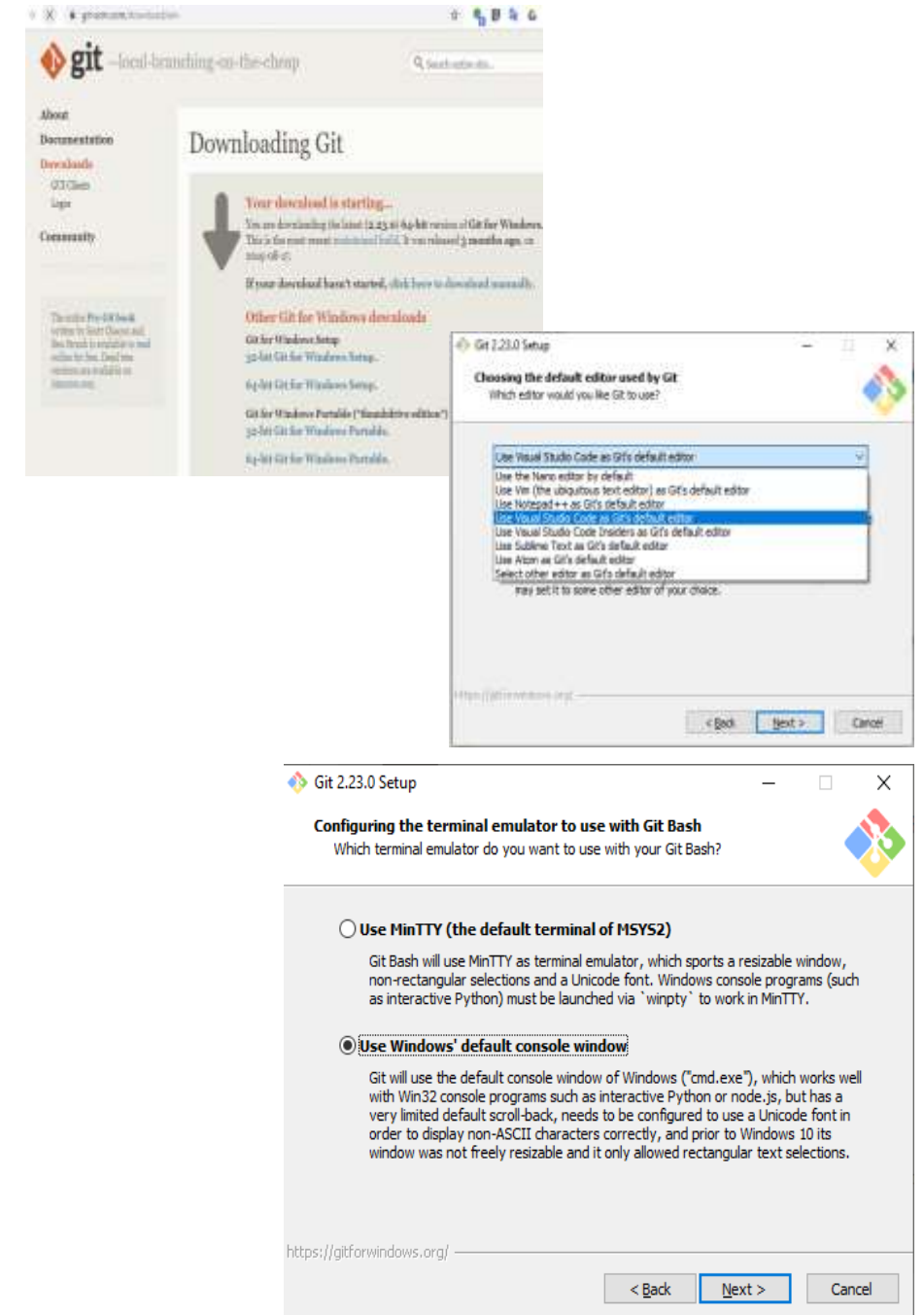


GIT Setup And Exercise

Nov 4th 2019

Setup – Git for Window

- Install (2.23.0) 64-bit
- <https://git-scm.com/>
- Free book is available
- Select VScode as default editor
- Select Window as default console windows



Setup - winMerge

- <https://winmerge.org/downloads/?lang=en>
- WinMerge-2.16.4-x64-Setup.exe
- Config the git diff
 - 1) Open .gitconfig file. It's located at your home directory: c:\users\username\.gitconfig
 - 2) Add the lines below. Pay attention to the single quotes wrapping the path to winmerge:
- ```
[diff]
 tool = winmerge
[difftool "winmerge"]
 cmd = "'C:/Program Files (x86)/WinMerge/WinMergeU.exe'" -e "$LOCAL" "$REMOTE"
```
- From <<https://coderwall.com/p/76wmzq/winmerge-as-git-difftool-on-windows>>



## Download WinMerge

The easiest way to install WinMerge is to download and run the Installer. Read the [FAQ](#).

