MODULE 1: INTRODUCTION TO PROGRAMMING

Introduction to Tools

Welcome to Tech Elevator!!

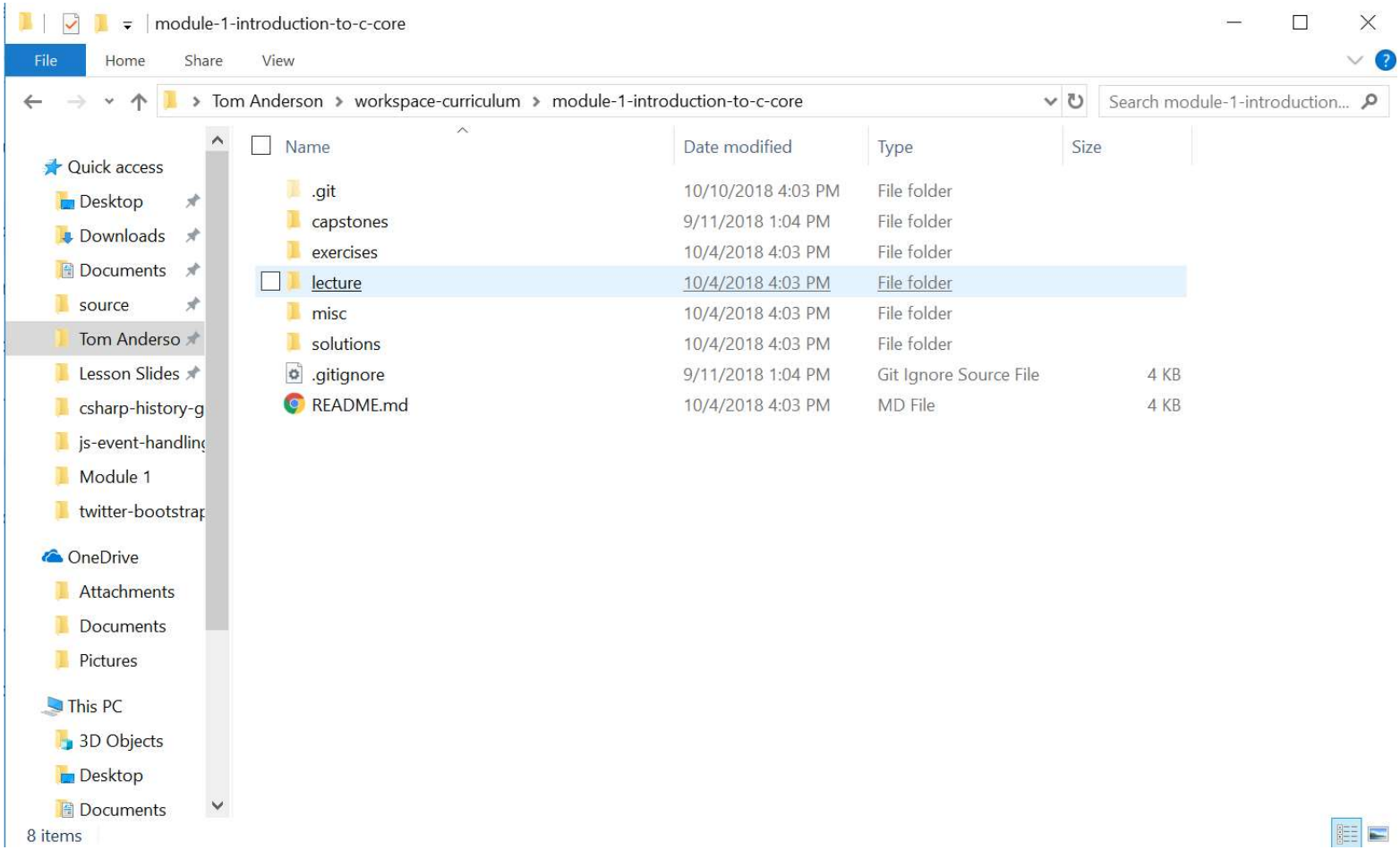
How’s it going to feel?

