



Module 1 Day 1

Introduction to Tools

Mike Morel

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- Hours: 8:00 - 8:45am & 2:00 - 5:00pm
- Contact me via Slack (please do not use Sococo)
- Open hours in .NET Classroom

Ben Kennedy

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- Hours: 1:00 - 5:00pm

Today's Goals

- More About the Program
- Windows / File Explorer
- Intro to Command shell (Bash)
- Git Source Code Control
- Git commands review

YOUR PATH TO

SOFTWARE DEVELOPMENT



WEEKS 1-4

programming fundamentals



- Learn object-oriented programming to compose larger programs together
- Work with development tools like Visual Studio, Eclipse, and Git

WEEKS 5-8

databases and APIs



- Store and retrieve data using relational databases
- Consume and share data from our applications over the Internet using APIs

WEEKS 9-12

front-end programming



- Develop web application interfaces using HTML, CSS, and JavaScript
- Learn how create web applications using a JavaScript component framework

HOW WE TEACH

DAILY CADENCE



SUPPORTING RESOURCES

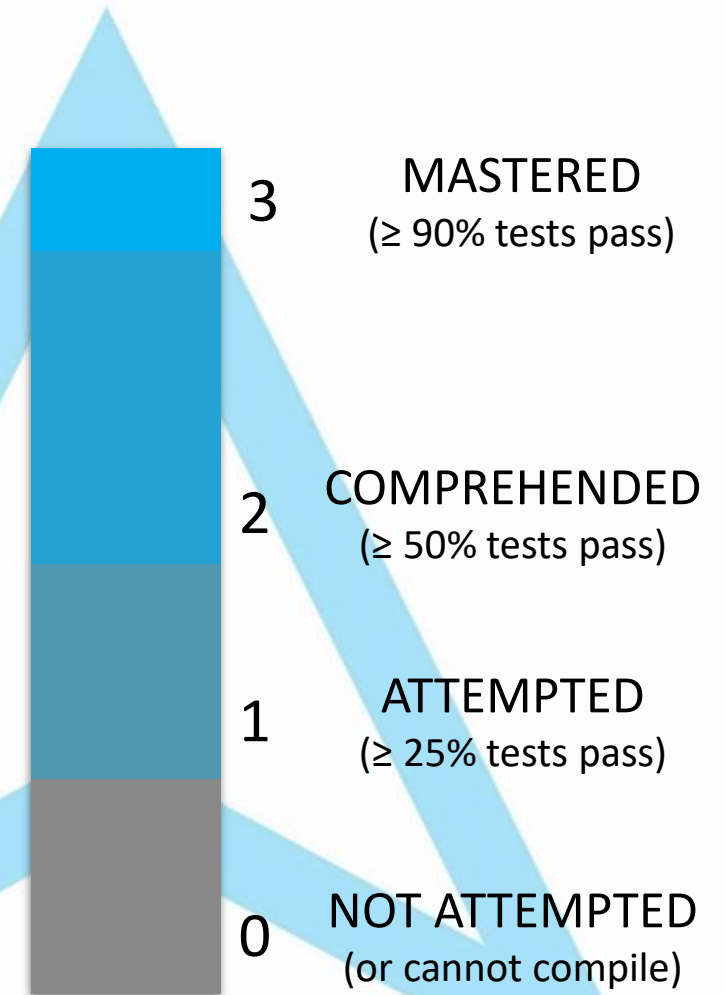


Your Typical Day

8:45am	Quiz closes	Please complete the quiz prior to the start of class. You are expected to complete all quizzes to help you and me assess your understanding.
9:00am – noonish	Pulse survey Quiz review Class instruction	We've been known to go past 1:00, but the goal is to end around noon.
Afternoons	Individual exercises	Homework. Don't forget to PUSH your work!!! Homework is due 2 nd morning after it is assigned. (homework assigned Mon is due Wed 9:00am)
Around noon OR Around 3pm	Hours vary, but there MAY be Pathway sessions	There are not Pathway sessions every day, but a few times per week.
Mid-afternoon	Quiz opens	www.Socrative.com (CLENET16) You should complete your exercises before attempting the quiz.
Afternoons / evening	Take quiz on today's topic Read student book on tomorrow's topic	Please complete the quiz prior to the start of class.

