FinTech Collaboration

FinTech

Lesson 1.3


WELCOME

Class Objectives

By the end of today's class, you will:

- Configure the git CLI user credentials from the command line.
- Clone a repository using git clone.
- Modify git repositories by adding, committing, and pushing files.
- Create markdown files and implement visual capabilities such as text formatting, images, and links.
- Write a FinTech case study in markdown and host it in a shared GitHub repository.

GitHub Refresher

GitHub Q&A

What is git?

Answer: Git is a version-control system for tracking changes in files—often from a coding and software development standpoint. Git is designed for coordinating work among programmers, but it can be used to track changes in any set of files.

What is a git repository?

Answer: A git repository is a remote or online file repository in which git tracks files and conducts version control as changes are made.

What is GitHub?

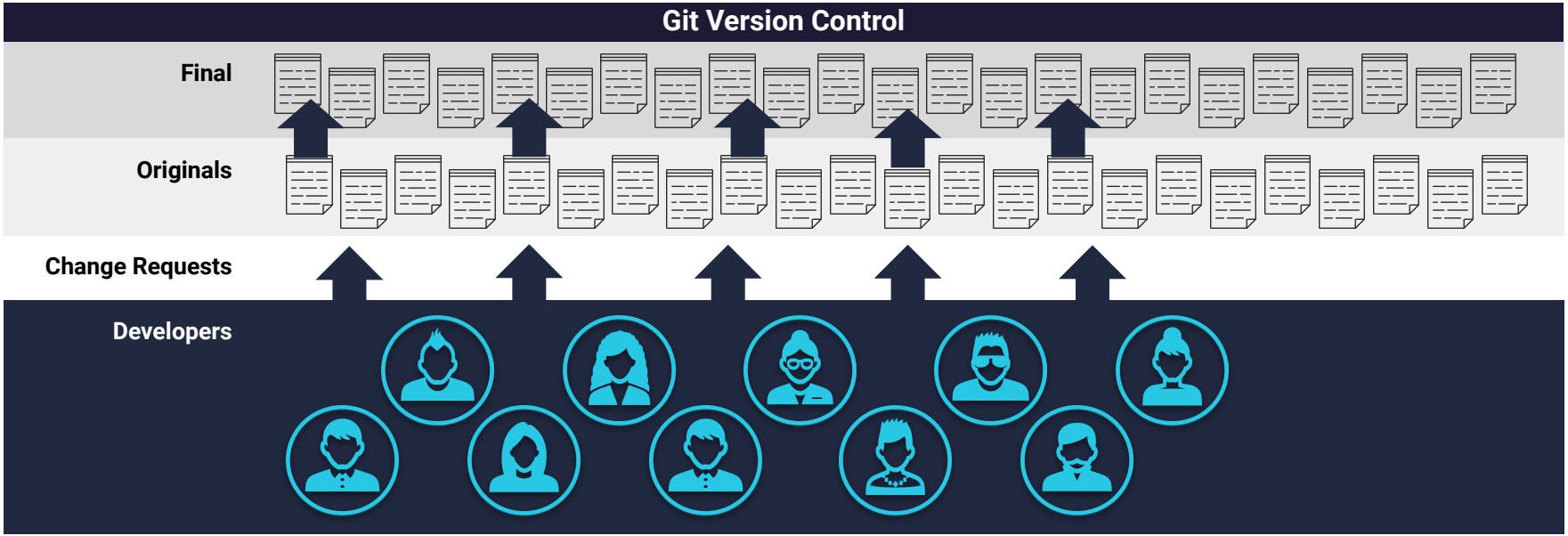
Answer: GitHub is a web-based file-hosting service—and one of many vendors that use git—for file version control.

