WELCOME & WORKSHOP OVERVIEW

What we learn today:

- Set up Git and VS Code
- Track and manage code with version control
- Back up your project
- Share code with others

No prior experience necessary!

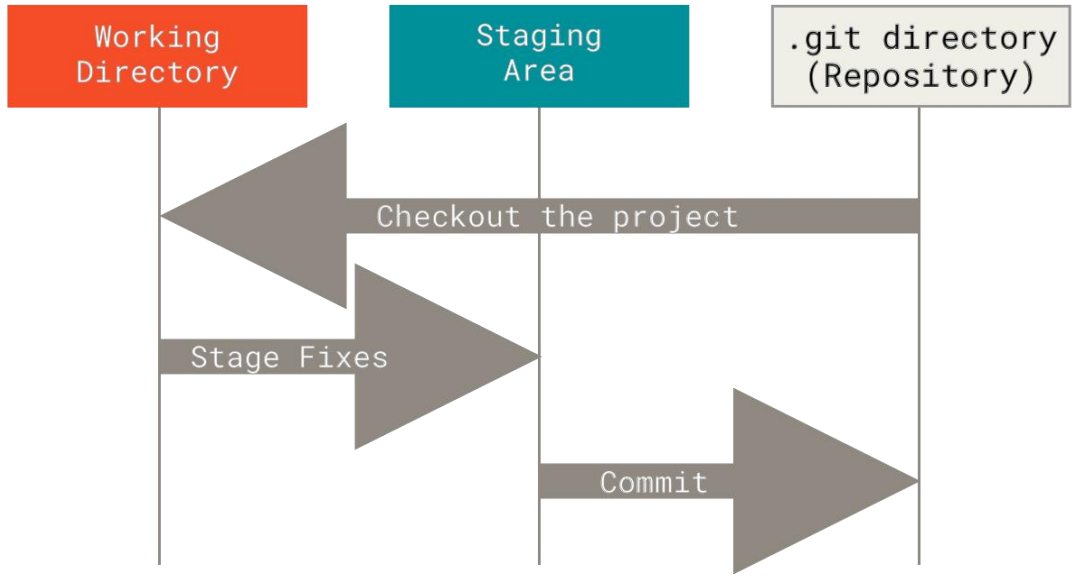
Workshop materials are available at:
https://github.com/dianita956/git_vscode_wrkshp26

WHAT IS GIT?

Git = A version control system that:

- Tracks changes to your files over time
- Lets you experiment safely
- Helps you collaborate with others
- Keeps a history of all your work

Think of it as "Track Changes" for code!



WHAT'S IS VS CODE?

Visual Studio Code = A powerful code editor with:

- Built-in Git support
- Syntax highlighting
- Extensions and customization
- Integrated terminal
- Cross-platform (Windows, Mac, Linux)

