Git Basic Concept

Cloud Services

✓ Documents

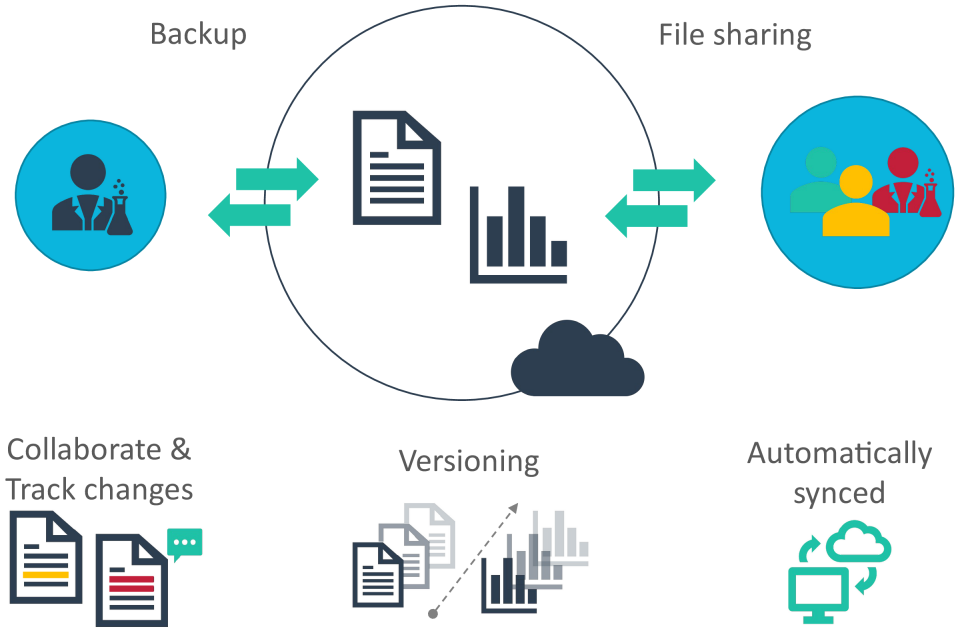
✓ Small data

✓ Presentations

X Code

X Data analytical projects

X Big (“raw”) data



Git and git platforms

~ Documents

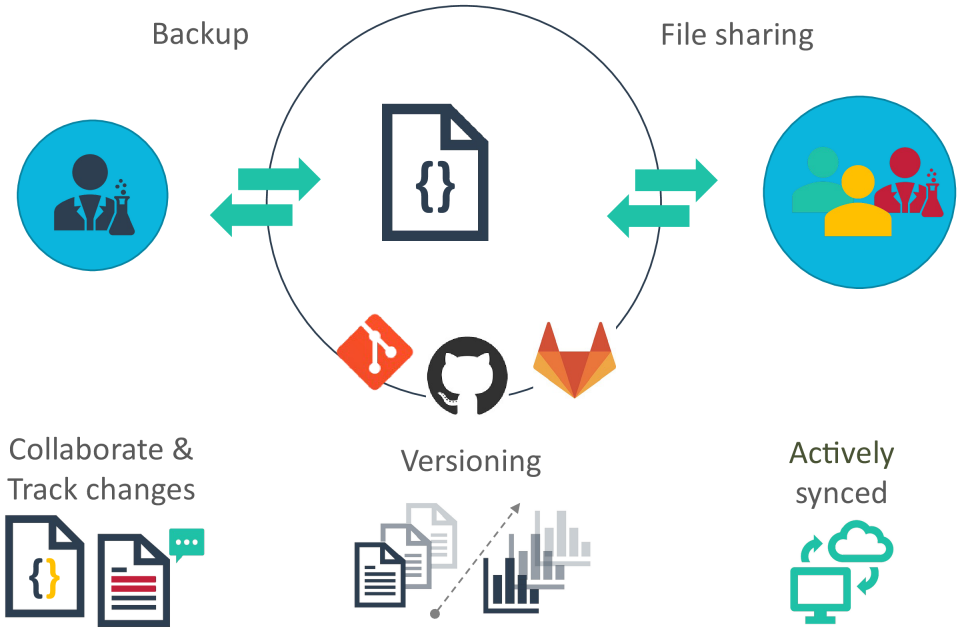
✓ Small data

~ Presentations

✓✓ Code

✓✓ Data analytical projects

~ Big (“raw”) data



Why git? ≈> Why code?

- Save time
- Avoid doing repetitive tasks “by hand”
- Reuse scripts, analyses, pipelines
- Reproduce results

Git: summary

- Version control system
- Git “repository” = a central data package (directory)
- Allows to track changes to any file in the repository
  - **What** was changed
  - **When** was it changed
  - By **whom** was it changed
  - **Why** was it changed?

GitHub and GitLab

- A well-documented cloud environment
- Active syncing
- Not automatically synced
- Non-automated version control
- You have the control what changes to track and what to sync
- Time machine to go back to older versions

GitHub and Gitlab team projects

Simplifies concurrent work & merging changes

- Online service to host our projects
- Share code with other developers
- Others can download our projects, work on and contribute to them
- They can upload their changes and merge them with the main project

Cloud vs. Git

	Cloud services	Git / GitHub / GitLab
Track changes	✓ Documents ✓ Small data ✓ Presentations	✓ Code ✓ Data analytical projects
Collaboration		issue tracker, tracked contribution
Versioning	Automated	Well-documented (commit history)
Syncing	Automated	Active / controlled by user
Access	Oftentimes only within organization / institution	Easily collaborate across institutions
Data security	Private / commercial	GitLab: on-premise and custom solutions