Exercises: Master and Understanding

- Our exercises focus on **mastery of key concepts**.
- Feedback is provided so you can **know where you need to improve**.
- Your average should remain **at or above 2.0**.
- **Any work submitted must be your own**. We may ask you to explain your code to us!
- **Please seek out an instructor or another classmate if you need help!**
- You may resubmit a score < 2 for re-grading to get to a 2. (Due 24 hrs after the original due date).



Exercises: Due Dates

Exercises are distributed daily via Git. You submit them by ***pushing your code*** back to BitBucket.

EXERCISES GIVEN...	ARE DUE...
Monday	Wednesday 9 AM
Tuesday	Thursday 9 AM
Wednesday	Friday 9 AM
Thursday	Monday 9 AM
Friday	Tuesday 9 AM

Exercises not turned in by the deadline receive a “0”. Once the exercise is late, the highest score you can receive is a “2”.

If you submit *after the deadline*, you must notify Jason

Exercises: Student Dashboard

- <https://bos.techelevator.com>
- Log in with your Google Id
- If you have issues logging on, send a Slack message to **#cle-16-it-support**

Other Stuff

- Please do your part in keeping lessons interactive
- Pace is fast
 - If you are bored to start, that will probably change soon. Use the opportunity to help a classmate.
 - Please remain caught up. If you feel yourself falling behind, reach out (to a classmate, to an instructor, to Marty)
- I'll be scheduling a short (15-minute) 1:1 with you to:
 - get to know you a little bit
 - understand any challenges that may make it difficult for you to be successful while you are here.

Verify Your Machine

- Any outstanding issues from last week?

Windows / File Explorer

- Windows Start
 - Finding programs
 - Pinning to Start, Taskbar
- File Explorer
 - Launching
 - Current Working Directory (Folder)
 - Navigating
 - Creating Folders and Files
 - Deleting Folders and Files
- Changing your password – CTL-ALT-DEL

Command Shell (Bash)