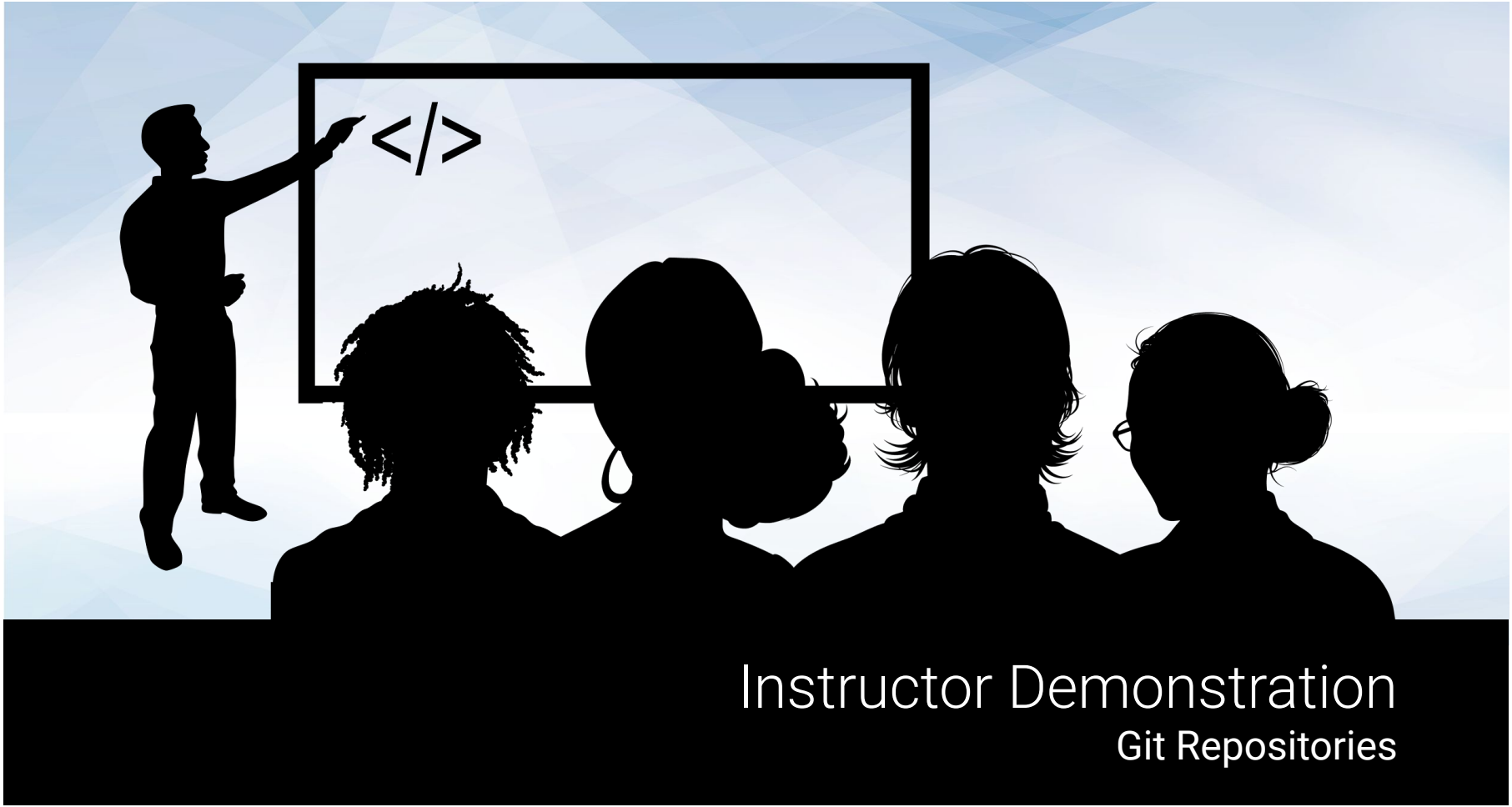
Why is git important?

Answer: Git is an extremely powerful tool for software development. It has become the standard for versioning software and data science tools across industries and is even used to version data and enhance data reproducibility. For these reasons, proficiency in GitHub has become a critical job skill.

