// First Time Users integrating QT with GitHub

1. Install ssh-askpass (required by QT)
   //note had to install ssh-askpass to get it to work with QtCreator
   $ sudo apt-get install ssh-askpass-gnome ssh-askpass

2. **create GitHub working directory (assumes you're somewhere under home dir. So**
   $ cd ~/
   $ mkdir GitHub_QT_Dev

3. **change dir into your working GitHub directory**
   $cd GitHub_QT_Dev

4. **Initialize GitHub**
   $git init

5. **Configure GitHub (include quotes along with "Your-Name-Here")**
   $ git config –global user.name "Your-Name-Here"
   $ git config –global user.email your.name@xxx.com

   //add editor (so we can add notes to each commit; req'd)
   $ git config –global core.editor gedit

   //to check configuration settings
   $ git config –list

6. **Clone Git Repository into Directory**
   $ git clone https://github.com/Cotton-Engineering/Plastic-Contamination-Src

7. **Add all files into your local Git Repository (required)**

   // then cd into dir with all src files
   $ cd ./Plastic-Contamination-Srce

   //then add all files to local Repository (required)
   $ git add -A

8. **Open Project in QT. QT should now be fully operational with Git [assumes valid QT project was downloaded from GitHub Repository; https://github.com/Cotton-Engineering/Plastic-Contamination-Src]**

9. **To use Git inside QT; goto menu Tools→Git; for more info. See this youtube video: https://www.youtube.com/watch?v=qlPSV7Bs3rE**

Example: pull update down from within QtCReator using QT project: Plastic-Contamination-Src project that was previously setup, per above instructions:

1. **goto menu Tools→Git→Remote_Repository→Pull (this will initiate a pull down from internet GitHub repository and update your local respository. It will prompt you as to what to do with your local copy; best options are "discard" or "stash and pop" [use 2nd if you've made changes you don't want to loose; that way you can reload it later and fork it should you wish to continue that development].**

2. **That’s it; you’ve now updated the project with the latest version from the GitHub repository.**

// ********** more optional cmd line notes below **********

For linking to github with ssh; (not needed for QT)

//generate ssh key (use email for github account)

$ ssh-keygen -t rsa -b 4096 -C “mathew.pelletier@ars.usda.gov”

passphrase: Hello2017

```
//start up ssh-agent
$ eval “$(ssh-agent -s)”
```

//next add ssh private key to ssh-agent
// ssh-add ~/.ssh/id_rsa

//add ssh key to Github account
// copy ssh key to clipboard

```
$ sudo apt-get install xclip
# Downloads and installs xclip. If you don't have `apt-get`, you might need to use
another installer (like `yum`)

$ xclip -sel clip < ~/.ssh/id_rsa.pub
# Copies the contents of the id_rsa.pub file to your clipboard
```

//not sure if we had to do that; we did do this

//from cmd line, in working QT directory, check remote config
$ git remove -v origin

//this should show links to github site

//next do a push from cmd line (it’ll prompt you for username and password)
$ git push origin master

//check
$ git status

//make a change with an editor (like QtCreator)
//check status; should see it knows which files were changed

//have to commit changes to add it to local repository before you can update internet GitHub repository
$ git commit

//to view log's last 2 entries (-p shows differences between commits)
$ git log -p -2

//working with remotes

//show which remotes we have defined
$ git remote -v

//to push changes to remote (origin is name of one of the remotes; typically default name given //by git
$ git push origin master

//To tag a stable version; use
$ git tag -a v1.0 -m "Stable version"

//now lets say you've continued development and ran into a dead-end; to recover the last //stable //version; just recall it via tag version id
$ git checkout v1.0

//alternatively you can undo a commit by using revert
//lets say we have 4 committs and we want to undo the last
//one that has id = 514fbe7
//just run revert to remove it from head. Note: it's still there if you want it
$ git revert 514fbe7