	master	2 days ago 12m 8s	...	
✓ script/redownload-electron-bins.js: Fix finding the Ato... ci #132: Pull request #2534 opened by DeeDeeG	DeeDeeG:fix-redownload-elec...	2 days ago 12m 17s	...	
✗ Branch selector power-up ci #131: Pull request #2432 synchronize by smashwilson	branch-selector-powerup	2 days ago 14m 27s	...	
✓ Merge pull request #2533 from atom/ci-on-nightly Flip... ci #130: Commit ee1502b pushed by smashwilson	master	3 days ago 14m 56s	...	
✓ Flip CI back to nightly ci #129: Pull request #2533 opened by smashwilson	ci-on-nightly	3 days ago 58m 17s	...	

## Actions

Allows you to automate your workflows with CI/CD. You can build, test and deploy your code from GitHub.

<https://github.com/features/actions>

The screenshot shows the GitHub Projects interface for the repository atom/github. The 'Projects' tab is selected and highlighted with a red box. The interface displays a Kanban board with three columns: 'To do' (11 items), 'In progress' (0 items), and 'Done' (11 items). The 'To do' column contains tasks such as 'delete comments (maybe)', 'We should have a way to cancel an uncreated comment thread...', 'blank state for pending review tab', 'ability to submit review', 'discard review', and 'pending comment badge'. The 'Done' column contains tasks like 'navigation header tabs', 'summary section in pending review tab', 'add comment to pending review', and 'start new review from replying to a comment'. The 'PR review author feature' is shown as a progress bar at the top of the board.

## Projects

Allows you to visualise your work with Kanban-style boards.

No code changes here!

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github.com/atom/github/wiki

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# Home

Michelle Tilley edited this page on Jun 7, 2017 · 3 revisions

## Roadmaps

[Short Term Roadmap](#)

## Monthly Planning

- [June 2017](#)

**Pages 3**

[Home](#)

**Planning**

- [June 2017](#)

**Other Docs**

- [Personas](#)

Clone this wiki locally

<https://github.com/atom/g>

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## Wiki

Documentation you  
can add to your  
project.

The screenshot shows the GitHub interface for the `atom/github` repository. The browser address bar displays `github.com/atom/github/security`. The repository's navigation bar includes links for `Code`, `Issues` (401), `Pull requests` (33), `Actions`, `Projects` (2), `Wiki`, **`Security`** (highlighted with a red box), and `Insights`. The `Security` section on the right contains two items: `Security policy` (with a yellow dot icon) and `Security advisories` (with a green dot icon). The left sidebar shows a list of repository sections: `Overview`, `Security policy`, and `Security advisories` (0).

## Security

You can give instructions on how to responsibly report a security vulnerability in your project. You can also view any security advisories for your repo.



atom / github

September 24, 2020 – October 1, 2020

Period: 1 week

Overview

5 Active Pull Requests

5 Active Issues

5 Merged Pull Requests	0 Open Pull Requests	4 Closed Issues	1 New Issue
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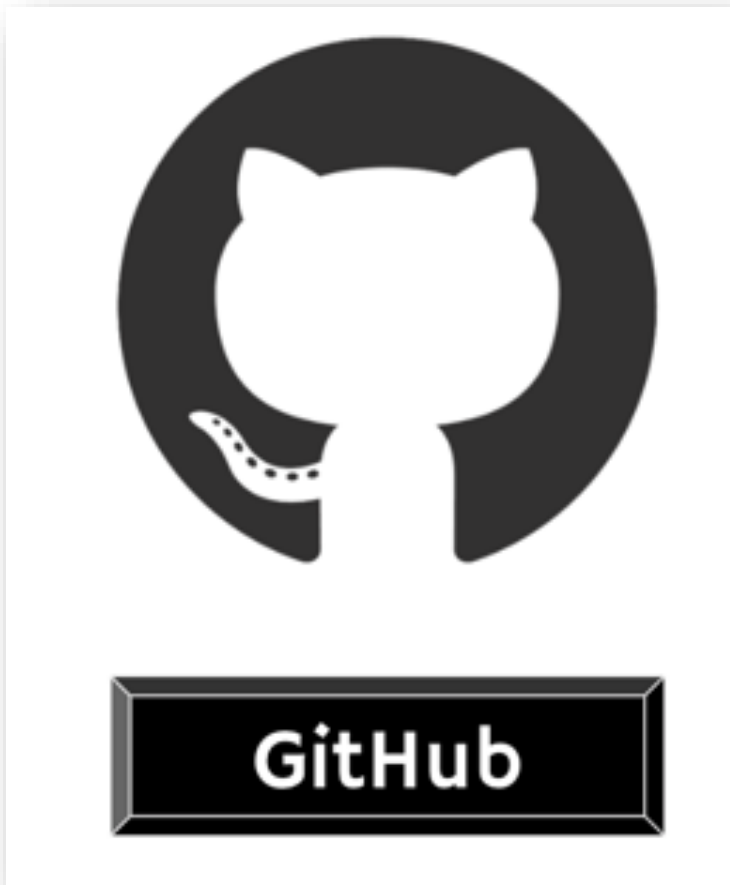
Excluding merges, 3 authors have pushed 12 commits to master and 21 commits to all branches. On master, 8 files have changed and there have been 306 additions and 20 deletions.

