

## Set account name & email

```
C:\>git config --global user.name insungPSG  
C:\>git config --global user.email insung.han@materials.ox.ac.uk
```

## Create **github** folder (e.g. C:\github)

Windows (C:)

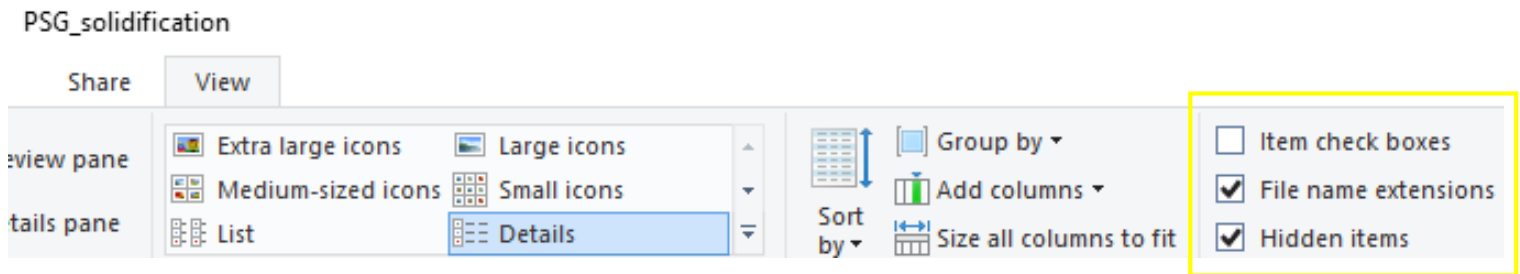
이름	수정한 날짜
Dell	20/10/2020 14:08
Fiji	20/10/2020 14:25
github	21/10/2021 10:43
Intel	20/10/2020 12:35
Logs	12/11/2020 20:16
PerfLogs	07/12/2019 09:14
Program Files	21/10/2021 11:18

## Clone repository

```
C:\>cd C:\github  
C:\github>git clone https://github.com/insungPSG/PSG_solidification.git  
Cloning into 'PSG_solidification'...  
remote: Enumerating objects: 3, done.  
remote: Counting objects: 100% (3/3), done.  
remote: Total 3 (delta 0), reused 0 (delta 0), pack-reused 0  
Receiving objects: 100% (3/3), done.
```


Windows (C:) > github >

이름
PSG_solidification

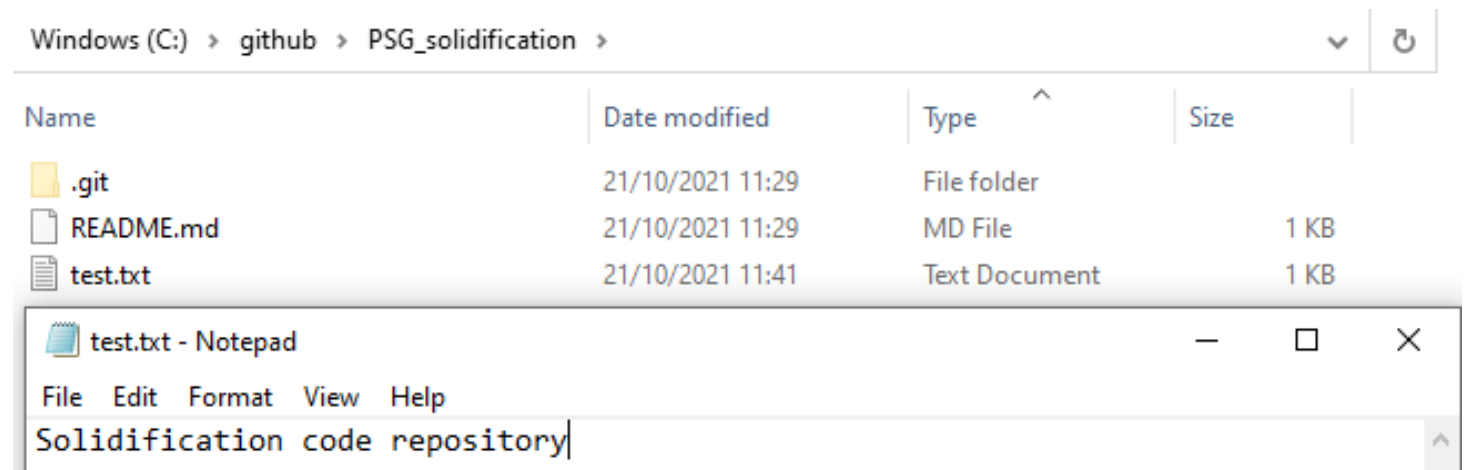


Tick the boxes

.git folder appears

Name	Date modified	Type	Size
 .git	21/10/2021 11:29	File folder	

Upload a file to the repository



Create test.txt file in PSG\_solidification

```
C:\github>cd PSG_solidification
Repository name
C:\github\PSG_solidification>_
```

