Git Commands

Monday, November 14, 2022

10:36 AM

"C:\Users\palemi\Documents\Github\DWRAT\_DataScraping\Documentation\Git Cheat Sheet.txt"

# Running Git

**Visual Studio Code**

* Switch to Terminal
* Open Git Bash; PowerShell won't work
* Start typing Git commands

**RStudio:**

* Switch to Terminal
* Start typing Git commands

**Command Prompt**:

* Use *cd* to set the local repository as your working folder
* Start typing Git commands

# GIT Commands

**Displaying username and email address**

git config user.name

git config user.email

**Configuring username and email address**

git config --global user.name "Payman Alemi"

git config --global user.email "Payman.Alemi@waterboards.ca.gov"

## Syncing Repositories

**Name of remote repository:** TutorialsBySamoora

**Branch I want to fetch**: main; *the branch names ARE case-sensitive; main and Main are not the same*

**Local repository location:** C:\Users\palemi\Documents\Github\TutorialsBySamoora

**In R:** Open the R project tied to the local repository location and witch to Terminal; if you don't have an R project for this; create one.

**In VSCode:** Open the local repository location and switch to Terminal and use Git Bash.

**In Command Prompt:** change to the local repository location by typing:

*cd: C:\Users\palemi\Documents\Github\TutorialsBySamoora*

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### CLONING

#Syntax#

git clone --branch <branchname> <remote-repo-url>

#our remote repository URL is <https://github.com/CAWaterBoardDataCenter/DWRAT_DataScraping.git>

#Example#

git clone --branch Payman <https://github.com/CAWaterBoardDataCenter/DWRAT_DataScraping.git>

### Retrieving Data From Remote Branch

**Method 1:**

git fetch origin main *#fetches data from remote branch*

git merge origin/main main *#merges the remote repository (origin/main) with the local repository (main)*

**Method 2:**

git pull origin main *#fetches and merges changes from the remote repository main into the local repository main in one action*

### Pushing Local Changes to Remote Branch

git add \* *(or)* git add . *#Both options grab all the files in the current folder*

git commit -m "Enter your comments about the code change"

git push origin main *#pushes changes to the remote branch main hosted on Github*

**Variations of Git Add**

You consider the relative file path beginning at the root folder of Git. In the example, the root folder is C:\users\palemi\Github\Weather\_and\_Climate\_R while the file is contained here: "C:\Users\palemi\Documents\Github\Weather\_and\_Climate\_R\code\scripts\CIMIS\_Scraper.R".

Hence the relative file path is code\scripts\CIMIS\_Scraper.R

git add [file path]

git add code/Scripts/CIMIS\_Scraper.R

## Branch Management

### Creating and switching to branches

**Method 1:**

git branch Payman *#creates the Payman branch*

git checkout Payman *#switches to the Payman branch*

**Method 2:**

git checkout -b Payman *#creates and switches to the Payman branch in one command*

### Merging Branches

git checkout master *#switches to the master branch*

git merge Payman *#merges the Payman branch with the master branch*

**Aborting a merge**

git merge --abort

### Conflict Resolution

git status *#determines the files in conflict*

Open the conflicting files and edit the highlighted section until it reflects the state you want in the merged result.

### Remote Branches

**Listing existing remotes:**

git remote -v

**Adding new remotes**

*Syntax:*

git remote add <branchname> <URL>

*Example:*

git remote add Payman <https://github.com/CAWaterBoardDataCenter/DWRAT_DataScraping.git>

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### Deleting a Branch

git branch -d Payman

## Undoing Changes

<https://github.blog/2015-06-08-how-to-undo-almost-anything-with-git/>

### Undo public changes

git revert <SHA> #undoes the commit ID specified

### Fix the last commit message

git commit --amend -m

### Undo local changes that have been saved but not committed

git checkout -- <bad filename>

### Undo local changes that have been committed but not pushed

git reset <last good SHA> #contents remain on disk but removed from repository's history.

git reset --hard <last good SHA> #contents removed from disk.

### Undoing a reversion that went wrong

Sometimes a reversion can accidentally delete stuff you didn't intend; to abort the reversion, run:

git revert --abort