Public Service Announcement

Start with the Basics

- Wifi:
  - SSID: Tech Elevator Guest
  - PWD: TechElevatorPGH901
- Ryver: Chat communication
- Bitbucket: Code Repository
- Trello for Syllabus
- Mouse has an off switch

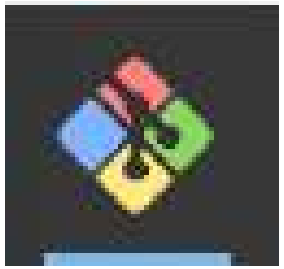
Navigating your computer



File System

- Files are the parts of the file system that contain the stuff we want. Documents, songs, spreadsheets, etc.
- Folders hold other folders and files. All files exist in some folder in the file system.
- All of these objects have metadata that describe them. Things like modified dates, names, and permissions are pieces of data that are attached to files and folders as part of the file system.

Navigating your computer like a developer



MINGW64:/c/Users/Tom Anderson/workspace/c-exercises

```
$ cd

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~
$ cd workspace

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~/workspace
$ ls
c-exercises/  c-lectures/  c-solutions/

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~/workspace
$ cd c-exercises/

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~/workspace/c-exercises (master)
$ ls
01-introduction-to-tools-exercises/     22-aggregate-functions-exercises/
02-variables-and-datatypes-exercises/   23-joins-exercises/
03-expressions-exercises/               24-constraints-and-transactions-exercises/
04-loops-arrays-exercises/              25-database-design-exercises/
05-command-line-input-exercises/        32-css-selectors-and-layouts-exercises/
06-strings-exercises/                   33-views-part1-exercises/
07-collections-part-1-exercises/        34-views-part2-exercises/
08-collections-part-2-exercises/        36-controllers-part1-exercises/
09-introduction-to-classes-exercises/   37-controllers-part2-exercises/
10-oop-with-encapsulation-exercises/    42-validation-exercises/
12-polymorphism-exercises/              46-js-intro-to-js-exercises/
14-unit-testing-exercises/              47-jquery-library-introduction/
16-tdd-exercises/                       48-twitter-bootstrap-exercises/
17-file-io-part1-exercises/             51-csharp-history-geek-exercises/
21-intro-to-databases-exercises/

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~/workspace/c-exercises (master)
$

Tom Anderson@LAPTOP-HGJ23NVD MINGW64 ~/workspace/c-exercises (master)
$
```

What is a Shell

- In a shell, you write lines of code that the computer understands to get the computer to do what you want.
- Many tasks in programming are done on the command line because it is more flexible than most GUI interfaces and can be scripted.
- We will be using a very popular shell called Git Bash.

LET'S CODE!

Shell Scripts

- Commands can be grouped into a script file and executed all at once.
- We can code scripts to handle repetitive tasks that we do often on the computer.

- Make a directory called workspace
  - Run the setup.sh in this directory
    - chmod +x setup.sh
    - sh setup.sh

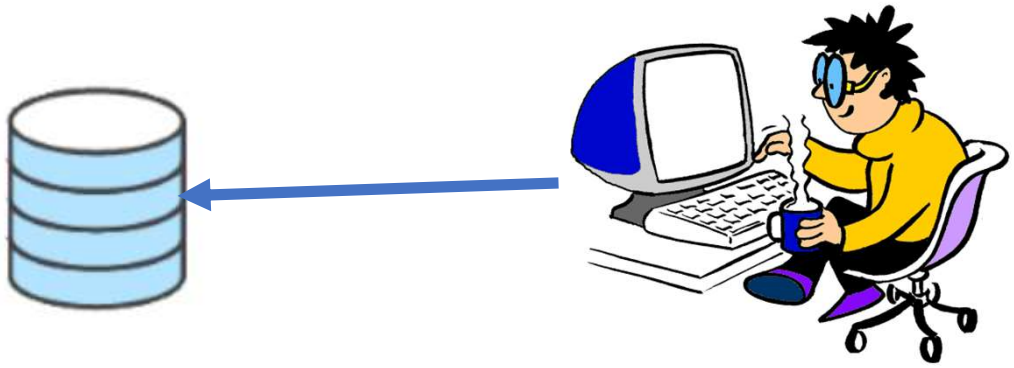
Where’s my document?

Version Control

- **Version Control** record changes to a file or sets of files so that previous versions can be recalled at a later point in time.

- **Git** is a distributed version control system that keeps a copy of its changes and file sets in a repository.