GitHub Version Control

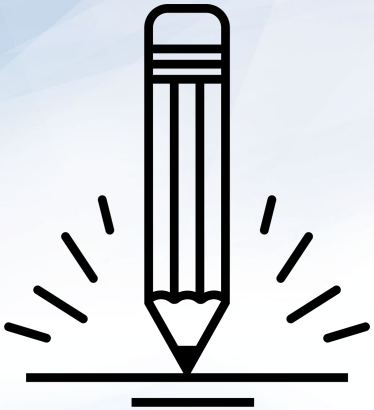
- Modern web development is highly collaborative.
- Teams are often extremely large and spread out across the country or world.
- Apps are sometimes made up of hundreds (or even thousands) of files.





Instructor Demonstration

Git Repositories



Activity: Refresher

In this activity, you will create a GitHub repository to hold future work assets that can be showcased to potential employers.

(Instructions sent via Slack.)

Suggested Time:
15 Minutes

Activity: Create and Personalize a GitHub Repository

Complete the following steps.

1. Navigate to GitHub and log in with your credentials.
2. Create a new GitHub repository.
3. Download the ZIP file of the GitHub repository and extract the contents.
4. Modify the initialized `README.md` file and insert a quick introduction about yourself:
   - Who are you? What's your background?
   - What are your career goals?
   - Why did you choose FinTech as a career path?
5. Update the `README.md` file in your online GitHub repository.

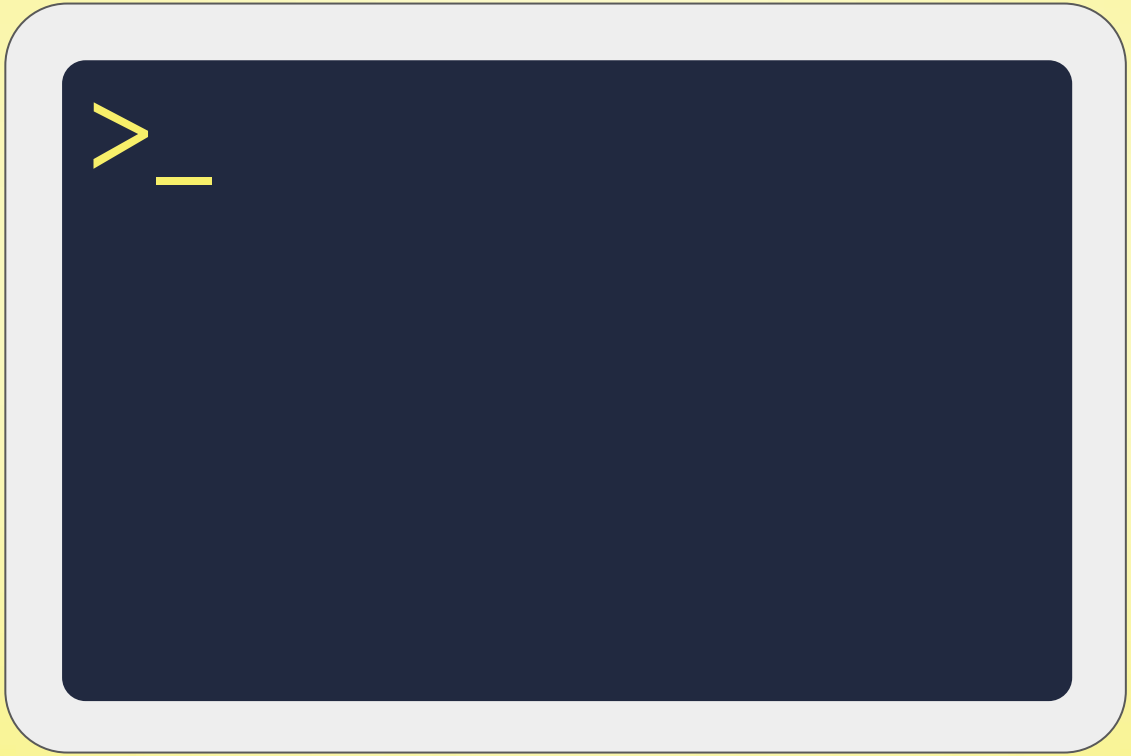
Suggested Time: 15 Minutes

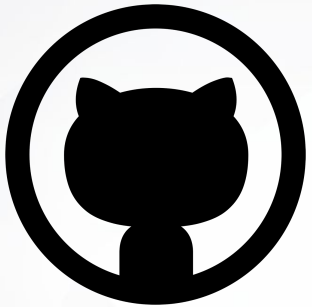
Time’s Up! Let’s Review.