### WinMerge 2.16.4

The current WinMerge version is **2.16.4** and was released at **2019-07-28**. For detailed [notes](#).

| Download                                      | Size     | Type        | Format |
|-----------------------------------------------|----------|-------------|--------|
| <a href="#">WinMerge-2.16.4-Setup.exe</a>     | 5.51 MB  | Installer   | EXE    |
| <a href="#">WinMerge-2.16.4-x64-Setup.exe</a> | 6.86 MB  | Installer   | EXE    |
| <a href="#">winmerge-2.16.4-exe.zip</a>       | 6.83 MB  | Binaries    | ZIP    |
| <a href="#">winmerge-2.16.4-x64-exe.zip</a>   | 7.62 MB  | Binaries    | ZIP    |
| <a href="#">winmerge-2.16.4-full-src.7z</a>   | 10.65 MB | Source Code | 7z     |

# Setup - Post-git

- Provides Extra information

- 0) open powershell in administrator mode
- 1) Set-ExecutionPolicy RemoteSigned
- 2) Install Nuget provider : `Install-PackageProvider -Name NuGet -Force`
- 3) Install PowerShellGet : `Install-Module -Name PowerShellGet -Force`
- 4) Install-Module : `Install-Module posh-git -Scope CurrentUser -AllowPrerelease -Force`
- 5) Import-Module : `Import-Module posh-git`

```
PS D:\repos\test2> Install-Module posh-git -Scope CurrentUser -AllowPrerelease -Force
PS D:\repos\test2> git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean
PS D:\repos\test2> cd ..
PS D:\repos> cd .\test2\
PS D:\repos\test2> Import-Module posh-git
D:\repos\test2 [master =>]
```

```
Administrator: Windows PowerShell

PS C:\repos> git clone https://github.com/mark-wong-50523/first-repo.git
Cloning into 'first-repo'...
remote: Enumerating objects: 4, done.
remote: Counting objects: 100% (4/4), done.
remote: Compressing objects: 100% (3/3), done.
remote: Total 4 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (4/4), done.
PS C:\repos> cd .\first-repo\
PS C:\repos\first-repo> start .
PS C:\repos\first-repo> dir

Directory: C:\repos\first-repo

Mode LastWriteTime Length Name
---- -
-a---- 11/3/2019 5:13 PM 301 .gitignore
-a---- 11/3/2019 5:14 PM 14 1.txt
-a---- 11/3/2019 5:13 PM 43 README.md

PS C:\repos\first-repo> git status
On branch master
Your branch is up to date with 'origin/master'.

Untracked files:
 (use "git add <file>..." to include in what will be committed)
 1.txt

nothing added to commit but untracked files present (use "git add" to track)
PS C:\repos\first-repo> git add .
PS C:\repos\first-repo> git commit -m "add a new file"

*** Please tell me who you are.

Run

 git config --global user.email "you@example.com"
 git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

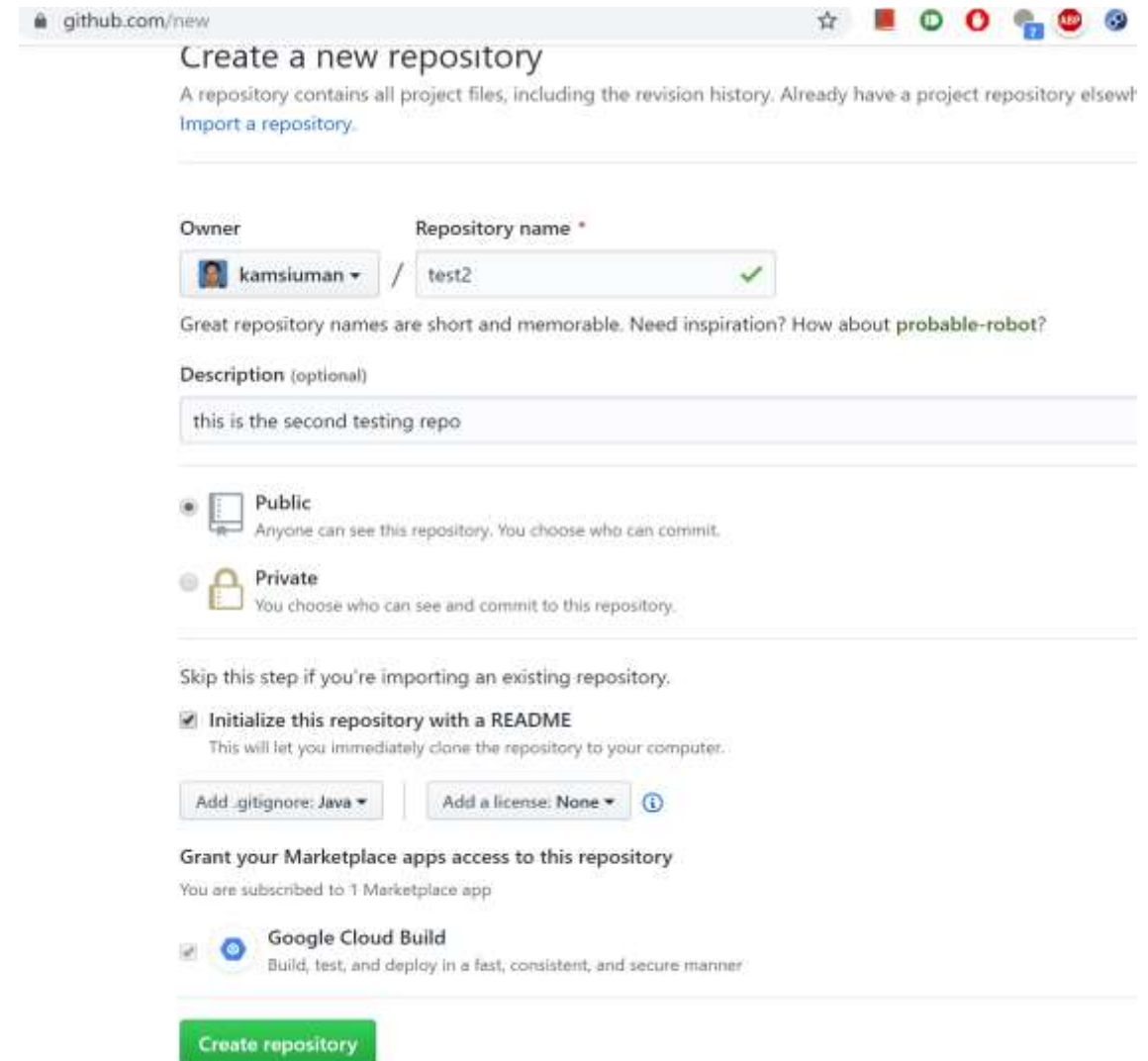
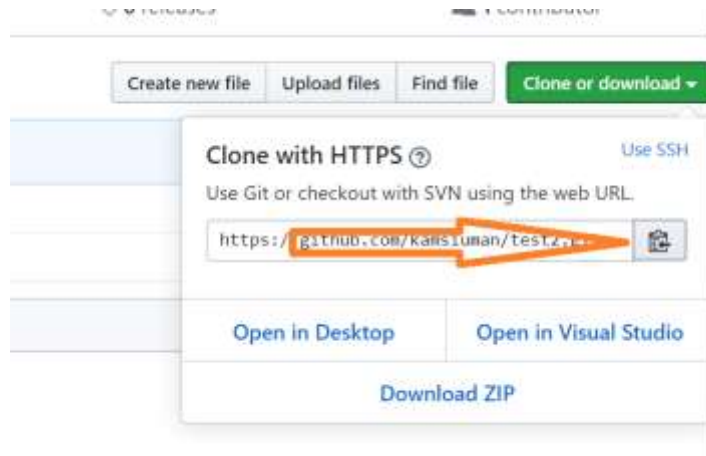
fatal: unable to auto-detect email address (got 'mark@mark-pc.(none)')
PS C:\repos\first-repo> git config --global user.email "markwong50523@gmail.com"
PS C:\repos\first-repo> git config --global user.name "Mark Wong"
PS C:\repos\first-repo>
```

