

# Introduction to Version Control with Git [1]

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# Outlines

- 1 Background
- 2 History
- 3 Main and Essential Features
- 4 The First of Many
- 5 The Bibliography

# 1: Background

# Background I

- 1 A wise man strategies.
- 2 Text and code projects need back up plans.
- 3 The main issues with projects.
- 4 Version control to the rescue.
- 5 Develop and maintain a repository of content, provide access to historical editions of each datum, and record all changes in a log.

## Background II

### Definition

A tool that manages and tracks different versions of software or other content is referred to generically as a version control system (VCS).

## 2: History

# History

- Discords between tools and projects.
- The temptation of creating tools on the fly.
- Git, the information manager from hell.
- The genesis of Git.
- BitKeeper, free as in beer.

## 3: Main and Essential Features



# The Elusive Features

- Facilitate Distributed Development.

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- Immutability.
- Atomic Transactions.
- Support and Encourage Branched Development.
- Complete Repositories.
- Be Free, as in Freedom.

## 4: The First of Many

# The First Commit I



```
commit e83c5163316f89bfbde7d9ab23ca2e25604af29
Author: Linus Torvalds <torvalds@ppc970.osdl.org>
Date: Thu Apr 7 15:13:13 2005 -0700
```

Initial revision of "git", the information manager from hell

## The First Commit II

```
commit 1da177e4c3f41524e886b7f1b8a0c1fc7321cac2
Author: Linus Torvalds <torvalds@ppc970.osdl.org>
Date:   Sat Apr 16 15:20:36 2005 -0700
```

Linux-2.6.12-rc2

Initial git repository build. I'm not bothering with the full history, even though we have it. We can create a separate "historical" git archive of that later if we want to, and in the meantime it's about 3.2GB when imported into git - space that would just make the early git days unnecessarily complicated, when we don't have a lot of good infrastructure for it.

Let it rip!

## 5: The Bibliography

## References I

- [1] J. Loeliger and M. McCullough, *Version Control with Git: Powerful tools and techniques for collaborative software development.* " O'Reilly Media, Inc.", 2012.