Software Engineering TP Report

Git Version Control System

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Nassim Lazrek

nassim.lazrek@um6p.ma

Contents

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2   Configuring Your Git Account

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git init
hint:  Using 'master' as the name for the initial branch.  This default branch
name
hint:  is subject to change.  To configure the initial branch name to use in all
hint:  of your new repositories, which will suppress this warning, call:
hint:
hint:          git config -global init.defaultBranch <name>
hint:
hint:  Names commonly chosen instead of 'master' are 'main', 'trunk' and
hint:  'development'.  The just-created branch can be renamed via this command:
hint:
hint:          git branch -m <name>
Initialized empty Git repository in /mnt/c/Users/nassi/Desktop/tpgit/.git/
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git config user.name
"Lazrek Nassim"
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git config user.email
"nassim.lazrek@um6p.ma"
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat  /.gitconfig
user

email = nassim.lazrek@um6p.ma
name = Lazrek Nassim
```

3   Initializing a Git Repository

3.1   Adding Apple to fruits.txt and Making a Commit

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch fruits.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

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

nothing added to commit but untracked files present (use "git add" to track)
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
(use "git rm -cached <file>..." to unstage)
new file:  fruits.txt
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "apple" »
fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
(use "git rm -cached <file>..." to unstage)
new file:   fruits.txt

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:   fruits.txt
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master

No commits yet

Changes to be committed:
(use "git rm -cached <file>..." to unstage)
new file:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "added
apple top fruits"
master (root-commit) 1550279
added apple top fruits
1 file changed, 1 insertion(+)
create mode 100644 fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 15502791ba82b06b782748561a9e8298f0ca7f56 (HEAD -> master)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

3.2 Adding Banana to Fruits and Making a Commit

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
nothing to commit, working tree clean
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "banana" »
fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
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:   fruits.txt

no changes added to commit (use "git add" and/or "git commit -a")
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
Changes to be committed:
(use "git restore -staged <file>..." to unstage)
modified:   fruits.txt

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "added
banana to fruits.txt"
master 68cf8a6
added banana to fruits.txt
1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git status
On branch master
nothing to commit, working tree clean
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 68cf8a6ba7d5ba6db1357857c5abbb4c73cde3d55 (HEAD -> master)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

added apple top fruits
```

3.3   Adding Orange, Mango and Kiwi to fruits.txt

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log -graph -oneline
-decorate -all
* 610a167 (HEAD -> master) added kiwi to fruits.txt
* 6f56cc3 added mango to fruits.txt
* 0ddf633 added orange to fruits.txt
* 68cf8a6 added banana to fruits.txt
* 1550279 added apple top fruits
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 610a167271d18e3d77bb2921cfca75b00bc92bc80 (HEAD -> master)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt

commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt

commit 0ddf633f06cd832f536c6412dd65a39db359dd4b
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:33:49 2025 +0100

    added orange to fruits.txt

commit 68cf8a6ba7d5ba6db1357857c5abbb4c73cde3d55
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

4   Git Branches

4.1   Branch: vegetables

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b
vegetables
Switched to a new branch 'vegetables'
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
master
* vegetables
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "carrot" »
vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add
carrot to vegetables.txt"
vegetables 804611d
Add carrot to vegetables.txt
1 file changed, 1 insertion(+)
create mode 100644 vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "broccoli" »
vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Added
broccoli to vegetables.txt"
vegetables ae396f2
Added broccoli to vegetables.txt
1 file changed, 1 insertion(+)
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "spinach" »
vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Added
spinach to vegetables.txt"
vegetables a46ed78
Added spinach to vegetables.txt
1 file changed, 1 insertion(+)
```

4.2 Checking the Log

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit a46ed7895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> vegetables)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt

commit ae396f26cca1c51d2bb7137979e9a1bceb2397ad
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:46:11 2025 +0100

    Added broccoli to vegetables.txt

commit 804611d55121305ee92b22963fd697d7b70546af
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:45:12 2025 +0100

    Add carrot to vegetables.txt

commit 610a167271d18e3d77bb2921cfca75b00bc92bc80 (master)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:37:25 2025 +0100

    added kiwi to fruits.txt
```

4.3 Branch: sauces

```
commit 6f56cc3593ac3a78ad410531bacb7dc5b91fde41
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:36:26 2025 +0100

    added mango to fruits.txt

commit 0ddf633f06cd832f536c6412dd65a39db359dd4b
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:33:49 2025 +0100

    added orange to fruits.txt

commit 68cf8a6ba7d5ba6db1357857c5abbb4c73cde3d55
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:30:58 2025 +0100

    added banana to fruits.txt

commit 15502791ba82b06b782748561a9e8298f0ca7f56
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:27:17 2025 +0100

    added apple top fruits
```