# Basic commands for Everyday Use

- Git help
  - Git add <>
  - Git commit
  - Git push
  - Git pull
  - Git log
- 
- Git branch
  - Git merge
  - Git stash
  - Git reset

# Excerise – Single user scenario

- Create a new repository (repo)
  - 1) create a new repo
    - Public,
    - git-ignore with “java”
    - check-on “ReadMe”
  - 2) Git-clone to local
    - Mkdir C:\repos
    - Get the url from the web site
    - In the PS, type “git clone <pasted-URL>”



# Exercise

- 3) cd into the project directory and type “code .” to open VS code
- 4) create new file p1.java (or text and/or other lang. file type)
  - Add, Commit , Push
  - Verify (the change in the github.com)
  - *\*.class files are 'untrackable/ignore'; why/how to achieve that? What is the reason?*
- 5) Update project
  - Update existing file and create new file
  - Git-Diff to exam the changes before commit
  - Verify
- 6) Repeat a few times
  - Git log
  - Verify
- 7) Rollback to the specific stage
  - Git log (to get the list of the commit)
  - Git checkout <commit-number>
  - Update (add/commit/push) on top of this
  - Verify

# Exercise

- 8) Git Branch
  - Create new branch (git-branch or git checkout -b)
  - Switch
  - Update branch-only
  - Verify
- 9) Git stash
  - Git stash {apply, pop}
- 10) goto Pearadox <https://github.com/Pearadox>
  - try to git-clone a few repos {OffSeasonAutonomousTest, Robot2019, peariscope, etc}(share your comments)
  - Which repo
    - most commits
    - most commits by diff users
    - Most KLOC



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