Module 1 Day 1

Introduction to Tools
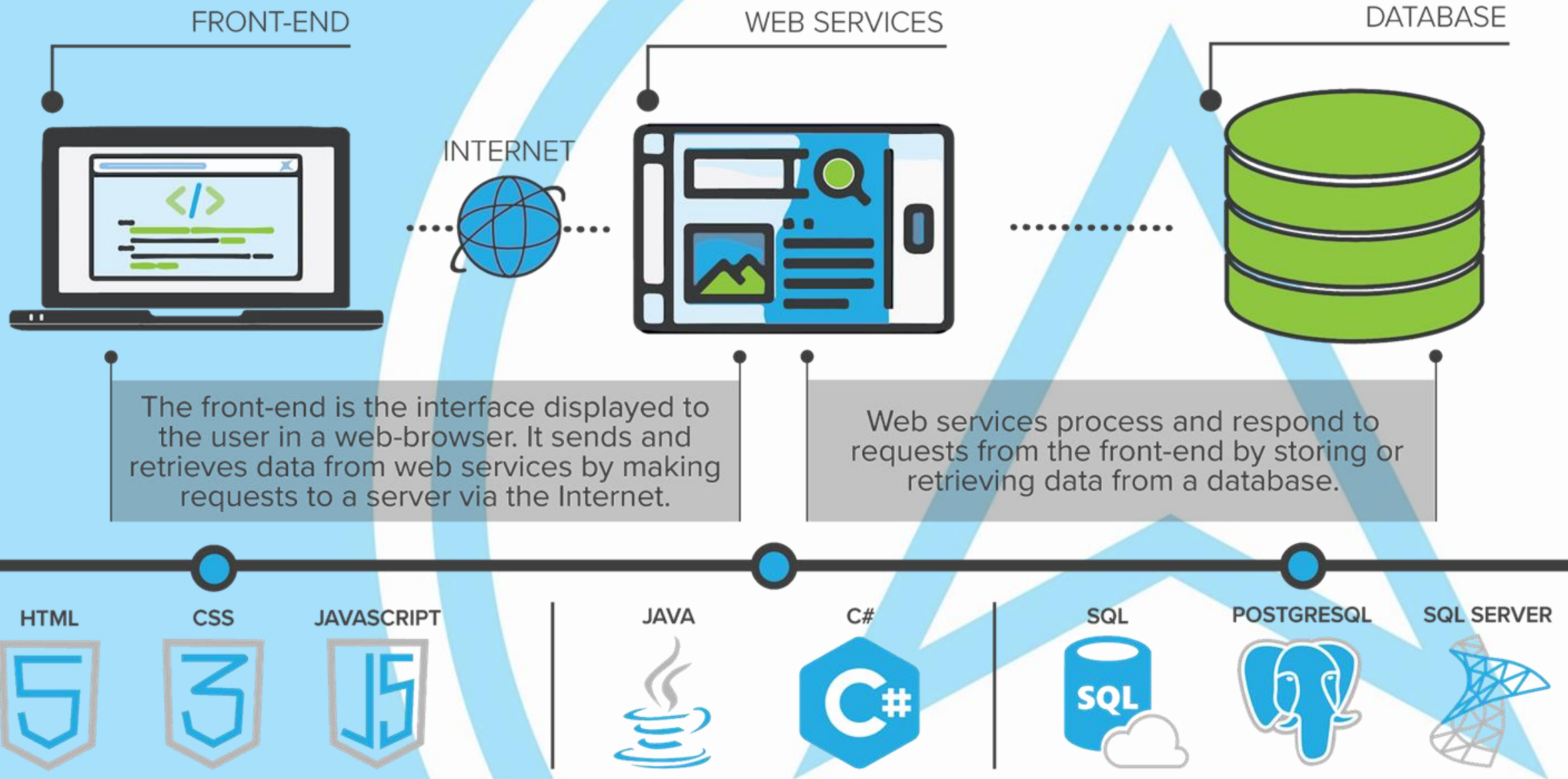
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- Ryver: Mike Morel (@mmorel)

- Hours: 8:00am – 4:00pm

Today's Goals

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

WHAT WE TEACH

FRONT-END

INTERNET

WEB SERVICES

DATABASE

The front-end is the interface displayed to the user in a web-browser. It sends and retrieves data from web services by making requests to a server via the Internet.