5   Git Merges

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt       vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b sauces
Switched to a new branch 'sauces'
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch sauces.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "ketchup" »
sauces.txt
git add sauces.txt
git commit -m "Add ketchup to sauces list"
sauces 1c92787
Add ketchup to sauces list
1 file changed, 1 insertion(+)
create mode 100644 sauces.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "mustard" »
sauces.txt
git add sauces.txt
git commit -m "Add mustard to sauces list"
sauces 273feae
Add mustard to sauces list
1 file changed, 1 insertion(+)
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
master
* sauces
vegetables
```

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 273feae449e57894aa6dbae32c9e3ca1a13dcdbd (HEAD -> sauces)
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:41 2025 +0100

    Add mustard to sauces list

commit 1c92787733935c43e07a22465596e7f7550e9067
Author:  Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:28 2025 +0100

    Add ketchup to sauces list
```

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout vegetables
Switched to branch 'vegetables'
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt      vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge master
Already up to date.
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout master
Switched to branch 'master'
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge vegetables
Updating 610a167..a46ed78
Fast-forward
vegetables.txt | 3 +++
1 file changed, 3 insertions(+)
create mode 100644 vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit a46ed7895f0e4c5539946ff13d9bf8061bd49210 (HEAD -> master, vegetables)
Author:   Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt
```

6   Remote Repository

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git merge sauces
Updating a46ed478..273feae
Fast-forward
sauces.txt | 2 ++
1 file changed, 2 insertions(+)
create mode 100644 sauces.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt       q       sauces.txt       vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git branch
* master
sauces
vegetables
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log
commit 273feae449e57894aa6dbae32c9e3ca1a13dcdbd (HEAD -> master, sauces)
Author:   Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:41 2025 +0100

    Add mustard to sauces list

commit 1c92787733935c43e07a22465596e7f7550e9067
Author:   Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:52:28 2025 +0100

    Add ketchup to sauces list

commit a46ed7895f0e4c5539946ff13d9bf8061bd49210 (vegetables)
Author:   Lazrek Nassim <nassim.lazrek@um6p.ma>
Date:   Thu Sep 25 19:47:10 2025 +0100

    Added spinach to vegetables.txt
```

7 Merge without Conflict

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote add origin
https://github.com/p3w-p3w-alpha/tpgit.git
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote -v
origin          https://github.com/p3w-p3w-alpha/tpgit.git (fetch)
origin          https://github.com/p3w-p3w-alpha/tpgit.git (push)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote add origin
https://github.com/p3w-p3w-alpha/tpgit.git
error:  remote origin already exists.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git remote -v
origin          https://github.com/p3w-p3w-alpha/tpgit.git (fetch)
origin          https://github.com/p3w-p3w-alpha/tpgit.git (push)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push -u origin
master
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects:  30, done.
Counting objects:  100% (30/30), done.
Delta compression using up to 22 threads
Compressing objects:  100% (15/15), done.
Writing objects:  100% (30/30), 2.54 KiB | 8.00 KiB/s, done.
Total 30 (delta 1), reused 0 (delta 0), pack-reused 0
remote:  Resolving deltas:  100% (1/1), done.
To https://github.com/p3w-p3w-alpha/tpgit.git
* [new branch]          master -> master
branch 'master' set up to track 'origin/master'.
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout -b spices
Switched to a new branch 'spices'
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ touch spices.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ echo "cinnamon" »
spices.txt
git add spices.txt
git commit -m "Add cinnamon to spices list"

echo "paprika" » spices.txt
git add spices.txt
git commit -m "Add paprika to spices list"
ices ecffa7f
Add cinnamon to spices list
1 file changed, 1 insertion(+)
create mode 100644 spices.txt
ices db188c0
Add paprika to spices list
1 file changed, 1 insertion(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git checkout master
git merge spices
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
Updating 273feae..db188c0
Fast-forward
spices.txt | 2 ++
1 file changed, 2 insertions(+)
create mode 100644 spices.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects:  7, done.
Counting objects:  100% (7/7), done.
Delta compression using up to 22 threads
Compressing objects:  100% (4/4), done.
Writing objects:  100% (6/6), 555 bytes | 39.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote:  Resolving deltas:  100% (2/2), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
273feae..db188c0       master -> master
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ ls
fruits.txt       q        sauces.txt        spices.txt        vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log -oneline
db188c0 (HEAD -> master, origin/master, spices) Add paprika to spices list
ecffa7f Add cinnamon to spices list
273feae (sauces) Add mustard to sauces list
1c92787 Add ketchup to sauces list
a46ed78 (vegetables) Added spinach to vegetables.txt
ae396f2 Added broccoli to vegetables.txt
804611d Add carrot to vegetables.txt
610a167 added kiwi to fruits.txt
6f56cc3 added mango to fruits.txt
0ddf633 added orange to fruits.txt
68cf8a6 added banana to fruits.txt
1550279 added apple top fruits
```

8   Merge with Conflict

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull
remote:  Enumerating objects:  10, done.
remote:  Counting objects:  100% (10/10), done.
remote:  Compressing objects:  100% (3/3), done.
remote:  Total 8 (delta 3), reused 8 (delta 3), pack-reused 0 (from 0)
Unpacking objects:  100% (8/8), 768 bytes | 8.00 KiB/s, done.
From https://github.com/p3w-p3w-alpha/tpgit
db188c0..546023e        master                          -> origin/master
Updating db188c0..546023e
Fast-forward
herbs.txt | Bin 0 -> 34 bytes
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 herbs.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git log -oneline
546023e (HEAD -> master, origin/master) Merge branch 'master' of
https://github.com/p3w-p3w-alpha/tpgit
870fa99        add oregano to herbs list
405bafd add basil to herbs list
db188c0 (spices) Add paprika to spices list
ecffa7f Add cinnamon to spices list
273feae (sauces) Add mustard to sauces list
1c92787 Add ketchup to sauces list
a46ed78 (vegetables) Added spinach to vegetables.txt
ae396f2 Added broccoli to vegetables.txt
804611d Add carrot to vegetables.txt
610a167 added kiwi to fruits.txt
6f56cc3 added mango to fruits.txt
0ddf633 added orange to fruits.txt
68cf8a6 added banana to fruits.txt
1550279 added apple top fruits
```

