

Version Control

Providing a high level overview of GIT and UNSW at GitHub

Why bother with version control?

Know what your job script looked like at a particular time.

Know what changed and when.

Easily revert to a previous (working) version.

Integration with remote servers provides backup.

Easily share your work with others (without worrying that they might mess it up).

What belongs in version control?

Software that you have written.

Job scripts and pipelines.

Examples that you want people to follow.

What doesn't belong in version control

Datasets and software that you have bought or downloaded (unless you are making changes to it).

Word, Excel, your thesis, etc.

Large datasets of your own.

Key Concepts of Version Control

Repository – The collection of files that are managed together.

- **Local** – The copy of the repository that you have on your local computer for working with.
- **Remote** – The copy of the repository that sits on the server.

Clone – Take a local copy of a remote repository.

Check out (Pull) – Update your local repository with and changes that have been made to the remote repository.

Version (Commit) – Each version corresponds to the state of every file at that moment.

Check in (Push) – Update the remote repository with local changes.

Release – A noteworthy version.

Revert – Take a file(s) to the way that they were in a specific version.

Advantages of GIT

You can use it without a remote server set up.

If you are on a plane you can still create versions.

When you push to remote server any versions that you created are copied up.

Everyone else uses it.

It is already installed under Linux.

Lots of options for cloud based GIT servers.

UNSW at GitHub



A great place to save your work.

Unlimited private repositories.

No cost to you.

Join the community.

There are some repositories with fun stuff just for the UNSW GitHub community already there.

Setting up your UNSW at GitHub account

Open <https://myapps.microsoft.com>

Look to see if GitHub.com is in the list. If not then:

1. Click on "+ Add app" at the top of the page
2. Click on "GitHub.com" and press "Add"
3. Now wait until it appears which may take up to 40 minutes before provisioning is complete (you may need to refresh your browser).

Click on "GitHub.com" icon

You will see "Single sign-on to UNSW Sydney", press the green "continue" button to validate your UNSW identity with GitHub.

At this point GitHub requires you to maintain a local account and password as well as verifying your UNSW identity. You can create a new GitHub identity, or sign in with an existing identity. In either case, because you've navigated from myapps and validated your UNSW identity, you will be connected to the UNSW GitHub organisation.

Next steps

Download a Git client.

Set up a repository.

Set up SSH keys.

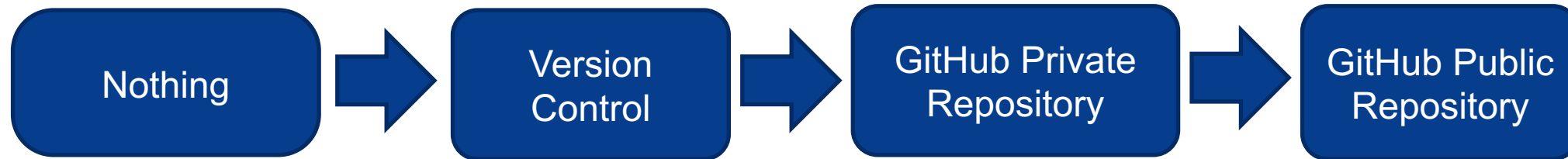
Get other people signed up. (Can you use it in your teaching?)

Fix someone else's code.

Ask someone from Research Technology Services to help you with your journey.

The Secret Plan

We want researchers to head down the following path...



Do some research, write a paper, share your code and get lots of citations.



Questions

Research Technology Services – restech.support@unsw.edu.au

There are people from ResTech sprinkled throughout the crowd.

Come along to Hacky Hour. Ask questions. Get free coffee!!!

<https://research.unsw.edu.au/research-technology-services>