Web services process and respond to requests from the front-end by storing or retrieving data from a database.

HTML

CSS

JAVASCRIPT

JAVA

C#

SQL

POSTGRESQL
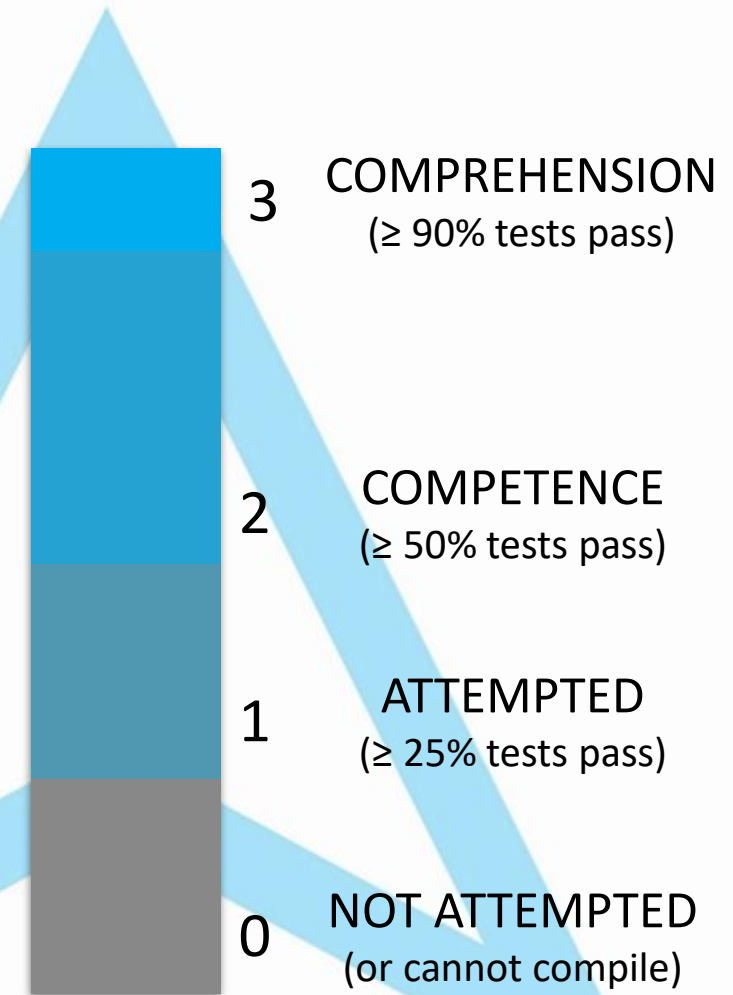
SQL SERVER

Your Typical Day

8:45am	Quiz closes	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 will try to take a break around the top of each hour.
Noonish or 3pm-ish	Hours vary, but there MAY be Pathway sessions	There are not Pathway sessions every day, but a few times per week.
Afternoons	Individual exercises Pairs exercises (some days)	Homework. Don't forget to PUSH your work!!! Homework is due 2nd morning after it is assigned. (homework assigned Monday is due Wednesday 9:00am)
Mid-afternoon	Quiz opens on Socrative.com Lecture code pushed to c-main Recording posted to Ryver	
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**.

- We expect your average to 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!**

3   COMPREHENSION
(≥ 90% tests pass)

2   COMPETENCE
(≥ 50% tests pass)

1   ATTEMPTED
(≥ 25% tests pass)

0   NOT ATTEMPTED
(or cannot compile)

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".

