






Workshop Version Control: Getting Started with Git

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Outline

Motivation

Literature and Resources

Basics

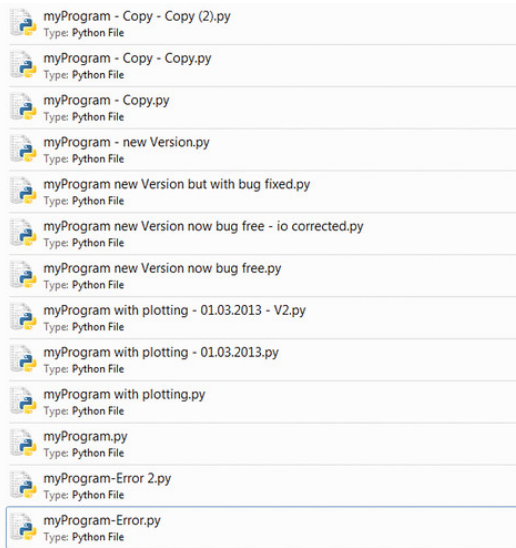
Git by Example

Rules of Thumb

Outlook



Motivation

















	myProgram - Copy - Copy (2).py Type: Python File
	myProgram - Copy - Copy.py Type: Python File
	myProgram - Copy.py Type: Python File
	myProgram - new Version.py Type: Python File
	myProgram new Version but with bug fixed.py Type: Python File
	myProgram new Version now bug free - io corrected.py Type: Python File
	myProgram new Version now bug free.py Type: Python File
	myProgram with plotting - 01.03.2013 - V2.py Type: Python File
	myProgram with plotting - 01.03.2013.py Type: Python File
	myProgram with plotting.py Type: Python File
	myProgram.py Type: Python File
	myProgram-Error 2.py Type: Python File
	myProgram-Error.py Type: Python File

Image from *Version Control Gone Wrong*. URL:

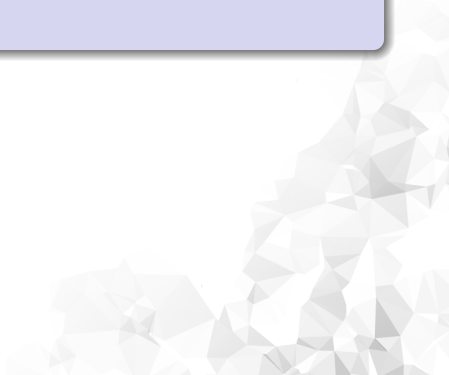
https://live.staticflickr.com/5521/10511147624_ceb3520b12.jpg (visited on 03/08/2023).



Literature and Resources

Literature and Resources

- ▶ *Git*. URL: <https://git-scm.com/> (visited on 03/08/2023)
- ▶ *Git Reference*. URL: <https://git-scm.com/docs> (visited on 03/08/2023)
- ▶ *Scott Chacon. Pro Git*. 2014. URL: <https://git-scm.com/book/en/v2> (visited on 03/08/2023)
- ▶ *GitHub Docs*. URL: <https://docs.github.com/en> (visited on 03/08/2023)
- ▶ *GitHub Git Cheatsheet*. URL: <https://education.github.com/git-cheat-sheet-education.pdf> (visited on 03/08/2023)



Basics

Basics: Distributed Version Control

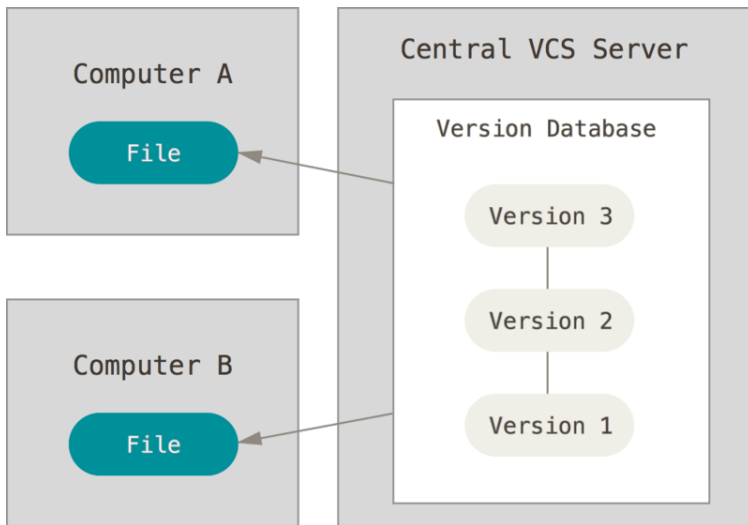


Image from Chacon (4).