5 Pull requests merged by 3 people

- script/redownload-electron-bins.js: Fix finding the Atom repo's package.json #2534 merged 2 days ago
- Flip CI back to nightly #2533 merged 3 days ago
- Scroll to first conflict when opening editor #2532 merged 5 days ago

## Insights

High level overview of the health / pulse of your repo.



We will see how  
IntelliJ integrates  
GitHub into our  
projects.

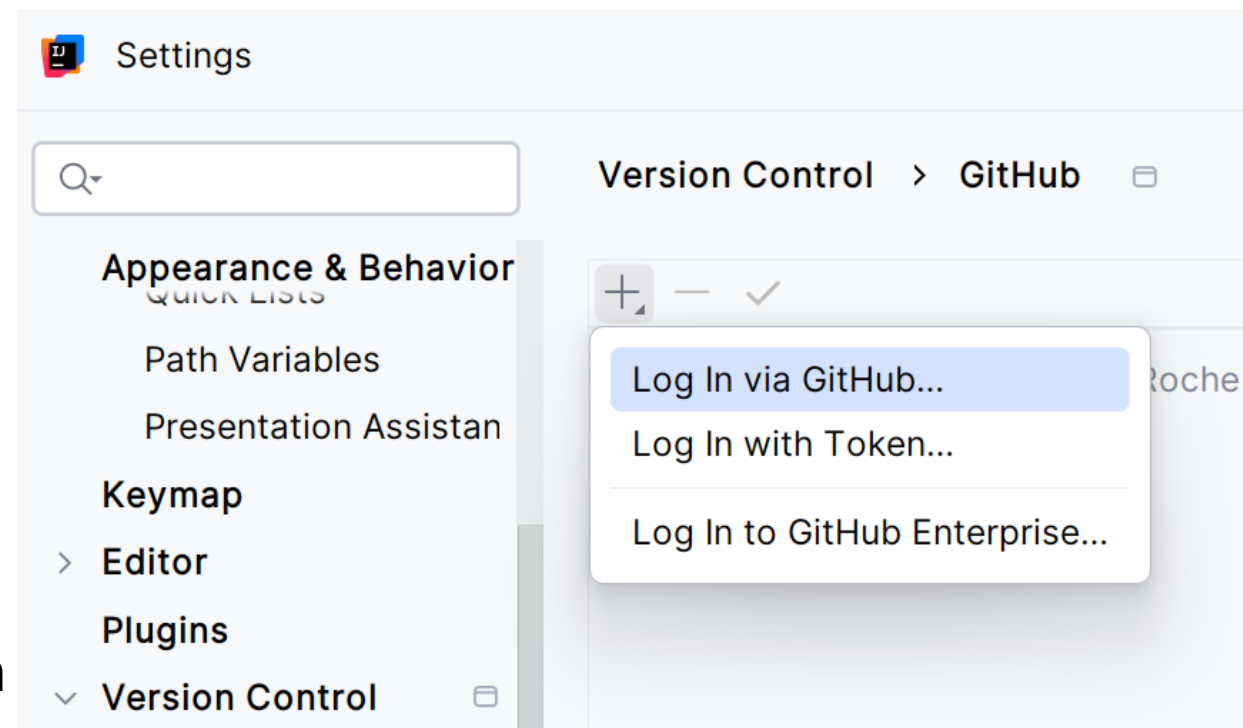
# How IntelliJ Uses Git and GitHub

- IntelliJ IDEA has **built-in support for Git**.
- This means:
  - You do **not** need to use the command line
  - Most Git actions are done through menus and buttons
  - IntelliJ talks to **Git (locally)** and **GitHub (remotely)** for you
- Think of IntelliJ as a **graphical interface** on top of Git