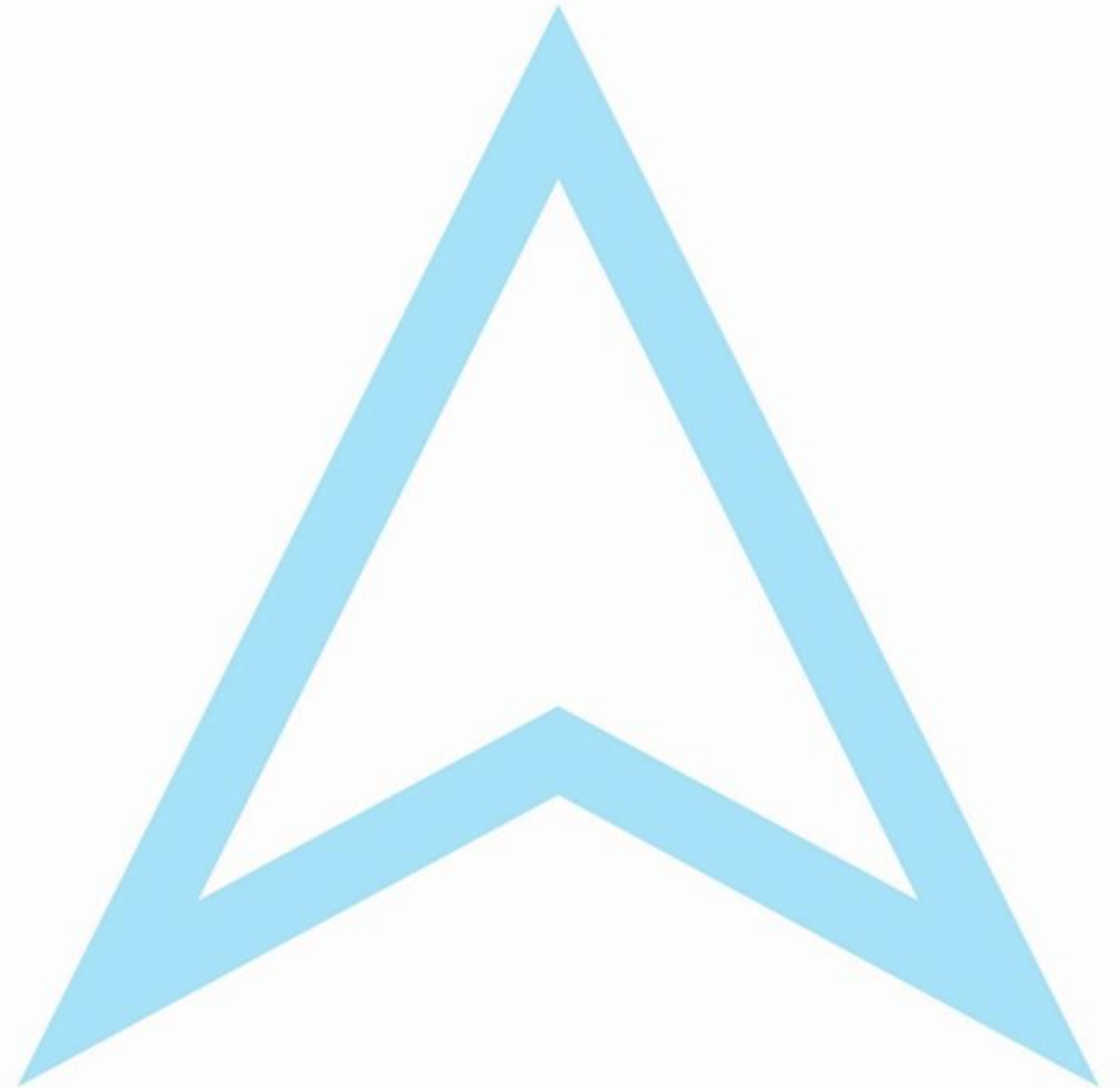
- The “working directory” (aka, folder)
 - `pwd` – Print working directory
 - `cd` – changes the current working directory
 - Absolute vs relative paths
- Creating and deleting folders
 - `mkdir` – Make directory
 - `rmdir` – Remove directory
- Special symbols: `~` / `.` `..`
 - `/` root directory
 - `~` user's home directory
 - `.` the current directory
 - `..` the current directory's parent

Command Shell (Bash)

- Listing, creating and deleting files
 - `ls ("el-es")`
 - `-l, -a, -R, -S`
 - `touch filename.ext` – creates an empty file (updates the mod date of an existing file)
 - `rm filename.txt` – remove (delete) a file
 - `mv source.txt target.txt` – Move (rename) a file
 - `cp source.txt target.txt` – Copy a file
- Recursively Delete folders and files
 - `rm -r foldername`
- Cheat sheet: <https://www.git-tower.com/learn/cheat-sheets/cli>