Basics: Distributed Version Control

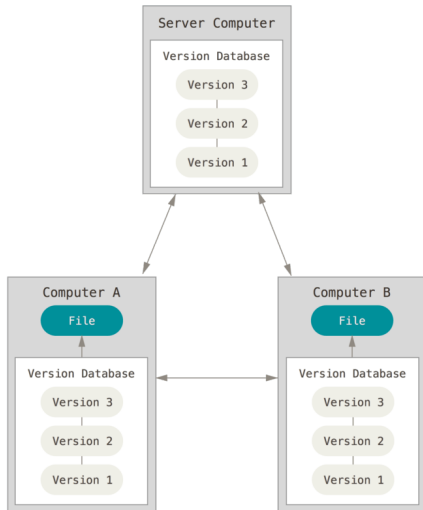


Image from Chacon (4).

Basics: Snapshots

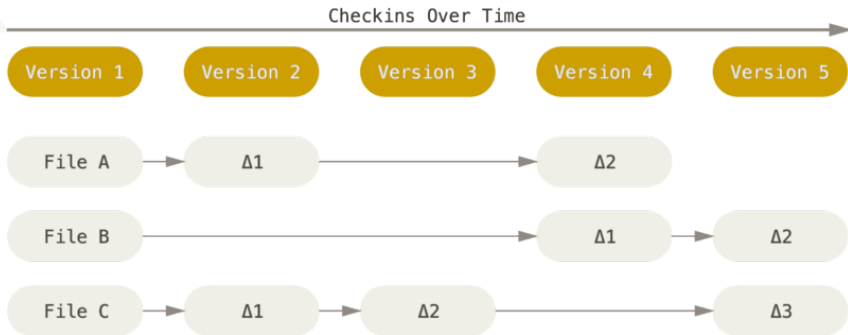


Image from Chacon (4).

Basics: Snapshots

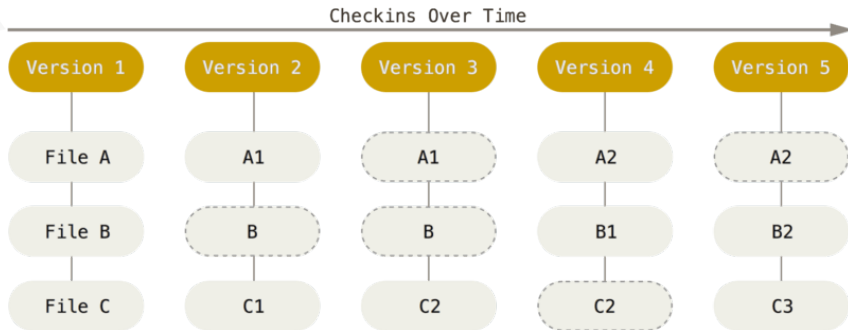


Image from Chacon (4).

Basics: The Three States

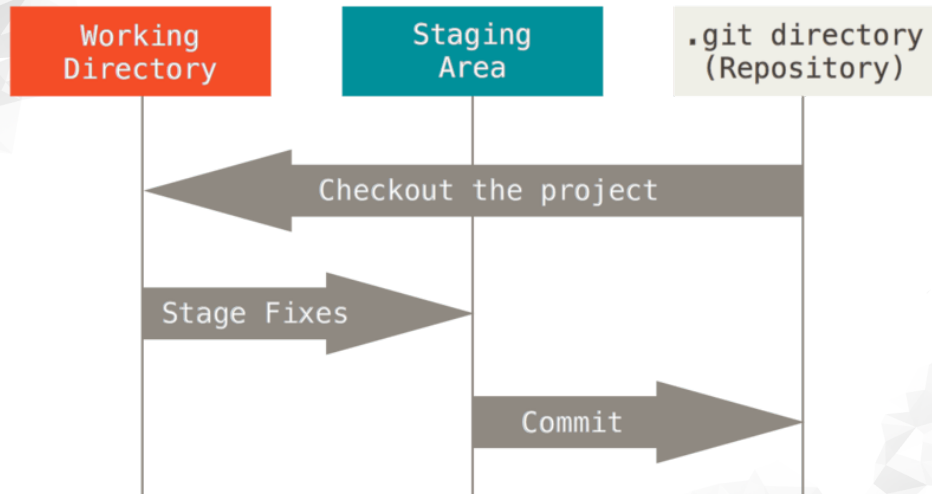


Image from Chacon (4).