Version Control Process



Repository

Version Control Process

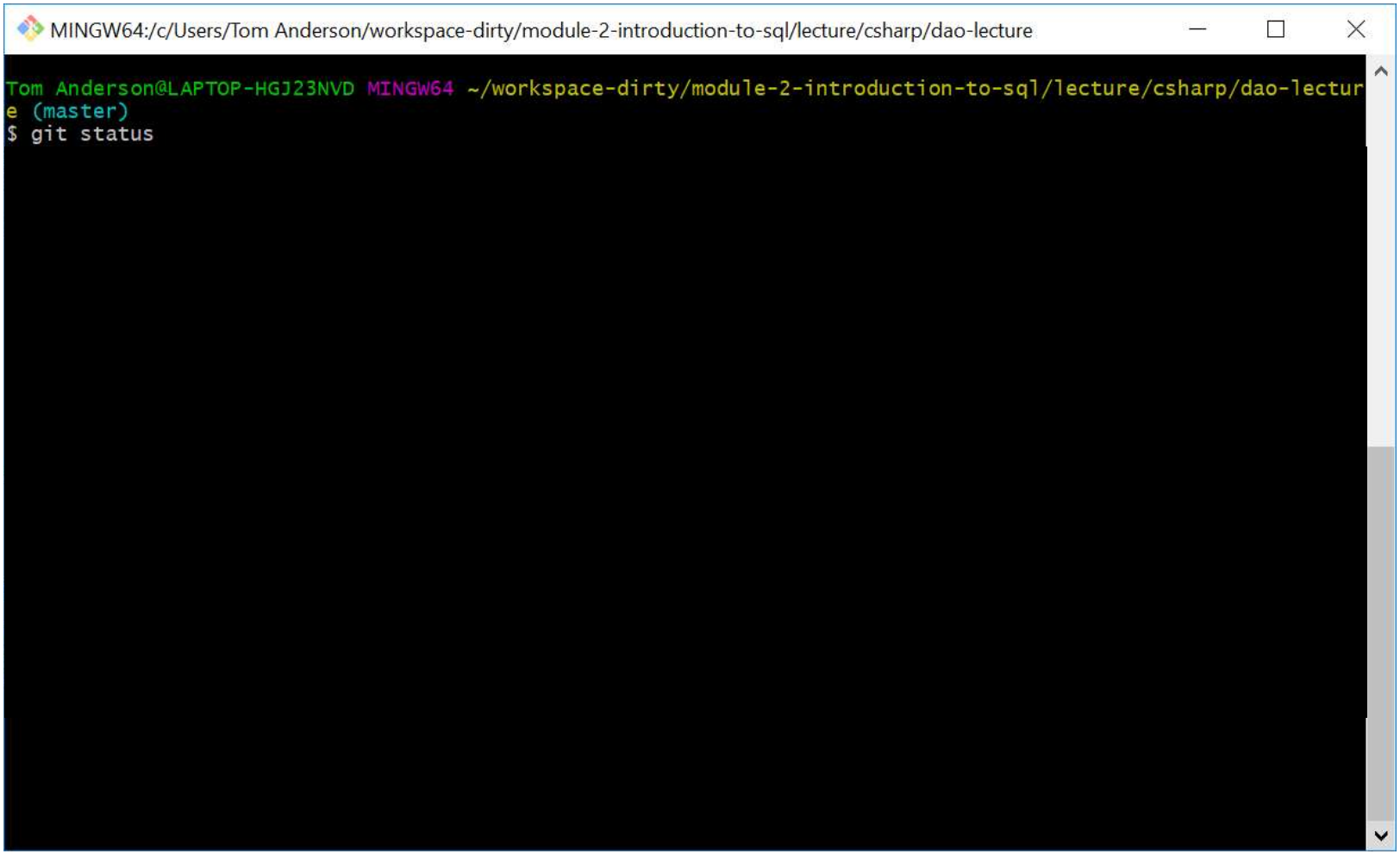
Repository

