Glossary

IT Automation with Python

Terms and definitions from Course 3

A

Application Programming Interface (API) key: This is an authentication token that calls an API, which is then called to identify the person, programmer, or program trying to access a website

B

Branch: A pointer to a particular commit, representing an independent line of development in a project

C

CI/CD: The name for the entire continuous integration and continuous deployment system

Code reviews: The deliberate and methodical gathering of other programmers to examine each other's code for errors to increase the code quality and reduces the amount of bugs

Commit: A command to make edits to multiple files and treat that collection of edits as a single change

Commit files: A stage where the changes made to files are safely stored in a snapshot in the Git directory

Commit ID: An identifier next to the word commit in the log

Commit message: A summary and description with contextual information on the parts of the code or configuration of the commit change

Computer protocols: Guidelines published as open standards so that any given protocol can be implemented in various products

Continuous deployment (CD): New code is deployed often after it has been automatically built and tested

Continuous integration (CI): A system that will automatically build and test our code every time there's a change

D

Diff: A command to find the differences between two files

Distributed: Each developer has a copy of the whole repository on their local machine

DNS zone file: A configuration file that specifies the mappings between IP addresses and host names in your network

F

Fast-forward merge: A merge when all the commits in the checked out branch are also in the branch that's being merged

Fix up: The decision to discard commit messages for that commit

Forking: A way of creating a copy of the given repository so that it belongs to our user

G

Git: A free open source version control system available for installation on Unix based platforms, Windows and macOS

GitHub: A web-based Git repository hosting service, allowing users to share and access repositories on the web and copy or clone them to a local computer

Git directory: A database for a Git project that stores the changes and the change history

Git log: A log that displays commit messages

Git staging area: A file maintained by Git that contains all the information about what files and changes are going to go into the next commit

H

Head: This points to the top of the branch that is being used

I

Indirect merges: GitHub can merge a pull request automatically if the head branch is directly or indirectly merged into the base branch externally

Issue tracker (bug tracker): A tracker that shows tasks that need to be done, the state they're in and who's working on them

M

Master: The default branch that Git creates for when a new repository initialized, commonly used to place the approved pieces of a project

Merge: An operation that merges the origin/master branch into a local master branch

Merge commits: All commits from the feature branch are added to the base branch

Merge conflict: This occurs when the changes are made on the same part of the same file, and Git won't know how to merge those changes

Modified files: A stage where changes have been made to a file, but the have not been stored or committed

P

Patch: A command that can detect that there were changes made to the file and will do its best to apply the changes

Pipelines: The specific steps that need to run to obtain the desired result

Pull request: A procedure where new code is examined before it is merged to create a branch or master branch

Private key: A secret and secure cryptographic key that must be kept confidential and protected and is used to decrypt data that has been encrypted with the corresponding public key

Public key: A safety cryptographic structure frequently employed to establish secure communication through data encryption or to validate the authenticity of a digital signature

R

Rebasing: The base commit that's used for a branch is changed

Remote branches: Git uses read-only branches to keep copies of the data that's stored in the remote repository

Remote repositories: Repositories that allow developers to contribute to a project from their own workstations making changes to local copies of the project independently of one another

Repository: An organization system of files that contain separate software projects

Rollback: The act of reverting changes made to software to a previous state

S

Source Control Management (SCM): A tool similar to VCS to store source code

Stage files: A stage where the changes to files are ready to be committed

Secure Shell (SSH): A robust protocol for connecting to servers remotely

SSH client: This establishes a connection to the SSH server, ensuring a secure interaction, where the client makes access requests

SSH key: An access credential

SSH protocol: Standard commonly used for logging in to servers remotely on the principle of public-key encryption

SSH server: This establishes secure network connections, undergoes mutual authentication, and initiates encrypted login sessions or file transfers

Squash commits: The decision add commit messages together and an editor opens to make any necessary changes

T

Three-way merge: A merge when the snapshots at the two branch tips with the most recent common ancestor, the commit before the divergence

Tracked: A file's changes are recorded

U

Untracked: A file's changes are not recorded

V

Version control systems (VCS): A tool to safely test code before releasing it, allow multiple people collaborate on the same coding projects together, and stores the history of that code and configuration