Other Stuff

- Please do you 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

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's parent

Command Shell (Bash)

- Listing, creating and deleting files
  - ls
  - 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

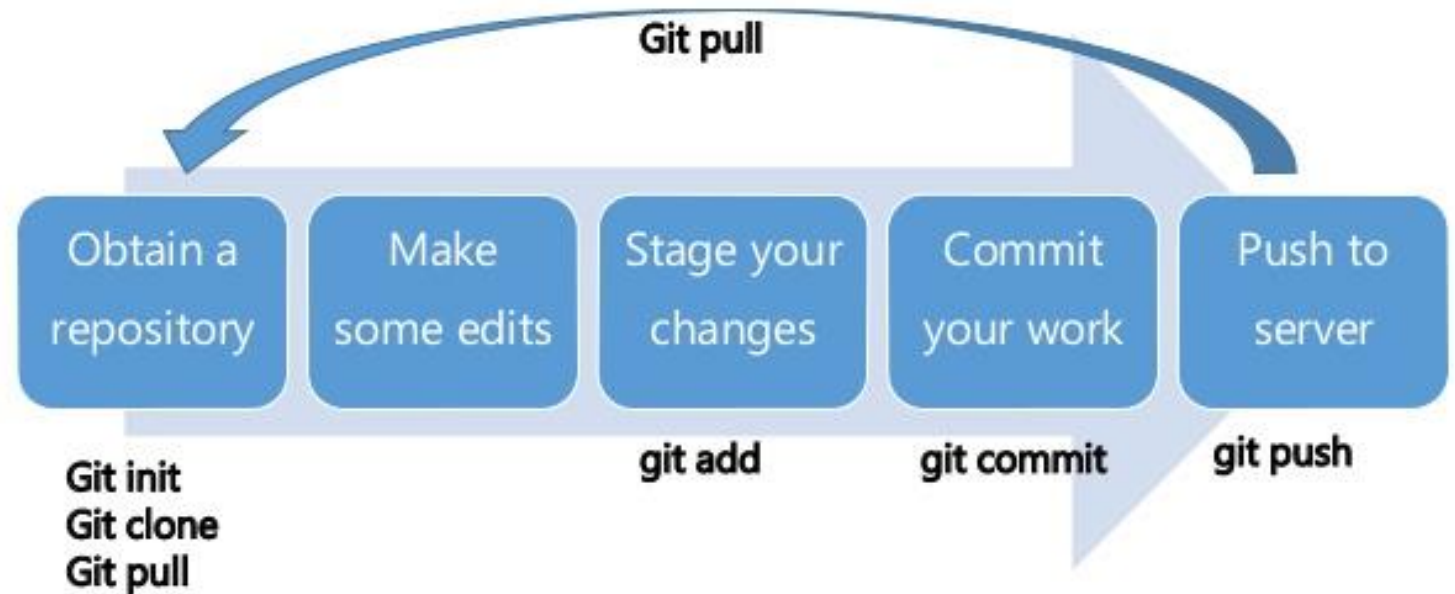# Source Code Control with Git