Commit to Repository

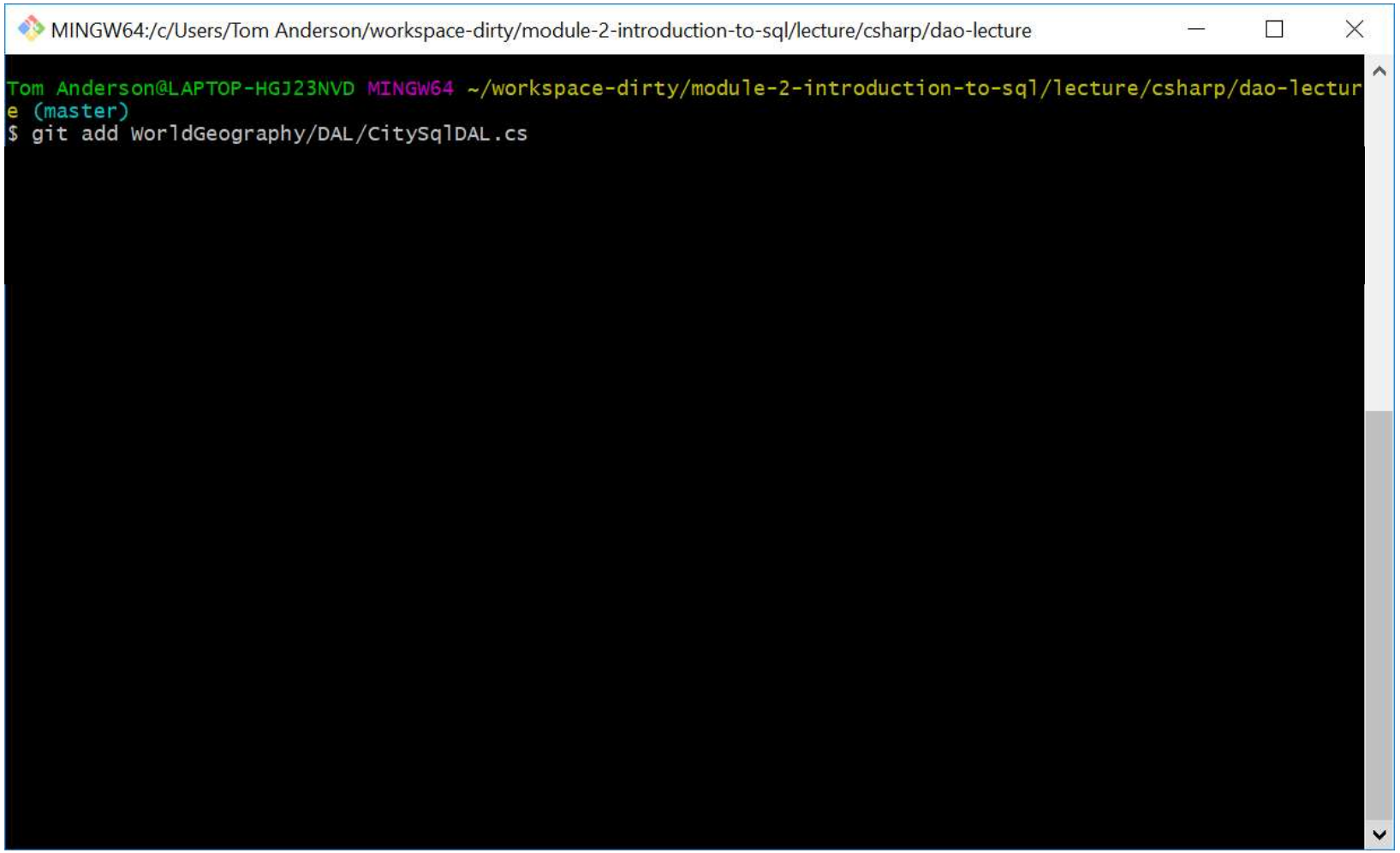
Add to Staging

Save

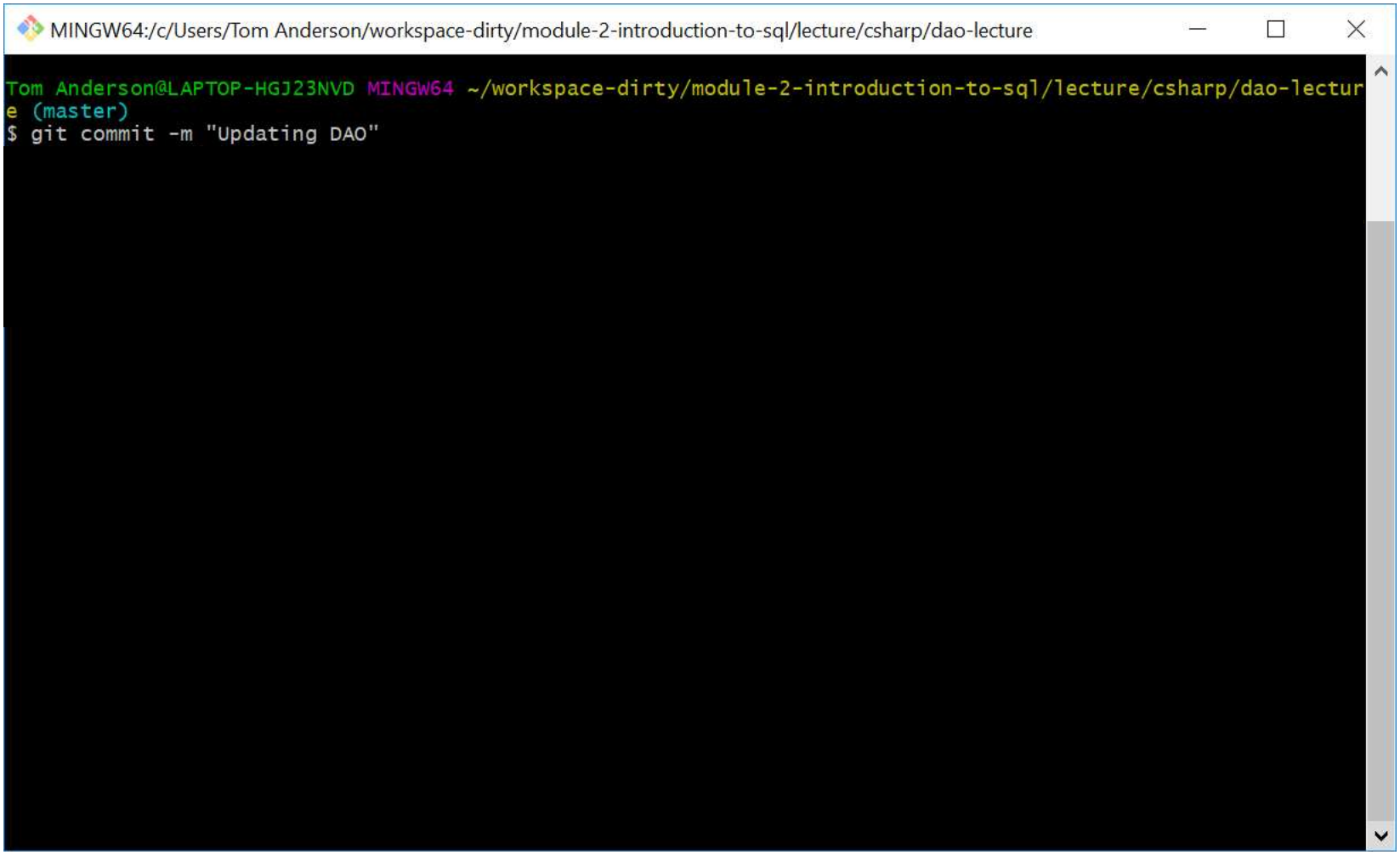