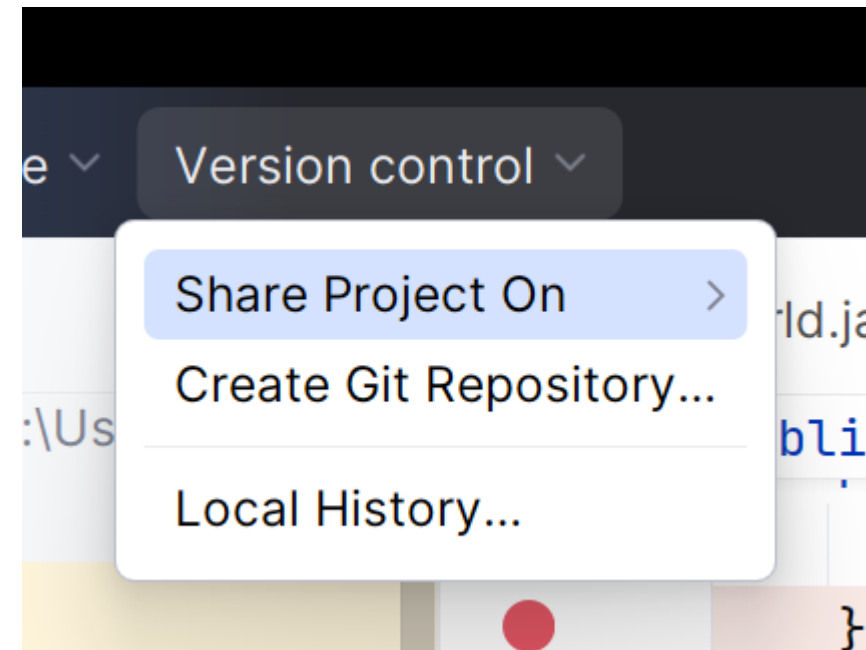
# Connecting IntelliJ to GitHub

- Before using GitHub in IntelliJ:
  1. You must have a **GitHub account**
  2. Git must be installed on your computer
  3. IntelliJ must be linked to your GitHub account

- In IntelliJ:
  - Settings → Version Control → GitHub
  - Sign in using browser authentication



- Once connected, IntelliJ can:
  - Create repositories on GitHub
  - Push and pull code automatically



# Creating a GitHub Repository from IntelliJ

You can create a GitHub repository **directly from IntelliJ**.

Typical workflow:

1. Create a new Java project in IntelliJ
2. Enable Git when prompted
3. Select **Share Project on GitHub**

IntelliJ will:

- Create the repository on GitHub
- Create a local Git repository
- Perform the first commit
- Push the project to GitHub

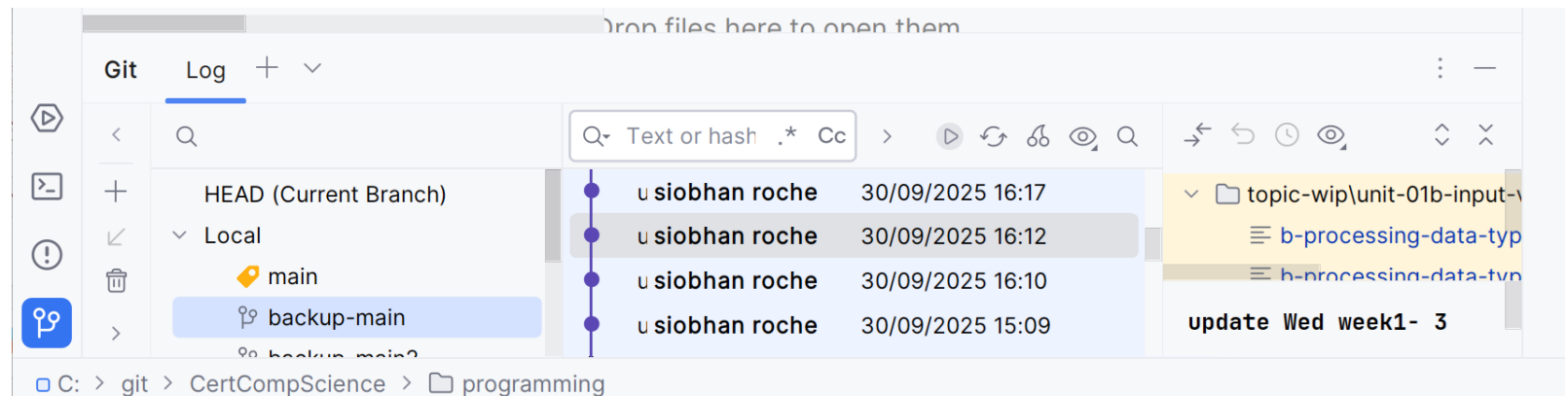
# The IntelliJ Git Tool Window

IntelliJ provides a **Git tool window** (bottom of the screen),

From here you can:

- See which files have changed
- Stage files for commit
- Write commit messages
- Commit changes
- Push to GitHub