Source Code Control with Git

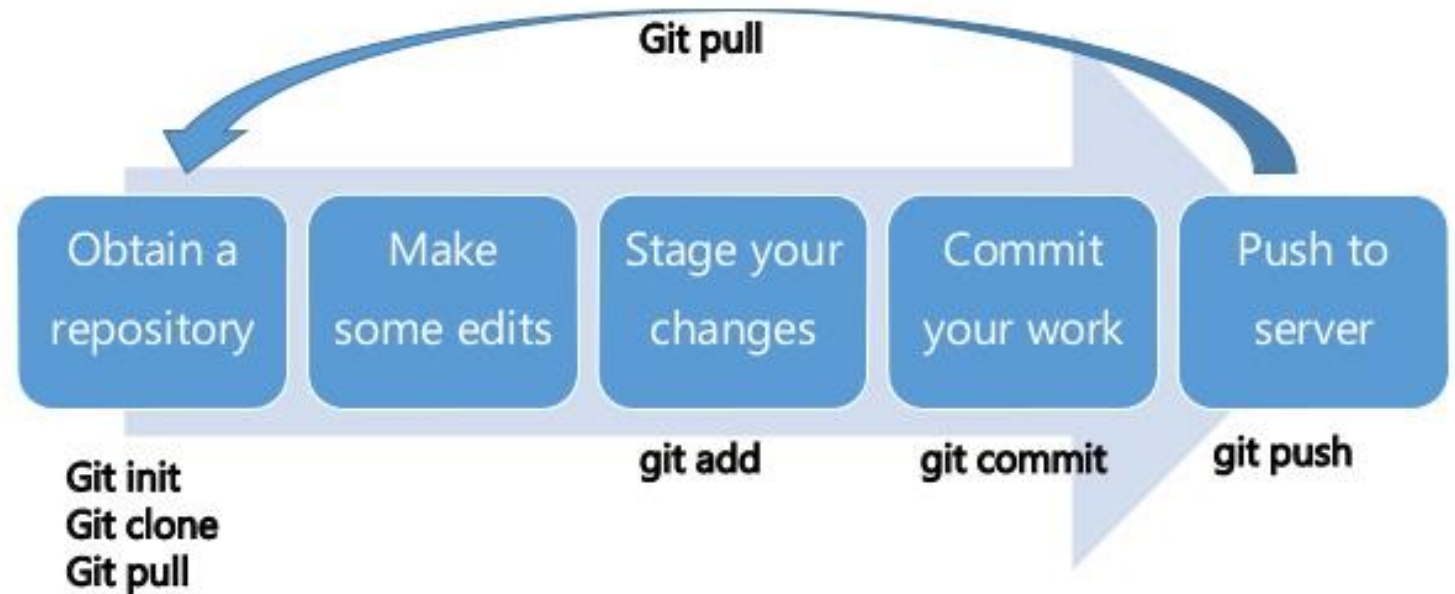
- Version Control
 - Code-sharing
 - History
 - Parallel development
- Git
- Local and remote repositories
- BitBucket and GitHub



The Git Workflow

- Git clone
- Git pull
- Git add
- Git commit
- (git pull & git commit)
- Git push

Git usages : Understanding Git Workflow



Three-tree Architecture

1. The Working Directory

- This is your local folder tree

2. The Staging Index (or just Index)

- This is a place that "collects" one or more changes to be committed to the repository

3. The Repository (or HEAD)

- This is where "committed" or "good" code is stored for posterity.