Check your status



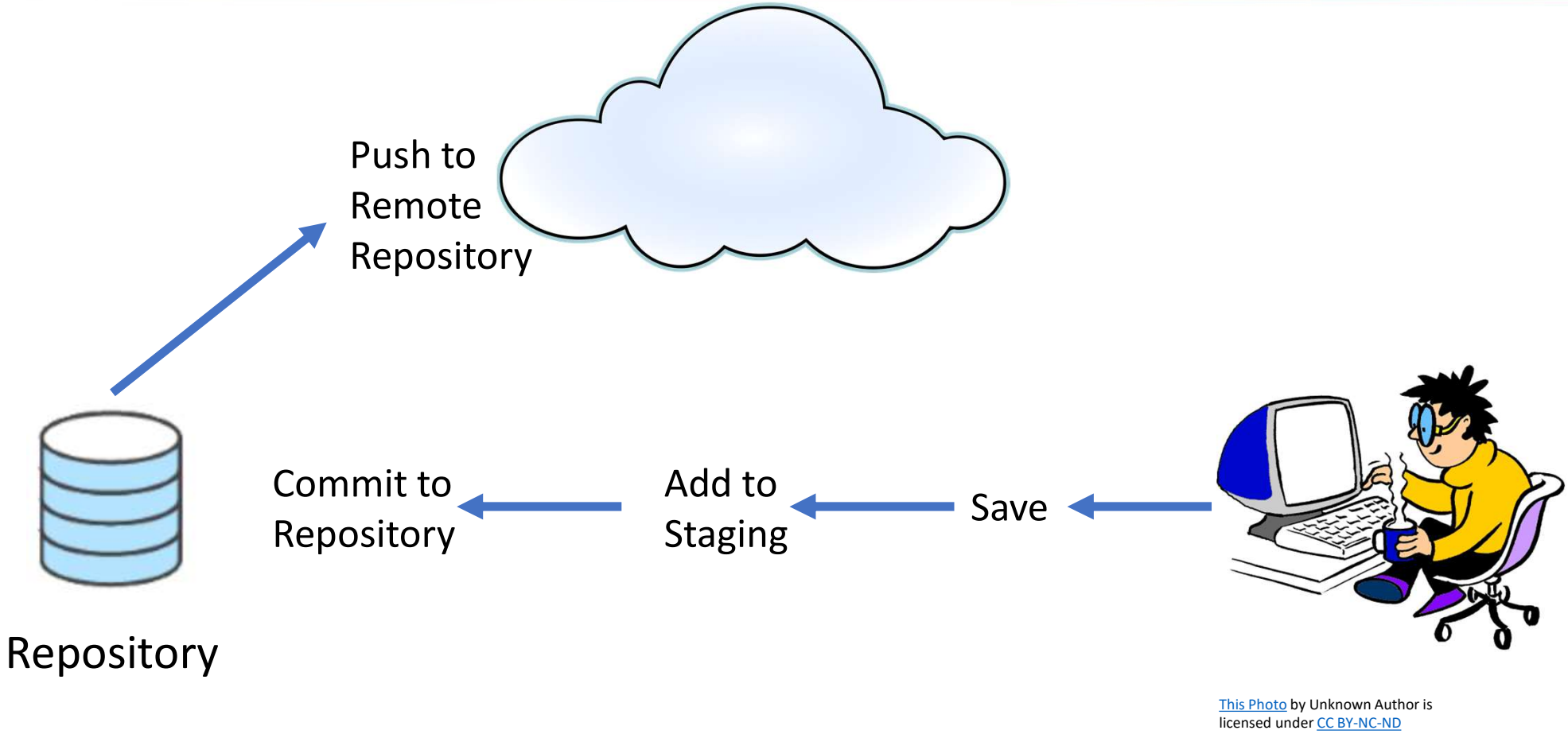
Add to staging



Get Committed