Add file to the staging area using **git add**

```
C:\github\PSG_solidification>git add test.txt
```

Save file to the local repository from the staging area using **git commit**

```
C:\github\PSG_solidification>git commit -m "Add test file [test.txt]"
[main 133a8fa] Add test file [test.txt]
  Committer: Insung Han <oums1254@materials.ox.ac.uk>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:

    git config --global --edit

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+)
create mode 100644 test.txt
```

Save file to the remote repository using **git push**

```
C:\github\PSG_solidification>git push
info: please complete authentication in your browser...
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 328 bytes | 164.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/insungPSG/PSG_solidification.git
  77e4fb8..133a8fa  main -> main
```

File uploaded on github

The screenshot shows the GitHub interface for the repository 'insungPSG / PSG\_solidification'. The repository is public and has 1 commit. The 'Code' tab is selected, showing the file structure with 'README.md' and 'test.txt'. The commit history shows two commits: 'Initial commit' for 'README.md' 12 hours ago, and 'Add test file [test.txt]' 3 minutes ago by Insung Han.

insungPSG / PSG\_solidification Public

Unwatch 1

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main

Go to file Add file Code

Insung Han Add test file [test.txt] ...		3 minutes ago 2
README.md	Initial commit	12 hours ago
test.txt	Add test file [test.txt]	3 minutes ago

## Check constituent files using `dir`

Windows (C:) > github > PSG\_solidification >

Name	Date modified	Type	Size
.git	21/10/2021 11:53	File folder	
MATLABtest.m	21/10/2021 12:07	MATLAB Code	1 KB
README.md	21/10/2021 11:29	MD File	1 KB
test.txt	21/10/2021 11:41	Text Document	1 KB

```
C:\github\PSG_solidification>dir
Volume in drive C is Windows
Volume Serial Number is FE96-7C95

Directory of C:\github\PSG_solidification

21/10/2021  12:03    <DIR>          .
21/10/2021  12:03    <DIR>          ..
21/10/2021  12:07                27 MATLABtest.m
21/10/2021  11:29                20 README.md
21/10/2021  11:41                30 test.txt
               3 File(s)              77 bytes
               2 Dir(s)  684,161,368,064 bytes free
```

## Check the status of files using `git status`

```
C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

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

nothing added to commit but untracked files present (use "git add" to track)
```

## Add file to the staging area using `git add`

```
C:\github\PSG_solidification>git add MATLABtest.m
C:\github\PSG_solidification>git add .
```

Or we can add all modified files using “.”

```
C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
       new file:   MATLABtest.m
```

Delete file from the staging area using **git reset**

```
C:\github\PSG_solidification>git reset MATLABtest.m

C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

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

nothing added to commit but untracked files present (use "git add" to track)
```

```
C:\github\PSG_solidification>git add .
```

```
C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
       new file:   MATLABtest.m
```

```
C:\github\PSG_solidification>git commit -m "Add MATLAB file [MATLABtest.m]"
[main 6c6f576] Add MATLAB file [MATLABtest.m]
  Committer: Insung Han <oums1254@materials.ox.ac.uk>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:
```

```
    git config --global --edit
```

After doing this, you may fix the identity used for this commit with:

```
    git commit --amend --reset-author
```

```
1 file changed, 2 insertions(+)
create mode 100644 MATLABtest.m
```

```
C:\github\PSG_solidification>git push
Enumerating objects: 4, done.
Counting objects: 100% (4/4), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 365 bytes | 121.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/insungPSG/PSG_solidification.git
133a8fa..6c6f576 main -> main
```

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main Go to file Add file Code

Insung Han Add MATLAB file [MATLABtest.m] ...		1 minute ago 3
MATLABtest.m	Add MATLAB file [MATLABtest.m]	1 minute ago
README.md	Initial commit	12 hours ago
test.txt	Add test file [test.txt]	31 minutes ago