Introduction to Git Command Line Interface (GLI)

Git CLI vs. GitHub Web App

Git CLI provides commands to execute git operations.





The GitHub web app provides a convenient user interface for performing **common git operations**.

Git CLI is a command line utility that provides all git operations; it is generally **more robust** than a git-based graphical user interface (GUI).

Git Command Line Interface

Popular Git CLI Commands

`git clone`	Clones a git repository to the local file system.
`git add`	Adds changed files to the queue of tracked files ready to be committed.
`git commit`	Adds tracked files as a bulk checkpoint ready to be pushed to the remote git repository.
`git push`	Uploads changed files from the local git repository to the remote git repository and updates the remote files.
`git pull`	Downloads changed files from the remote git repository to the local git repository and updates the local files.

GitHub Pop Quiz

What is a git commit?

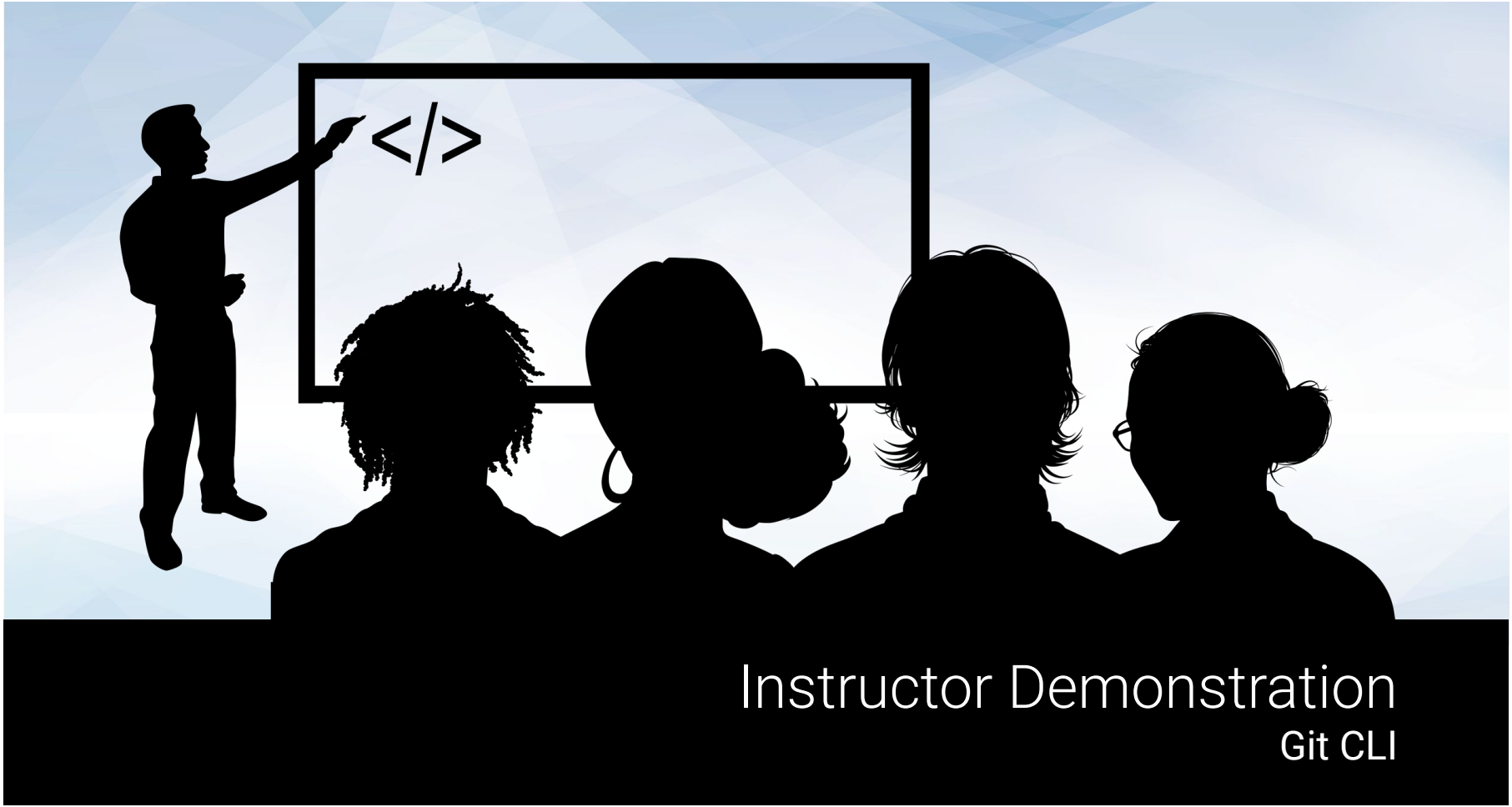
What is a git commit?