This replaces commands like: `git status`, `git add`, `git commit`



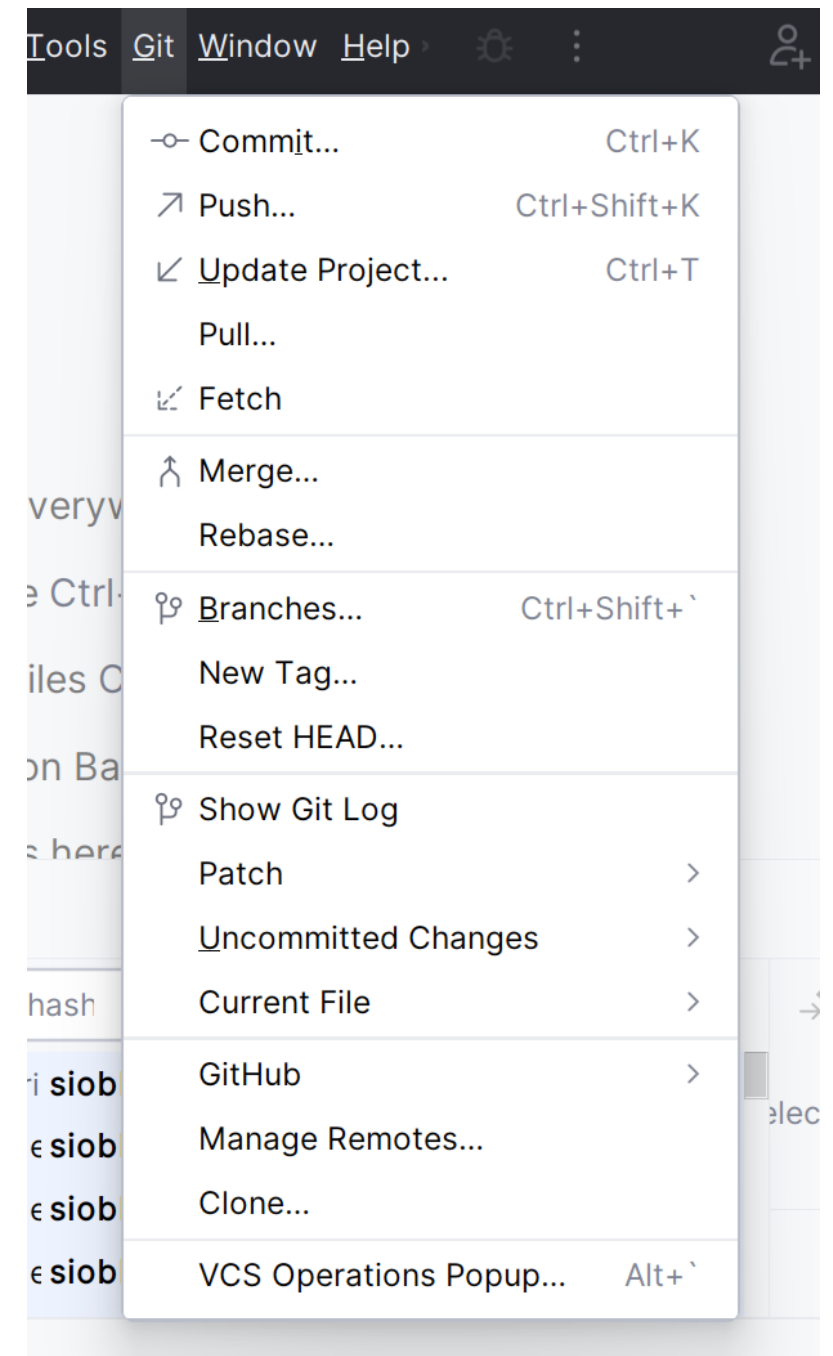
# Commit and Push in IntelliJ

Typical daily workflow in IntelliJ:

1. Make changes to your code
2. IntelliJ highlights modified files
3. Click **Commit**
4. Write a clear commit message
5. Click **Push**

Result:

- Changes are saved locally (Git)
- Changes are uploaded to GitHub (remote repo)





# Pulling Changes from GitHub

If the GitHub repository changes:

- IntelliJ can **pull** updates
- Using IntelliJ:
- Git → Pull

This will:

- Download the latest version from GitHub
- Update your local project

This is essential when:

- Working on multiple machines
- Working with other people

# IntelliJ and GitHub – Summary

- Git tracks changes locally
- GitHub stores the project remotely
- IntelliJ connects the two seamlessly
- No command line required
- Visual feedback reduces mistakes
- Encourages good version control habits

# Why We Use GitHub with IntelliJ

Using GitHub through IntelliJ allows you to:

- Back up your code safely
- Track your progress over time
- Recover older versions
- Share work with lecturers or teammates

**This workflow is standard in industry.**



Any questions?