

# Introduction to Git

.git directory: A hidden directory inside a repository that stores all of Git's metadata, object database, configuration, and history, and should not be edited manually

Blob: Short for binary large object, a Git object that stores the compressed contents of a file as it existed in a particular commit

Commit hash: A unique 40-character identifier generated by Git's hash function that uniquely references a specific commit or object in the repository

Commit: A recorded snapshot of a repository at a point in time that includes metadata like author, timestamp, and a log message, representing a saved change-set

git add: A Git command that stages specified files (or all files with .) by adding their current contents to the staging area for the next commit

git checkout: A multi-purpose Git command used to switch branches or restore specific files from a given commit into the working directory

git commit: A Git command that creates a new commit from the contents of the staging area, typically accompanied by a concise log message provided with -m

Date hierarchy: A Power BI feature that decomposes a date column into levels such as year, quarter, month, and day to simplify time-based analysis

Filter context: The set of filters applied to data (from visuals, slicers, or explicit filter expressions) that determine which rows are considered when evaluating a measure or expression

git log: A Git command that shows the commit history for a repository or path in reverse chronological order, including commit hashes, authors, dates, and messages

git restore: A Git command used to discard changes in the working directory or to unstage files from the staging area using the --staged flag

git revert: A Git command that creates a new commit which undoes the changes introduced by a specified previous commit, preserving history

git show: A Git command that displays information about a specific commit (given its hash or reference) including metadata and the diff for that commit

git status: A Git command that displays the current state of the working directory and staging area, showing tracked, modified, staged, and untracked files

Git: A distributed, open-source version control system that records snapshots of a project, supports collaboration across local and remote repositories, and uses hashes to identify content

HEAD: A symbolic reference in Git that points to the current commit (usually the latest commit on the current branch), and can be referenced with tilde syntax like HEAD~1 to mean earlier commits

Repository (repo): A project directory tracked by Git that contains the project files and a hidden metadata area storing the repository's history and configuration

Staging area (index): The intermediate area in a Git repository where changes are placed via git add before being recorded into a commit

Tree: A Git object that records the names and locations of files and directories in a commit, acting as a directory map that links to blobs or other trees

Version control: A set of systems and practices for tracking, managing, and recording changes to files and directories over time, enabling comparison, history inspection, and rollback to earlier versions