Answer: A git commit saves a queue of tracked changed files as a **save** or **checkpoint** for a git repository before they are pushed from the local to the remote repository. This way, a repository can be restored to a previous checkpoint in time, thereby undoing any existing changes from that point.

What is git's Snapshot Model?

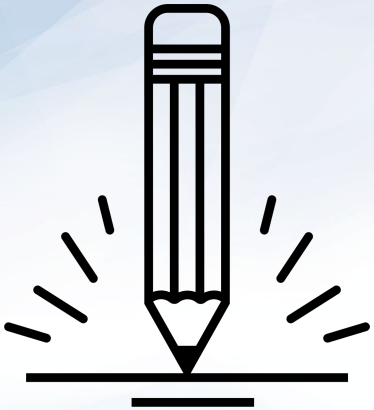
What is git's Snapshot Model?

Answer: Git thinks of its data as a series of snapshots of a miniature file system. Every time you commit, or save the state of your project in git, it basically takes a picture of what your files look like at that moment and stores a reference to that snapshot. To be efficient, if files have not changed, git doesn't store the file again; rather, it stores a link to the previous identical file it has already stored.



Instructor Demonstration

Git CLI



Activity: Git CLI

In this activity, you will clone your GitHub repo, create a folder structure, and then push those changes to the `main` branch.

(Instructions sent via Slack.)

Suggested Time:
15 Minutes

Time’s Up! Let’s Review.