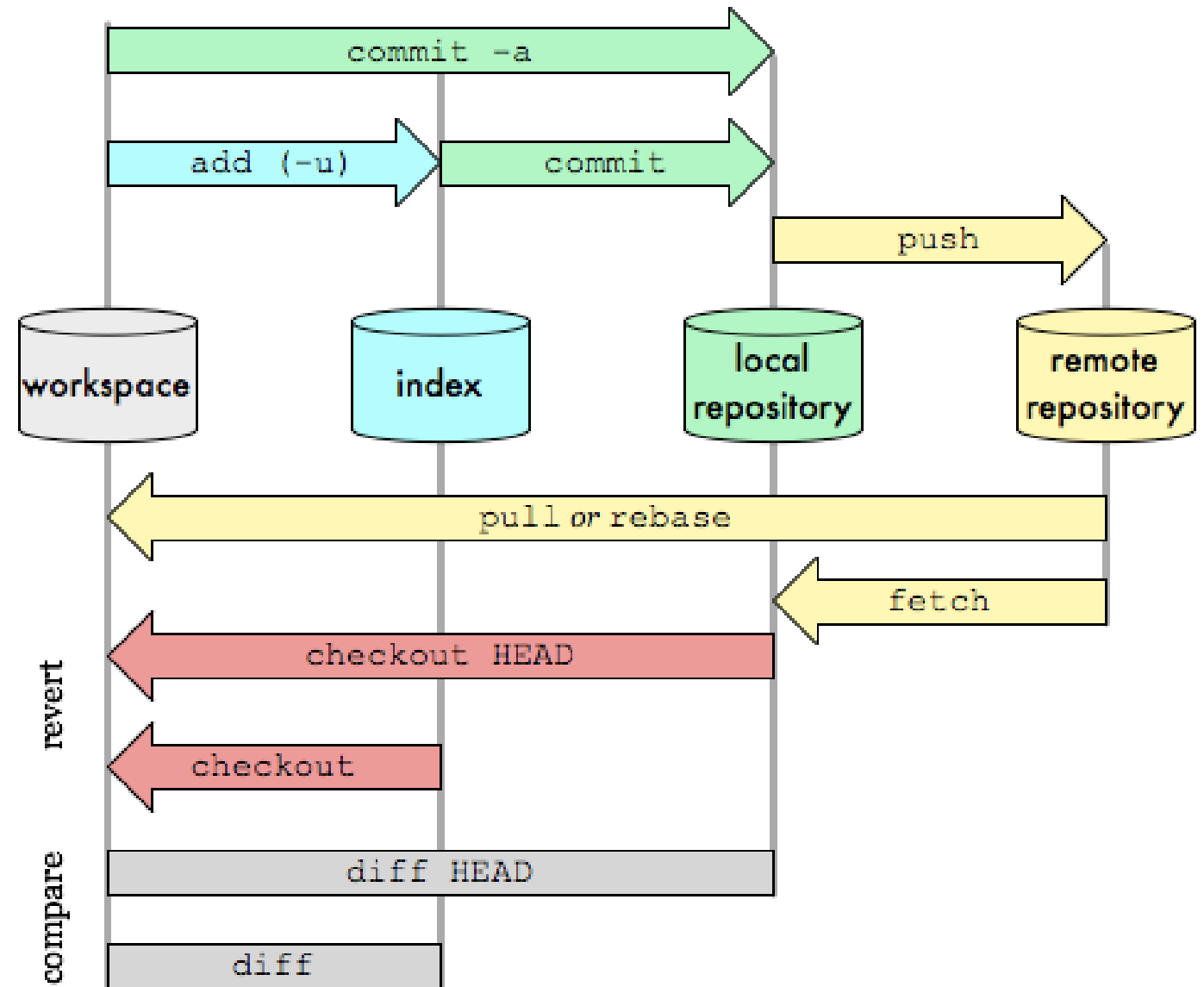
NOTE: These are all parts of your LOCAL git repo. You can also ship your local repo to be stored remotely (BitBucket, GitHub, etc)