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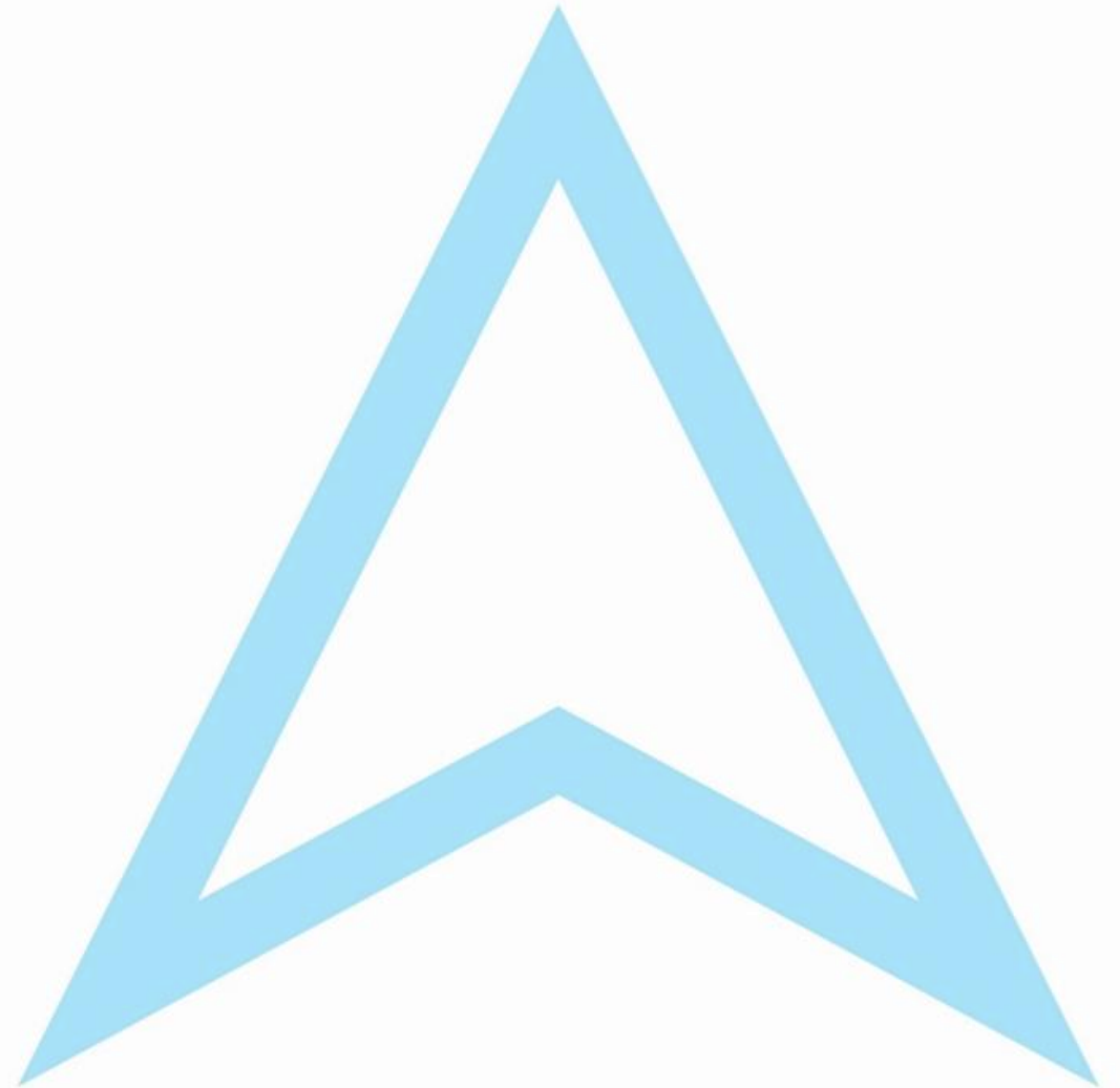
The Git Workflow

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

Git usages : Understanding Git Workflow

Git pull

| Obtain a repository | Make some edits | Stage your changes | Commit your work | Push to server |