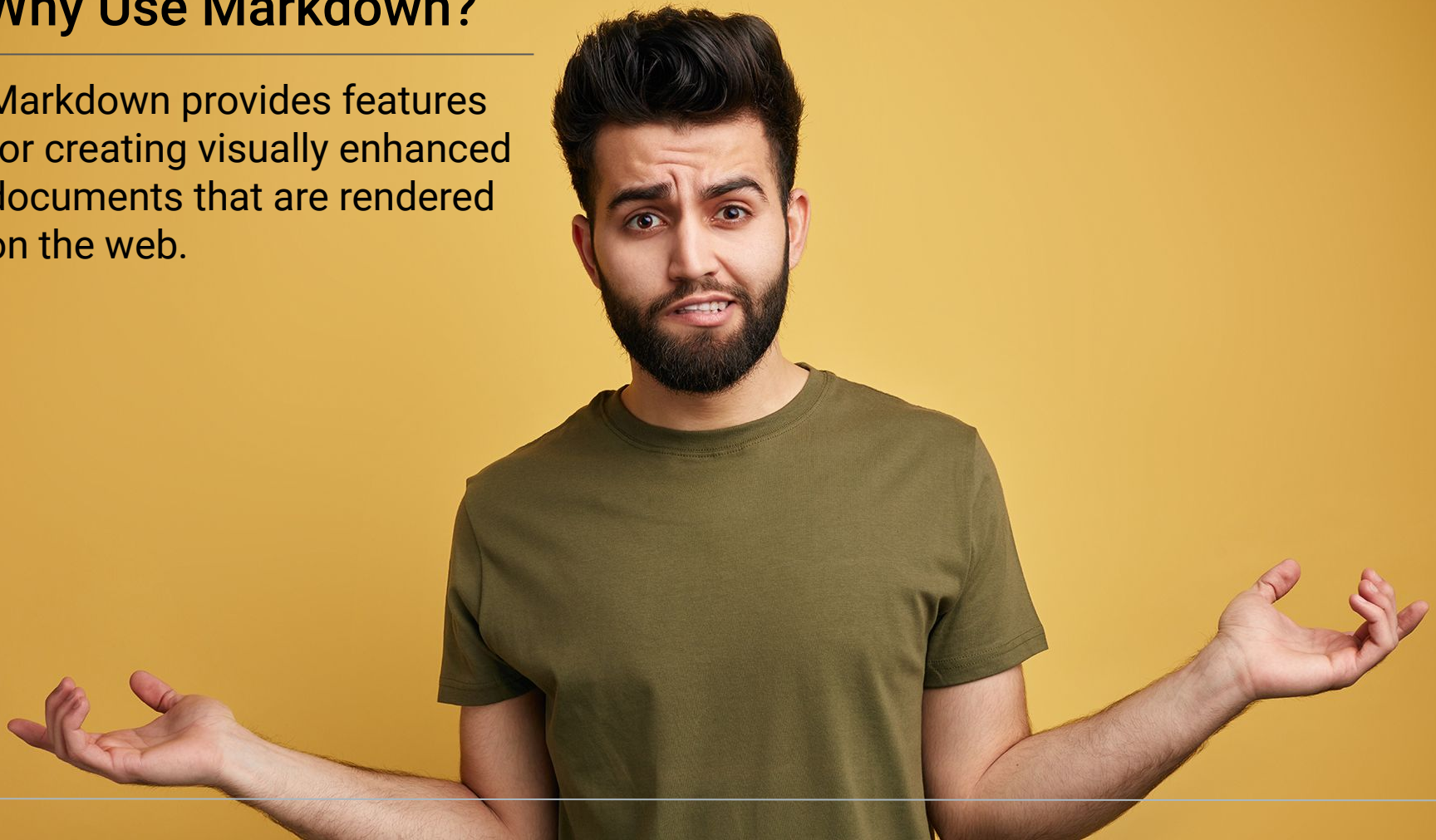
Markdown

What is Markdown?

Markdown is a lightweight markup language that contains syntax for adding formatting elements to plain-text documents.