KEY TERMS- DIRECTORIES AND FOLDERS

Directory and **Folder**

Used interchangeably in Git

Both mean: a container for files and other folders

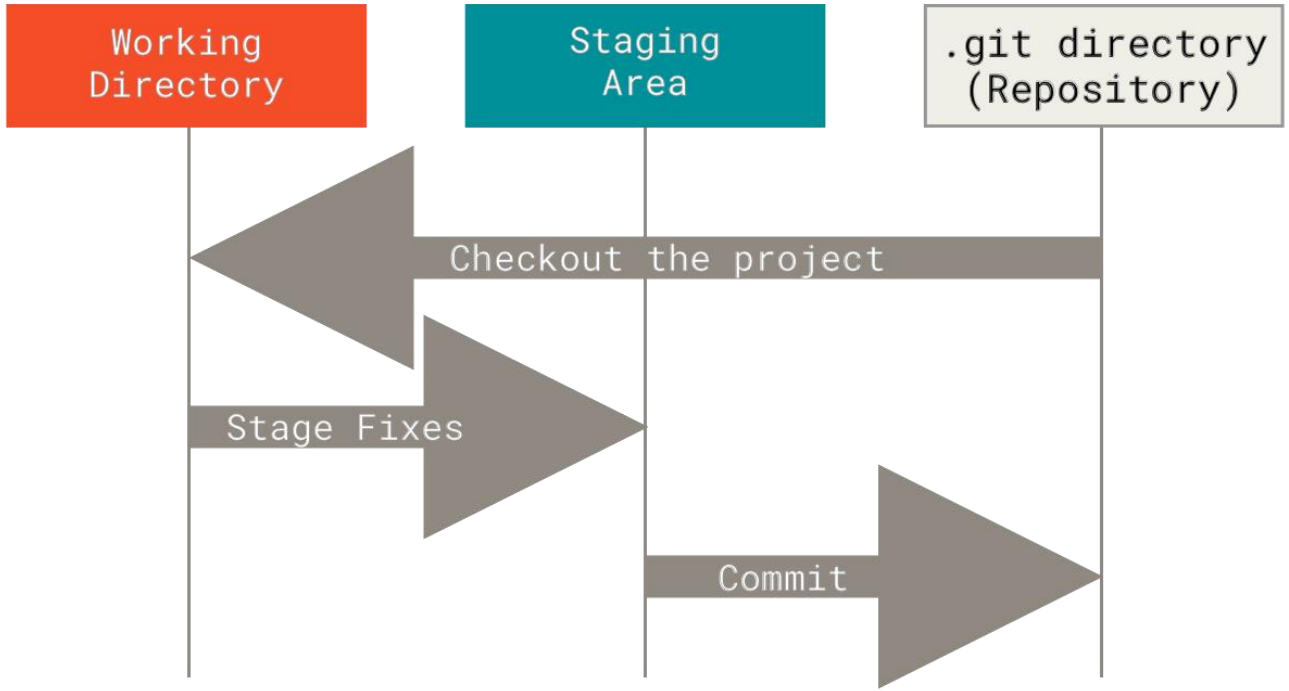
THE THREE SECTIONS OF GIT WORKFLOW

1. **Working Directory**
    - where you edit files
2. **Staging Area**
    - where you prepare changes
3. **.git directory**
    - where commits are stored

THE THREE STATES OF GIT

State	Description
Modified	You've changed the file
Stage	Modified file(s) are ready for commit
Committed	The file's snapshot is stored in the Git database

GIT WORKFLOW IMAGE



UNDERSTANDING BRANCHES

main or **master**

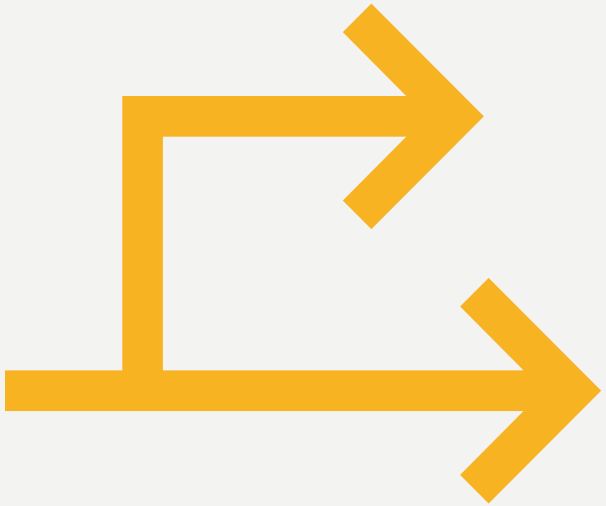
- The default branch (primary version of your project)

Branch

- Pointers to different parts of a project
- lets you try or test code without affecting main

Remote

- A version of your repository hosted on GitHub



BASIC TERMINAL COMMANDS

Show current working directory:

Windows: `cd` (without argument)

Mac/Linux: `pwd`

Navigates:

`cd <directory>` - changes to new working directory/folder

Initialize Git:

`git init` - initiate Git repository

INSTALLATION

INSTALLING GIT

Install Git:

- Visit: **https://git-scm.com**

- Download Git Executable file for windows operating system: **https://git-scm.com/install/windows**

- Follow the installation wizard

STEP	COMMAND	PURPOSE
1	`/bin/bash -c "$(curl -fsSL https://raw.githubusercontent.com/Homebrew/install/HEAD/install.sh)"`	Install Homebrew
2	`brew install git`	Install Git
3	`git --version`	Verify installation (Latest: 2.52.0)
4	`brew upgrade git`	Update Git

ALTERNATIVE METHOD TO INSTALL GIT ON MAC

INSTALL VS CODE

- Visit: **https://code.visualstudio.com/**
- Download for your operating system
- Install and launch

GETTING STARTED WITH GIT AND VS CODE

HANDS ON ACTIVITY

FOLLOW ALONG AS WE

*REFER TO ACTIVITY STEPS HANDOUT

create a repository

make changes to files

stage and commit changes

view our Git history

COMMAND LINE ACTIVITY

Basic Git Commands:
git init # Initialize repository
git status # Check status
git add <file> # Stage files
git commit -m "msg" # Commit changes
git log #View history

USING GIT IN VS CODE

VS Code makes Git visual!

Source Control panel:

- **see modified files at a glace**
- **stage changes with one click**
- **write commit message in the user interface (UI)**
- **view Git history with extensions**

BEST PRACTICES

Do

- commit often with descriptive message
- use branches for new features
- pull before you push
- review changes before committing

Don’t

- commit sensitive information (passwords, keys, tokens)
- use vague commit message like “fixed stuff” or “wishing for the best”
- work directly on main for big changes

RESOURCES

Official Documentation:

- Git https://git-scm.com
- VS Code https://code.visualstudio.com/
- Pro Git Book https://git-scm.com/book/en/v2
- Git Cheat Sheet https://git-scm.com/cheat-sheet

Available at UTSA:

- Vibe Coding with GitHub Copilot
https://utsa.primo.exlibrisgroup.com/permalink/01UTXSANT_INST/k74a8h/alma9939412878204621

CONTACT INFORMATION

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Q&A AND NEXT STEPS

Questions?

Continue Learning:

- Practice with your own projects

- Explore GitHub for collaboration

- Try branching and merging

- Join coding communities

Thank you for attending!

THANK YOU
-UTSA LIBRARIES

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