Version Control with Git

1. Introducing Version Control

Learning Objectives

Understand the benefits of an automated version control system.
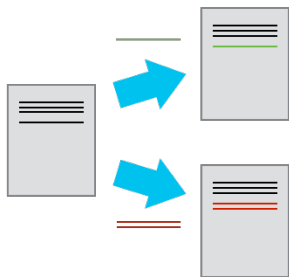
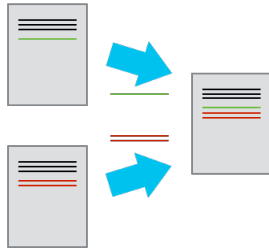Understand the basics of how Git works.

Is this familiar?

. . .

"Piled Higher and Deeper" by Jorge Cham, http://www.phdcomics.com

Version Control: Changes are saved sequentially

Version Control: Different versions can be saved

Version Control: Multiple versions can be merged

2. Setting up Git

Learning Objectives

Configure Git for the first time

Understand the meaning of the `—global` configuration flag

3. Creating a repository

Create a local (on your computer) Git repository

4. Tracking changes

Learning Objectives

Go through the **modify-add-commit** cycle for single and multiple files.

Explain where information is stored at each stage of Git commit workflow.

The Git staging area
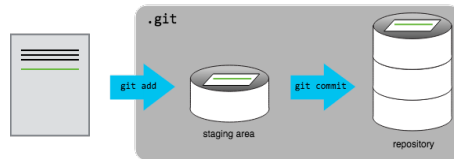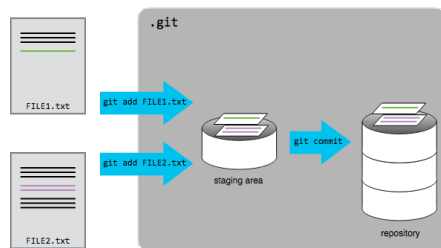

The Git Commit workflow

Activity:

Create a new Git repository on your computer called **bio**. Write a three-line biography for yourself in a file called **me.txt**, commit your changes, then modify one line, add a fourth line, and display the differences between its updated state and its original state.

5. Exploring the History

Learning Objectives

Identify and use Git commit numbers.

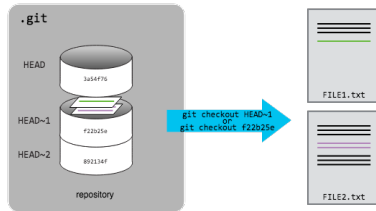Compare various versions of tracked files.

Restore old versions of files.

Git checkout