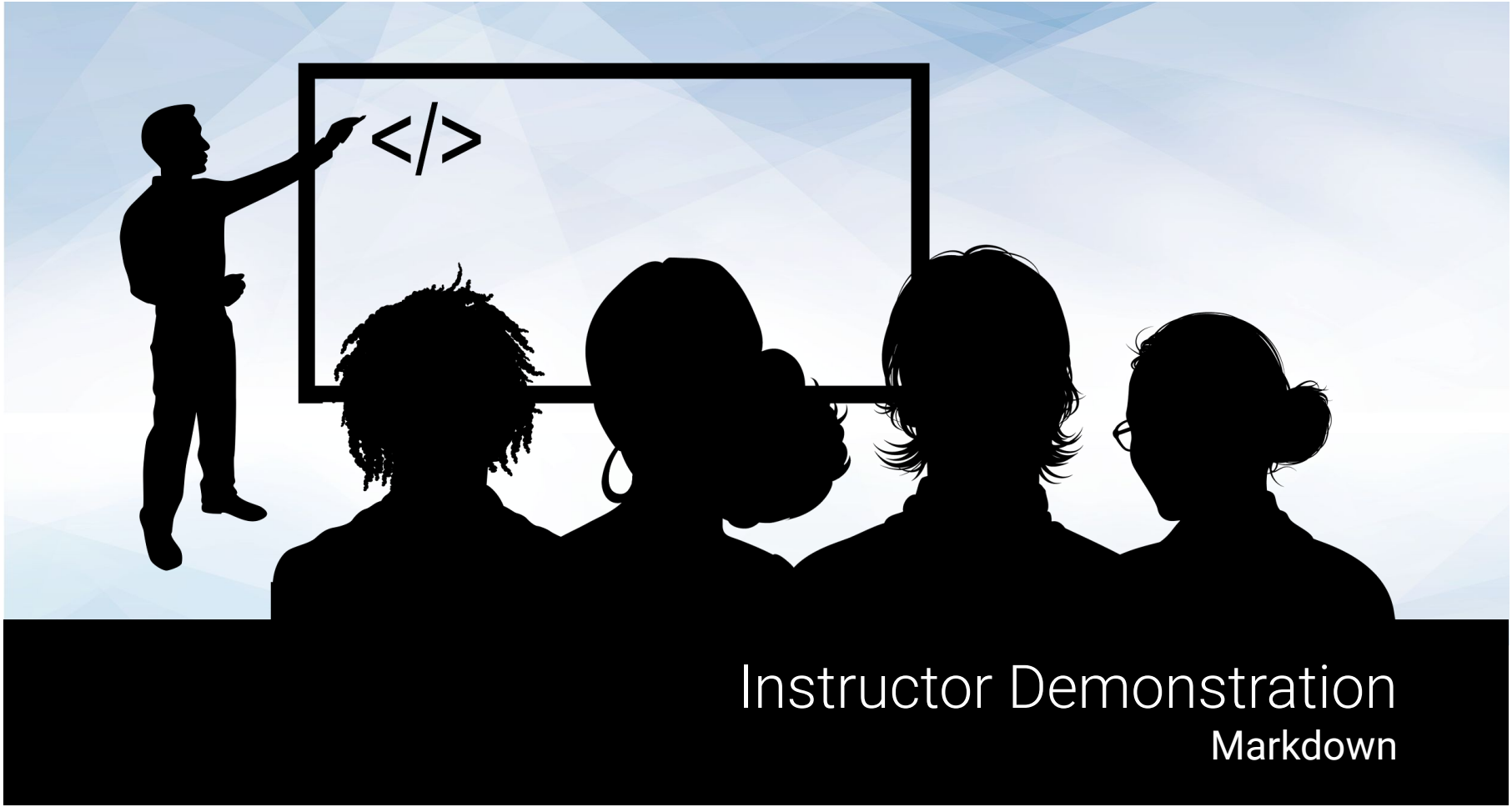
Why Use Markdown?

Markdown provides features for creating visually enhanced documents that are rendered on the web.



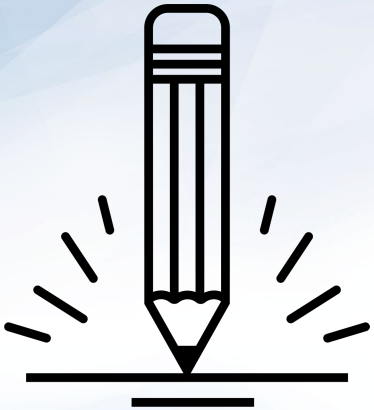
What Are Some Common Markdown Features?

- Header Formatting: `#, ##, ###`
- Text Formatting: `**word**, *word*`
- Line Breaks: `---`
- Text/Code Snippets: `` `word` ``
- Block quotes: `> “Quote”`
- Links:
  Files/URLs: `[]()`
  Images: `![]()`



Instructor Demonstration

Markdown



Activity: Markdown

In this activity, you will visually enhance your README files for your GitHub repository by adding additional markdown features.

(Instructions sent via Slack.)

Suggested Time:
15 Minutes

Time’s Up! Let’s Review.


LET'S TAKE
@ Break
Countdown timer
40:00
(with alarm)

Introduce Case Studies

Activity: FinTech Case Study

In this activity, you and a partner will write a case study and host it on a shared GitHub repository. This activity will combine your knowledge of the git CLI and markdown syntax.

(Instructions sent via Slack.)

Suggested Time:
30 Minutes

Time’s Up! Let’s Review.

Questions?