Git init
Git clone
Git pull

git add

git commit

git push

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)
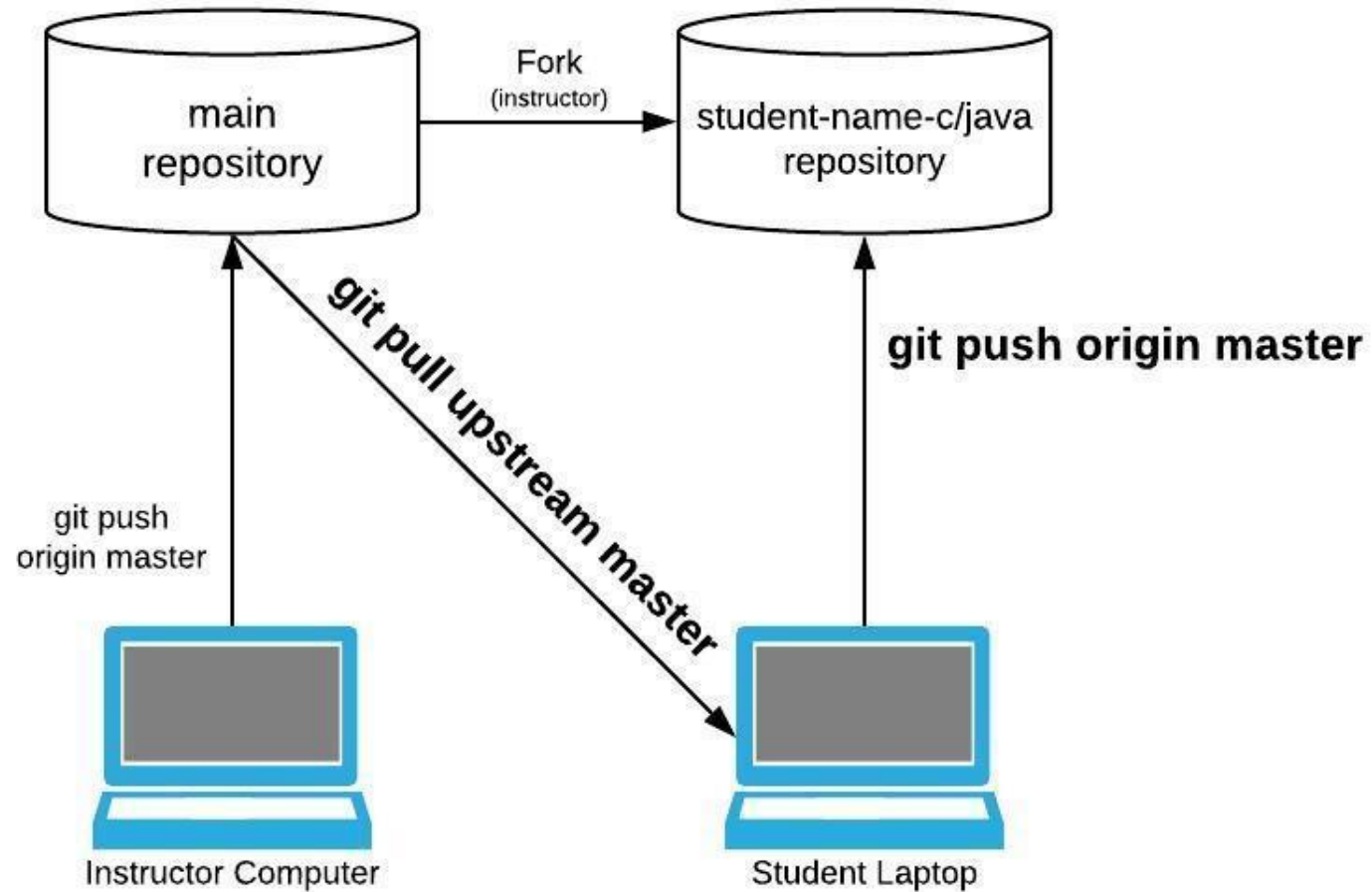
Git Workflow Detailed