Basics: Recording Changes

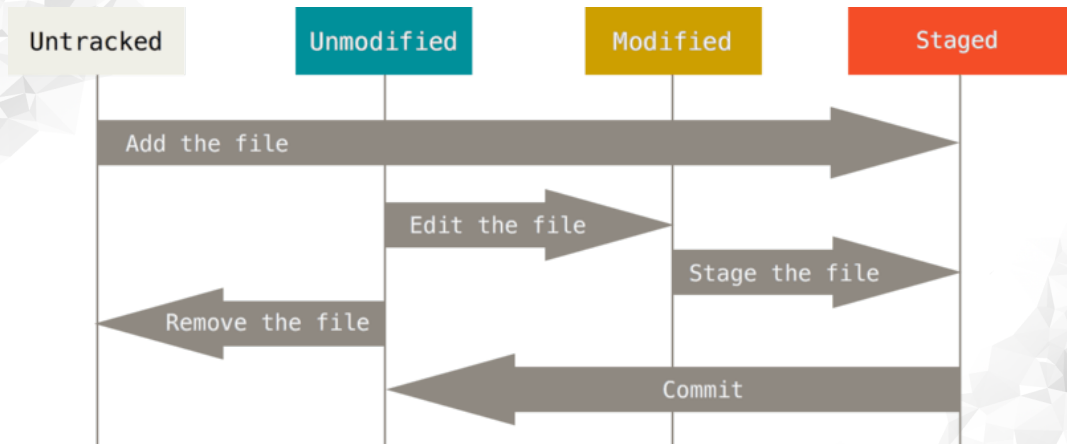


Image from Chacon (4).

Basics: Commits

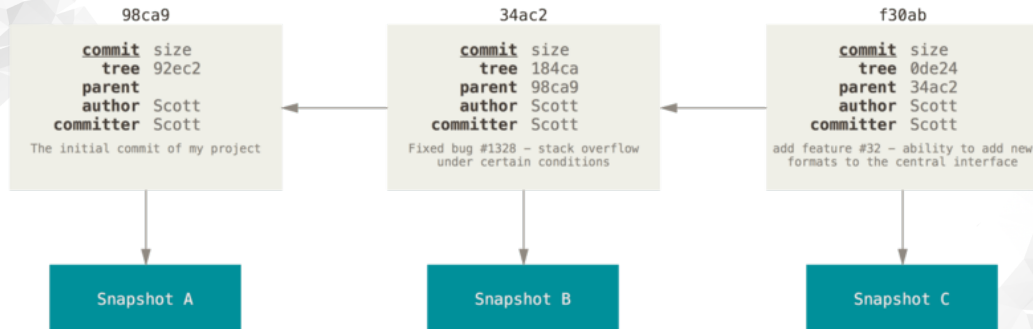


Image from Chacon (4).

Basics: Commit Tree

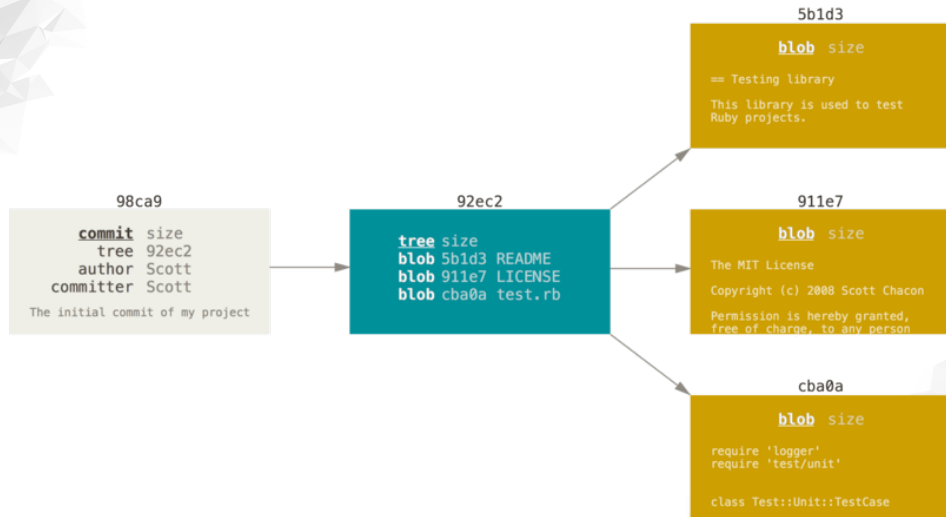


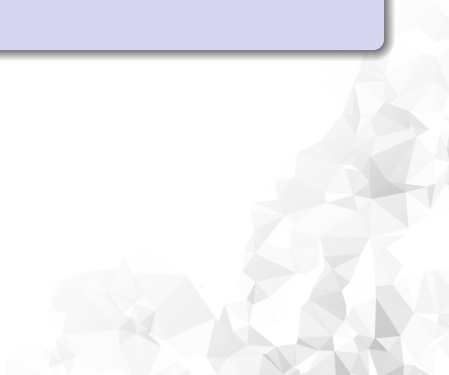

Image from Chacon (4).