Git Workflow Detailed

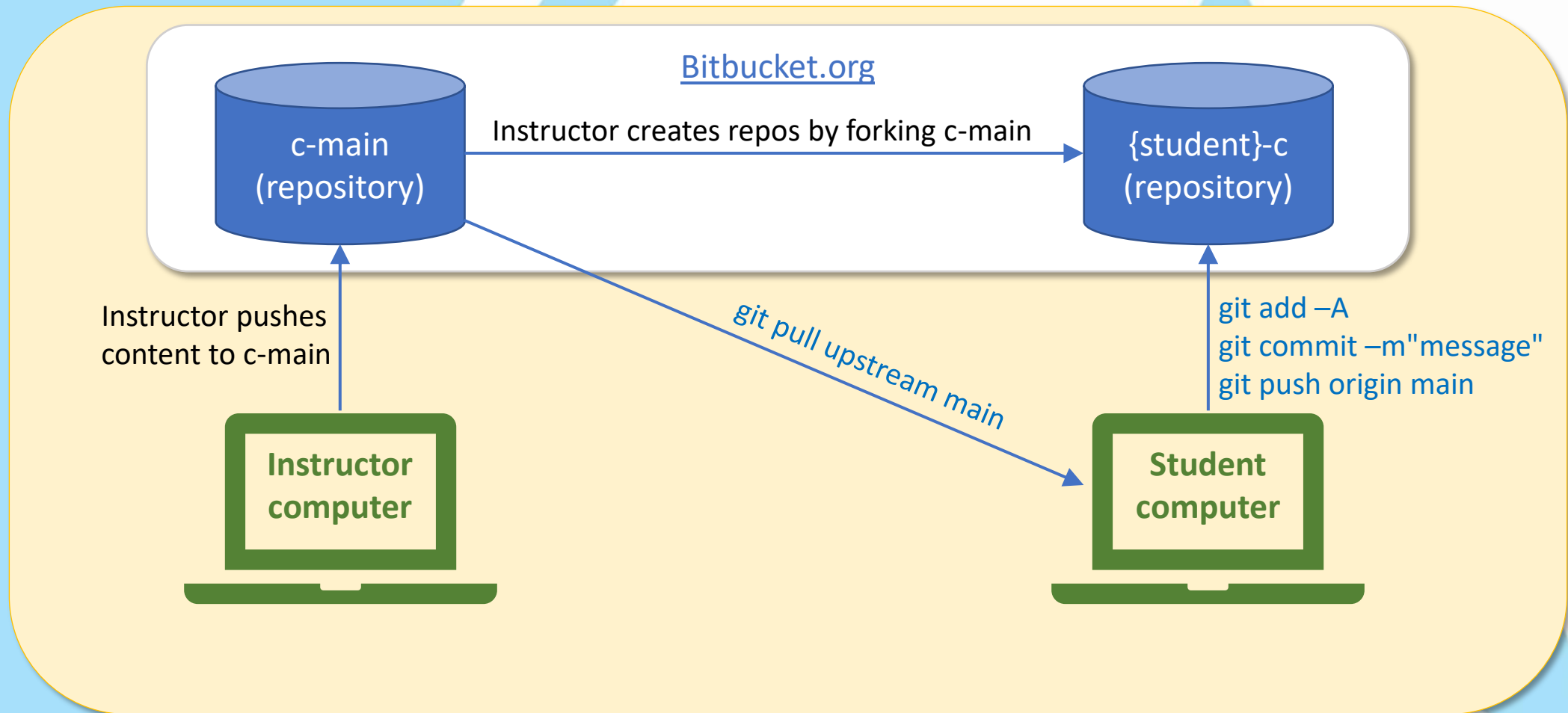
- **Workspace**: the files and folders in your git folder
- **Index**: “Staged” files, to be added / updated into your repository
- **Local repository**: all historical committed changes to all of your files, stored on your machine
- **Remote repository**: the shared, cloud version of the repo

Git Data Transport Commands

<http://osteele.com>



Git Repo Setup



Your Most Important Git Commands

- Before class starts:

>>**git pull upstream main**

- Pulls slides, lecture code and exercises from c-main ("upstream") to your local repo, staging and working trees

- When you have done significant work on exercises (and when you finish!)

>>**git status**

- Shows what work you have done (in your working tree)

>>**git add -A**

- Move ALL your changes to the staging tree (you can also just do individual file names)

>>**git commit -m "Complete module 1 day 1 exercises"**

- Move all the staged changes to your repository

>>**git push origin main**

- Push changes in your local repo to the remote repo "origin"

Homework

- Student exercises
 - View the ReadMe
 - Open With Visual Studio Code
 - Ctrl-Shift-V to Preview
 - Do the exercises
 - Push your work
 - `git push` (or `git push origin main`)
- Reading for tomorrow
 - [Student Book](#)
- Quiz posted mid-afternoon
 - Visit <http://www.Socrative.com>