Version Control Process

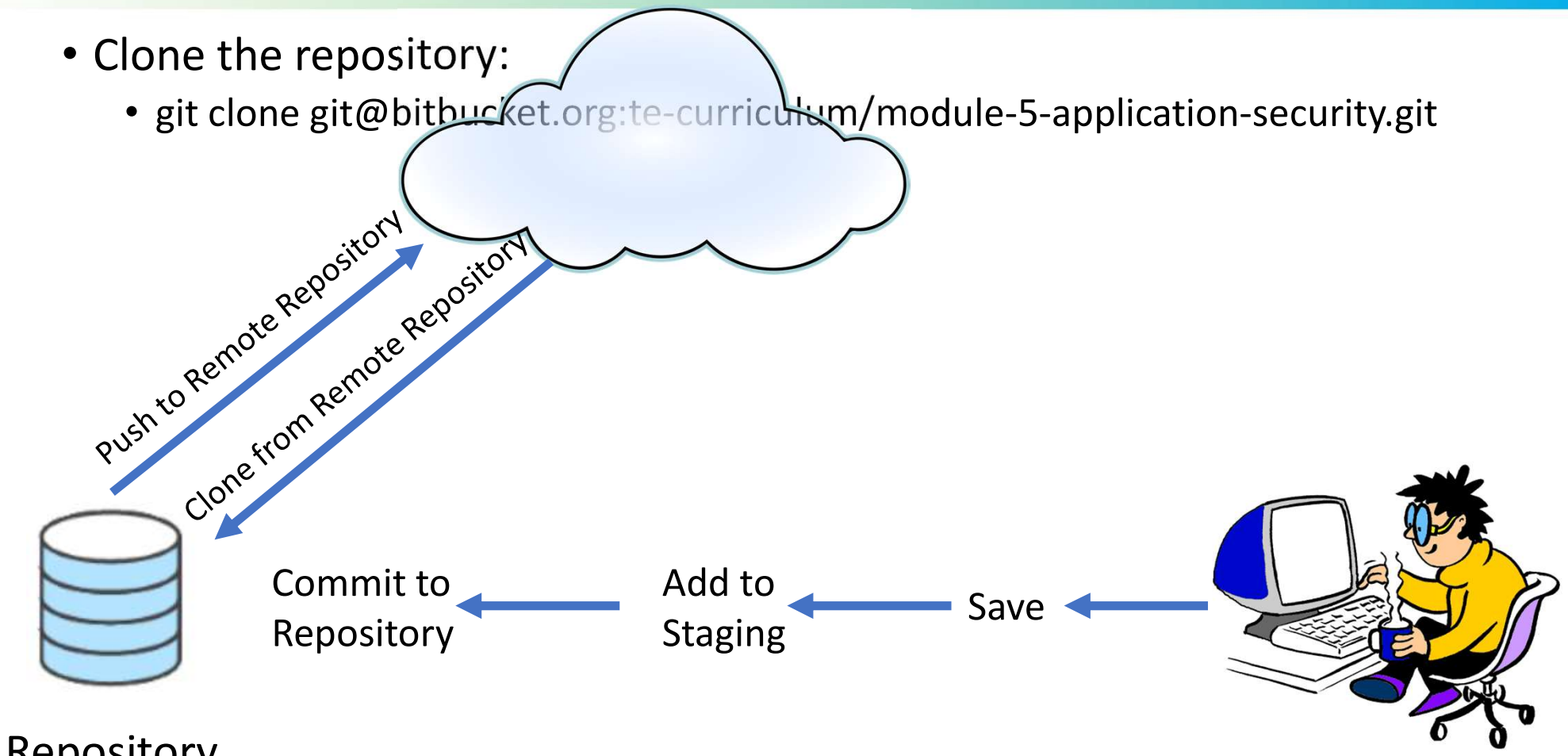


Git Commands

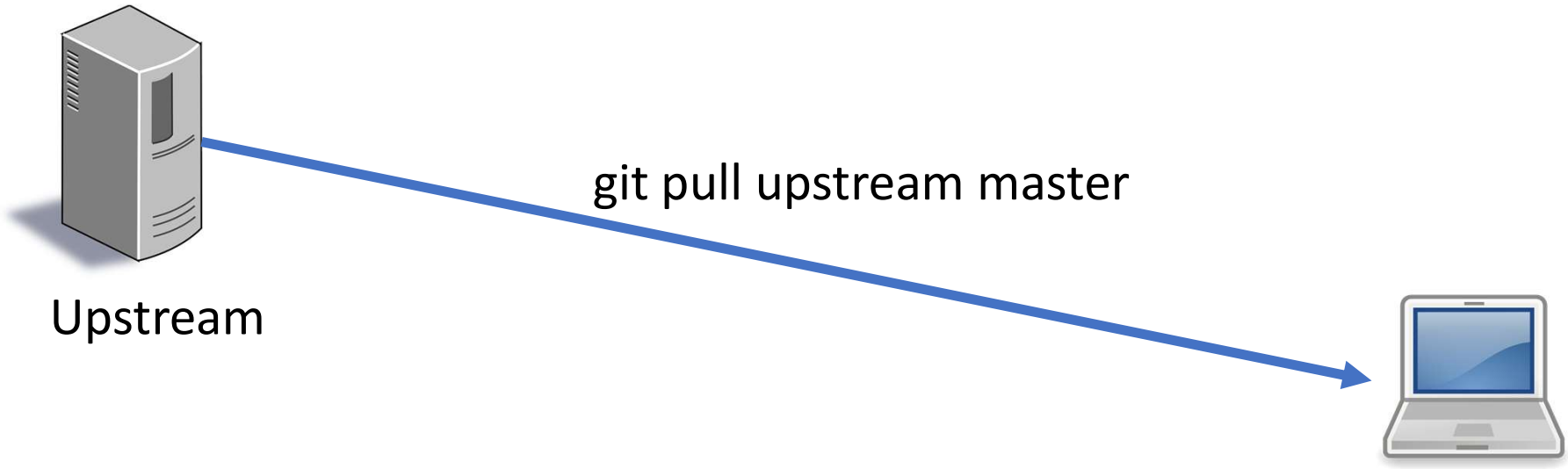
- git status
- git add <filename>
- git commit –m “<message>”
- git pull origin master
- git push origin master