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

Git Data Transport Commands
http://osteele.com
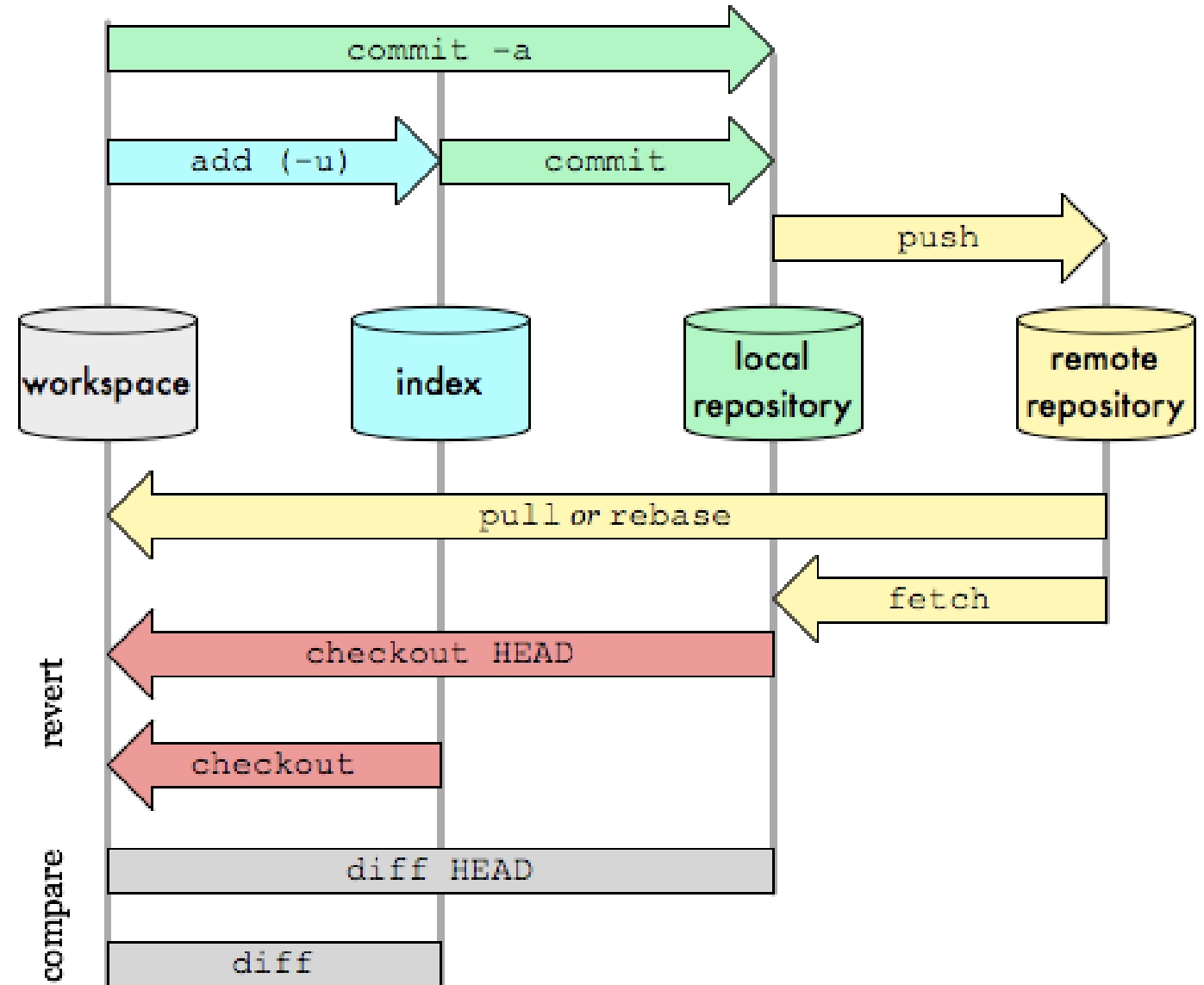
Git Repo Setup

Your Most Important Git Commands

- Before class starts:
  - >>**git pull upstream master**
    - 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
  - >>**git status**
    - Shows what work you have done (in your working tree)
  - >>**git add –A**
    - Move ALL your changes to the staging tree
  - >>**git commit –m "Complete module 1 day 1 exercises"**
    - Move all the staged changes to your repository
  - >>**git push origin master**
    - 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 master)
- Reading for tomorrow
  - Student Book
- Quiz posted mid-afternoon
  - Visit http://www.Socrative.com