**Using Git for Windows (Local)**

1. Download and install Git for Windows

https://git-scm.com/downloads

1. Using Git for Windows (Local Repository Version Control)

On your project folder:

(use Git Bash to easily access some linux commands like touch and ls)

***$ git init***

***$ git config user.name “john”***

***$ git config user.email “john@gmail.com”***

***$ touch .gitignore***

Gitignore files are items that will **NOT** be added to the repository.

Sample content of gitignore file:

Myreports/

\*.txt

Otherfiles/

Check files for staging:

***$ git status***

Stage files for tracking:

***$ git add <filename>***

Or

***$ git add \****

Then check:

***$ git status***

Unstage files

***$ git rm --cached <filename>***

***$ git rm --cached \****

Perform a local commit

***$ git commit -m “my first commit”***

Show commit history

***$ git log***

Do some project code changes for a second commit.

Check changes in code

***$ git diff***

Try committing a second time

***$ git commit -m “my second commit”***

Jump to an old commit

***$ git checkout <hash>***

From here, you can make changes and perform a new commit

***$ git commit -m “new commit”***

Or discard changes and go back to previous master head

***$ git switch -***

Keep changes and create a branch from there

***$ git switch -c <branch name>***

Create a new branch from master and jump to it

***$ git checkout -b <branch name>***

Check which branch you are on

***$ git branch***

Jump to a branch

***$ git branch <branchname>***

**Using GitHub**

Upload local project to github repo

Create a github repo and clone it locally

***$ git clone <github repo url>***

Explain windows credential manager where github account login is cached in local computer

Note: you may also programmatically add and set origin github repo url

***$ git remote add origin <github repo url>***

***$ git remote -v***

Push your local repo (with correct origin url)

***$ git push origin –all***

***$ git push origin master***

Note: ignored files set in .gitignore will not be uploaded to remote github repo

Pull updates from github remote repo to your system

***$ git pull <github repo>***

**Git and Github Activity**

1. Open source case (owner and contributor)
2. Owner creates a repo
3. Contributor visits the owner’s repo and forks it to his own github account
4. Owner sees who forks his repo
5. Contributor can submit issues by visiting the original repo
6. Owner sees issues
7. Contributor can now clone his forked version and work on it
8. Contributor makes changes to his local copy and makes a push to his forked repo.

Note: if branch push only

\> git push origin <branch name>

1. Contributor, using his account, can now make a pull request toward the owner of the original repo
2. Owner sees the pull request, checks the code submitted by the contributor and decides if he approves it or not.
3. If owner approves, owner can choose to merge the contributors forked version to original by merging. Verify changes to original repo.
4. If owner disapproves, he can send message to contributor thru the pull request made. The contributor can then make changes, re-push to his fork and issue another pull request.