Basics of version control

Data plumbers' corner, session 8

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Today's session

- 1. intro to version control and Git (again)
- 2. hands-on Git tutorial
- 3. first steps with GitHub

What you will need

- a Unix-like shell
- the basic Git CLI program
- a GitHub account

Manual versioning









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Version Control Systems

- 1. need to save disk space: patch-based VCS (e.g. RCS)
- need for collaborative development: centralized VCSs (e.g. SVN)
- need to work offline and prevent the server from being the "single point of failure": distributed VCSs (e.g. Git, the current de facto standard)

Behind Git



Linus Torvalds, the creator of both Linux and Git recommended: youtube.com/watch?v=4XpnKHJAok8

Git: basic concepts

	COMMENT	DATE
0	CREATED MAIN LOOP & TIMING CONTROL	14 HOURS AGO
\dot \	ENABLED CONFIG FILE PARSING	9 HOURS AGO
990	MISC BUGFIXES	5 HOURS AGO
þ	CODE ADDITIONS/EDITS	4 HOURS AGO
Q.	MORE CODE	4 HOURS AGO
9	HERE HAVE CODE	4 HOURS AGO
	ARAAAAA	3 HOURS AGO
φ'	ADKFJ5LKDFJ5DKLFJ	3 HOURS AGO
ø	MY HANDS ARE TYPING WORDS	2 HOURS AGO
φ	HAAAAAAANDS	2 HOURS AGO

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

image from xkcd.com

- (named) filesystem snapshots rather than patches
- version history as a directed graph
- distributed, supports easy branching
- several interfaces and "hubs"

Hands-on Git tutorial

- 1. local usage (simple versioning)
- setting up a remote GitHub repository (versioning + backup)
- 3. collaborative usage with GitHub