Check the status of files using **git status** before and after editing MATLABtest.m

```
C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

nothing to commit, working tree clean
```

```
C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

Changes not staged for commit:
  (use "git add <file>..." to update what will be committed)
  (use "git restore <file>..." to discard changes in working directory)
        modified:   MATLABtest.m

no changes added to commit (use "git add" and/or "git commit -a")
```

```
C:\github\PSG_solidification>git add MATLABtest.m

C:\github\PSG_solidification>git status
On branch main
Your branch is up to date with 'origin/main'.

Changes to be committed:
  (use "git restore --staged <file>..." to unstage)
        modified:   MATLABtest.m
```

Save the updated file to the local repository  
from the staging area using **git commit**

```
C:\github\PSG_solidification>git commit -m "Update [MATLABtest.m]"
[main 2490922] Update [MATLABtest.m]
Committer: Insung Han <oums1254@materials.ox.ac.uk>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly. Run the
following command and follow the instructions in your editor to edit
your configuration file:






    git config --global --edit


After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

1 file changed, 1 insertion(+), 1 deletion(-)
```


```
C:\github\PSG_solidification>git push
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 4 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 358 bytes | 119.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/insungPSG/PSG_solidification.git
6c6f576..2490922  main -> main
```


	insungPSG Update MATLAB file [MATLABtest.m] ...	31 seconds ago	 5
	MATLABtest.m	Update MATLAB file [MATLABtest.m]	31 seconds ago
	README.md	Initial commit	13 hours ago
	test.txt	Add test file [test.txt]	1 hour ago


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Unwatch 1
Star 0
Fork 0

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Update MATLAB file [MATLABtest.m]
Browse files

 main

 insungPSG committed 5 minutes ago
 1 parent 2490922
 commit 1f0280440a8f37d9a6b2a4f6f636afc0eb4f9692

 Showing 1 changed file with 1 addition and 1 deletion.
 Split
Unified

2
MATLABtest.m

[No Title]

...

...

@@ -1,2 +1,2 @@

1

- i=100;

1


+ i=1000;


2


2

sprintf("dfdsf%d",i)

# Commit history in git

 main
 PSG\_solidification / MATLABtest.m
 Go to file
...

 insungPSG updated
 Latest commit c470d78 3 minutes ago
 History

 1 contributor



















2 lines (2 sloc) | 31 Bytes

Raw

Blame

1 i=1000000;  
2 sprintf("dfdsf%d",i)

History for PSG\_solidification / MATLABtest.m

Commits on Oct 21, 2021	
updated	
 insungPSG committed 4 minutes ago	 c470d78  <>
Update MATLAB file123 [MATLABtest.m]	
 insungPSG committed 5 minutes ago	 d3964d6  <>
update	
 insungPSG committed 6 minutes ago	 c874e05  <>
Update MATLAB file [MATLABtest.m]	
 insungPSG committed 20 minutes ago	 1f02804  <>
Update [MATLABtest.m]	
 insungPSG committed 28 minutes ago	 2490922  <>
Add MATLAB file [MATLABtest.m]	
 insungPSG committed 40 minutes ago	 6c6f576  <>



## Commit history in cmd using **git log**

```
C:\github\PSG_solidification>git log
commit c470d783095ca022f7fbc9cd703990b70d031f62 (HEAD -> main, origin/main, origin/HEAD)
Author: Insung Han <oums1254@materials.ox.ac.uk>
Date: Thu Oct 21 13:00:18 2021 +0100

    updated

commit d3964d6c8be283485ccde230e4c7104e1ffc9439
Author: Insung Han <oums1254@materials.ox.ac.uk>
Date: Thu Oct 21 12:58:58 2021 +0100

    Update MATLAB file123 [MATLABtest.m]

commit c874e055d2e3b8aeb060bd1aa76ccb948cfe220c
Author: Insung Han <oums1254@materials.ox.ac.uk>
Date: Thu Oct 21 12:57:37 2021 +0100

    update
```

Press “q” to exit

## Return to the specific time of “commit” using **git reset**

```
C:\github\PSG_solidification>git reset --hard d3964d6c8be283485ccde230e4c7104e1ffc9439
HEAD is now at d3964d6 Update MATLAB file123 [MATLABtest.m]

C:\github\PSG_solidification>
```