Git by Example

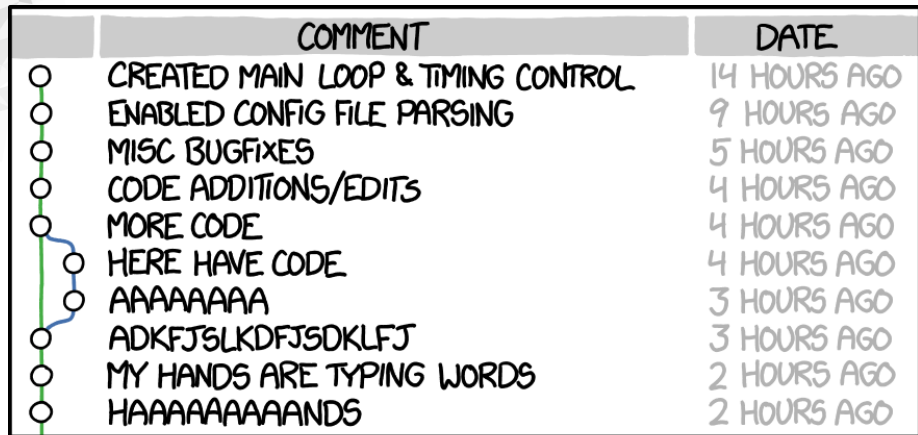
Git by Example

1. Initial Setup
2. Initializing Repositories
3. gitignore
4. Branches
5. Remotes
6. Servers
7. Workflow



Rules of Thumb

Rules of Thumb: Commit Messages



	COMMENT	DATE
○	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
○	ENABLED CONFIG FILE PARSING	9 HOURS AGO
○	MISC BUGFIXES	5 HOURS AGO
○	CODE ADDITIONS/EDITS	4 HOURS AGO
○	MORE CODE	4 HOURS AGO
○	HERE HAVE CODE	4 HOURS AGO
○	AAAAAAAAAA	3 HOURS AGO
○	ADKFJSLKDFJSDKLFT	3 HOURS AGO
○	MY HANDS ARE TYPING WORDS	2 HOURS AGO
○	HAAAAAAAAAANDS	2 HOURS AGO

AS A PROJECT DRAGS ON, MY GIT COMMIT MESSAGES GET LESS AND LESS INFORMATIVE.

Rules of Thumb: Commit Messages

The seven rules of a great Git commit message

1. Separate subject from body with a blank line
2. Limit the subject line to 50 characters
3. Capitalize the subject line
4. Do not end the subject line with a period
5. Use the imperative mood in the subject line
6. Wrap the body at 72 characters
7. Use the body to explain what and why vs. how

Rules of Thumb

1. Use gitignore whitelisting
2. Use SSH keys
3. If you are alone, use the default branch
4. Use the rules of a good Git commit message
5. Thou shalt not kill



Outlook

Outlook

- ▶ Submodules
- ▶ Hooks
- ▶ Merge and Rebase
- ▶ Cherrypick
- ▶ Stashing
- ▶ Signing your Work
- ▶ Searching
- ▶ Attributes



Thank you for Your Attention!

References

- (1) *Version Control Gone Wrong*. URL: https://live.staticflickr.com/5521/10511147624_ceb3520b12.jpg (visited on 03/08/2023).
- (2) *Git*. URL: <https://git-scm.com/> (visited on 03/08/2023).
- (3) *Git Reference*. URL: <https://git-scm.com/docs> (visited on 03/08/2023).
- (4) *Scott Chacon. Pro Git*. 2014. URL: <https://git-scm.com/book/en/v2> (visited on 03/08/2023).
- (5) *GitHub Docs*. URL: <https://docs.github.com/en> (visited on 03/08/2023).
- (6) *GitHub Git Cheatsheet*. URL: <https://education.github.com/git-cheat-sheet-education.pdf> (visited on 03/08/2023).
- (7) *cbeams. How to Write a Git Commit Message*. URL: <https://cbea.ms/git-commit/> (visited on 03/08/2023).