Using Existing Code

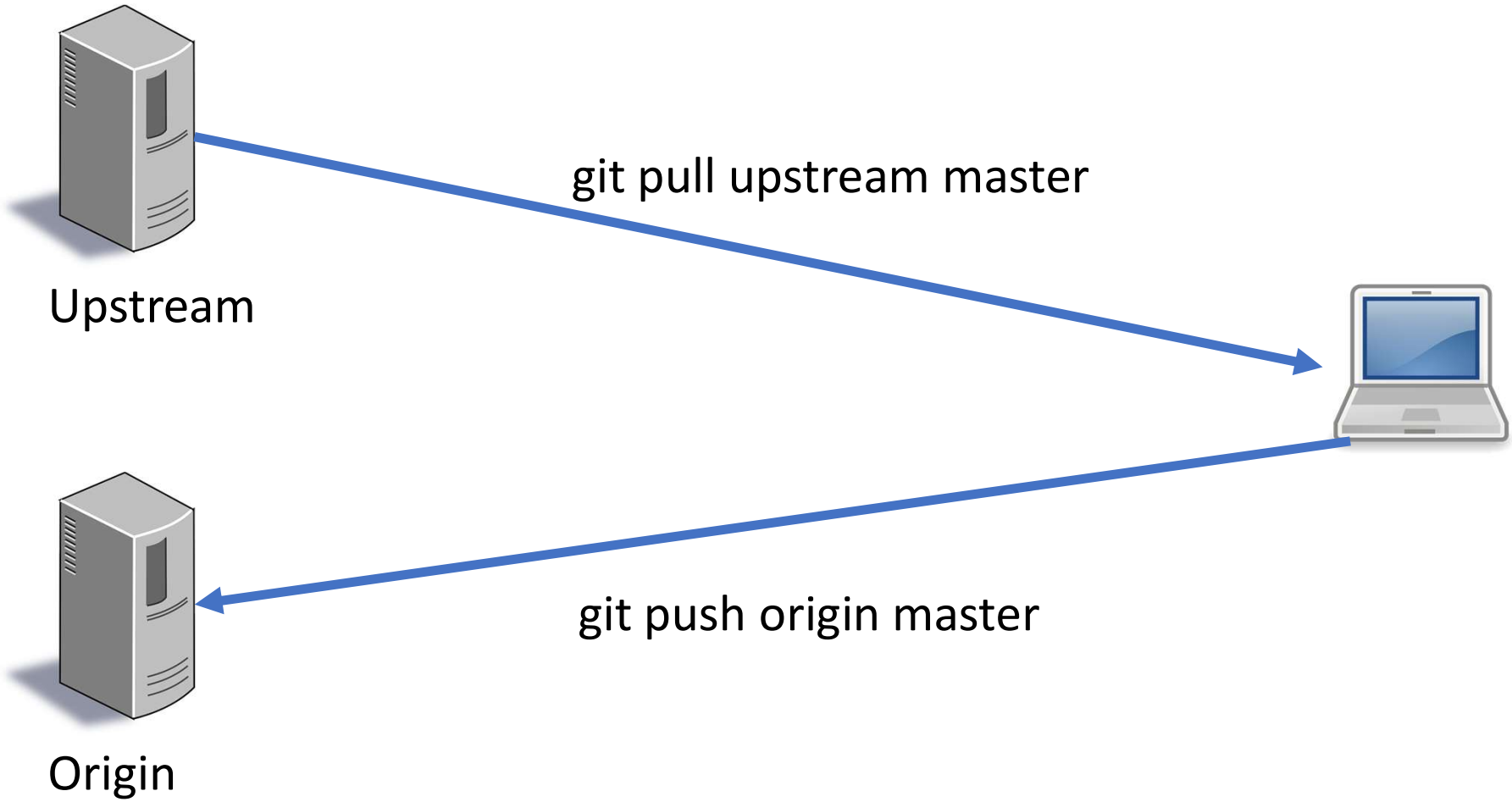
- Clone the repository:
  - git clone git@bitbucket.org:te-curriculum/module-5-application-security.git



Getting Your Code



Getting Your Code



LET'S CODE!

Tips and Tricks

- No news is good news. If a message is shown after running a command, read it because it is probably an error. Most commands say nothing on success.
- Press the up arrow to cycle through previous commands instead of retyping
- Use the tab key to automatically complete the path.

Exercises and Scoring

- All exercises (unless I'm feeling generous) are due the morning of the day after they are assigned.
  - Assignments on Monday are due Wednesday Morning.
  - Assignments on Thursday are due Monday Morning.
- Get in the habit of submitting your exercises on time.

- Scores
  - 1 = 0%-49%
  - 2 = 50%-90%
  - 3 = 90%-100%

WHAT QUESTIONS DO YOU HAVE?

Reading for tonight:

Introduction to Tools Variables and Datatypes