Hard → delete everything after the point of specific “commit”

Soft → no “commit” history deleted

(no option) → Initialize the staging area, no “commit” history deleted

```
C:\github\PSG_solidification>git log
commit d3964d6c8be283485ccde230e4c7104e1ffc9439 (HEAD -> main)
Author: Insung Han <oums1254@materials.ox.ac.uk>
Date: Thu Oct 21 12:58:58 2021 +0100

    Update MATLAB file123 [MATLABtest.m]

commit c874e055d2e3b8aeb060bd1aa76ccb948cfe220c
Author: Insung Han <oums1254@materials.ox.ac.uk>
Date: Thu Oct 21 12:57:37 2021 +0100

    update
```

```
C:\github\PSG_solidification>git push
To https://github.com/insungPSG/PSG_solidification.git
! [rejected]        main -> main (non-fast-forward)
error: failed to push some refs to 'https://github.com/insungPSG/PSG_solidification.git'
hint: Updates were rejected because the tip of your current branch is behind
hint: its remote counterpart. Integrate the remote changes (e.g.
hint: 'git pull ...') before pushing again.
hint: See the 'Note about fast-forwards' in 'git push --help' for details.
```

The structures of local repository and remote repository are now different because we changed the “commit history”

force push with **-f**

```
C:\github\PSG_solidification>git push -f
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/insungPSG/PSG_solidification.git
+ c470d78...d3964d6 main -> main (forced update)
```

Compare the updated history with the previous history

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History for PSG\_solidification / MATLABtest.m

Commits on Oct 21, 2021

Update MATLAB file123 [MATLABtest.m] insungPSG committed 26 minutes ago	d3964d6
update insungPSG committed 28 minutes ago	c874e05
Update MATLAB file [MATLABtest.m] insungPSG committed 42 minutes ago	1f02804
Update [MATLABtest.m] insungPSG committed 1 hour ago	2490922
Add MATLAB file [MATLABtest.m] insungPSG committed 1 hour ago	6c6f576

If you made a mistake when you change “commit” or want to sync the local repository with the remote repository you can use **git pull**

```
C:\github\PSG_solidification>git pull
Updating 133a8fa..1f02804
Fast-forward
 MATLABtest.m | 2 ++
 1 file changed, 2 insertions(+)
 create mode 100644 MATLABtest.m
```

## Modify commit message (UNIX editor)

```
C:\github\PSG_solidification>git commit --amend
```

```
Author: Insung Han <oums1254@materials.ox.ac.uk>  
Date: Thu Oct 21 12:23:26 2021 +0100
```

```
Add MATLAB file [MATLABtest.m]
```

```
commit 133a8fa982b6d91ea0c544804e2a884f1114c65e
```

```
Author: Insung Han <oums1254@materials.ox.ac.uk>  
Date: Thu Oct 21 11:53:46 2021 +0100
```

```
Update MATLAB file [MATLABtest.m]
```

```
# Please enter the commit message for your changes. Lines starting  
# with '#' will be ignored, and an empty message aborts the commit.  
#  
# Date: Thu Oct 21 12:43:43 2021 +0100  
# Committer: Insung Han <oums1254@materials.ox.ac.uk>  
#  
# On branch main  
# Your branch is up to date with 'origin/main'.  
#  
# Changes to be committed:  
#   modified:   MATLABtest.m  
#  
# Untracked files:  
#   df  
#
```

Press “a” to edit

```
Updat MATLAB files 1111 qqqq
```

```
# Please enter the commit message for your changes. Lines starting  
# with '#' will be ignored, and an empty message aborts the commit.  
#  
# Date: Thu Oct 21 12:43:43 2021 +0100  
# Committer: Insung Han <oums1254@materials.ox.ac.uk>  
#  
# On branch main  
#daddad
```

Press “esc” and enter :wq! (back to cmd)

```
C:\github\PSG_solidification>git push -f  
Enumerating objects: 5, done.  
Counting objects: 100% (5/5), done.  
Delta compression using up to 4 threads  
Compressing objects: 100% (2/2), done.  
Writing objects: 100% (3/3), 414 bytes | 207.00 KiB/s, done.  
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0  
To https://github.com/insungPSG/PSG_solidification.git  
+ 1f02804...d4ed901 main -> main (forced update)
```