8.1   Reverse Roles

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
* branch                      master              -> FETCH_HEAD
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat fruits.txt
apple
banana
orange
strawberry
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
* branch                      master              -> FETCH_HEAD
Already up to date.
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat fruits.txt
apple
banana
orange
strawberry
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add fruits.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add
orange and strawberry to fruits"
master 72900bc
Add orange and strawberry to fruits
1 file changed, 1 insertion(+), 2 deletions(-)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects:  5, done.
Counting objects:  100% (5/5), done.
Delta compression using up to 22 threads
Compressing objects:  100% (2/2), done.
Writing objects:  100% (3/3), 324 bytes | 32.00 KiB/s, done.
Total 3 (delta 1), reused 0 (delta 0), pack-reused 0
remote:  Resolving deltas:  100% (1/1), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
546023e..72900bc        master -> master
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
remote:  Enumerating objects:  10, done.
remote:  Counting objects:  100% (10/10), done.
remote:  Compressing objects:  100% (2/2), done.
remote:  Total 6 (delta 2), reused 6 (delta 2), pack-reused 0 (from 0)
Unpacking objects:  100% (6/6), 623 bytes | 11.00 KiB/s, done.
From https://github.com/p3w-p3w-alpha/tpgit
* branch                      master                  -> FETCH_HEAD
72900bc..ce1938d        master              -> origin/master
Updating 72900bc..ce1938d
Fast-forward
fruits.txt | 2 ++
1 file changed, 2 insertions(+)
```

8.2   Resolving the Conflict

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Add
lettuce and pepper to vegetables"
master 4d422e7b
Add lettuce and pepper to vegetables
1 file changed, 2 insertions(+)
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
To https://github.com/p3w-p3w-alpha/tpgit.git
 ! [rejected]                      master -> master (fetch first)
error:  failed to push some refs to 'https://github.com/p3w-p3w-alpha/tpgit.git'
hint:  Updates were rejected because the remote contains work that you do not
hint:  have locally.  This is usually caused by another repository pushing to
hint:  the same ref.  If you want to integrate the remote changes, use
hint:  'git pull' before pushing again.
hint:  See the 'Note about fast-forwards' in 'git push -help' for details.

nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git pull origin master
From https://github.com/p3w-p3w-alpha/tpgit
* branch                     master              -> FETCH_HEAD
Auto-merging vegetables.txt
CONFLICT (content):  Merge conflict in vegetables.txt
Automatic merge failed; fix conflicts and then commit the result.
```

```
nassim@DESKTOP-NC0VTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat vegetables.txt
carrot
broccoli
spinach
<<<< HEAD
lettuce
pepper
=======
cucumber
tomato
>>>> 133dcebabef11d648bdf4d70eb921730be549ae3
```

The conflict resolution involved manually editing the file to combine both sets of changes, removing the conflict markers, and creating a merge commit:

```
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ nano vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git add vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git commit -m "Resolve
merge conflict in vegetables.txt"
master 552882b
Resolve merge conflict in vegetables.txt
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ git push origin master
Username for 'https://github.com':  p3w-p3w-alpha
Password for 'https://p3w-p3w-alpha@github.com':
Enumerating objects:  10, done.
Counting objects:  100% (10/10), done.
Delta compression using up to 22 threads
Compressing objects:  100% (5/5), done.
Writing objects:  100% (6/6), 637 bytes | 45.00 KiB/s, done.
Total 6 (delta 2), reused 0 (delta 0), pack-reused 0
remote:  Resolving deltas:  100% (2/2), completed with 1 local object.
To https://github.com/p3w-p3w-alpha/tpgit.git
133dceb..552882b        master -> master
nassim@DESKTOP-NCOVTPK:/mnt/c/Users/nassi/Desktop/tpgit$ cat vegetables.txt
carrot
broccoli
spinach
lettuce
pepper
cucumber
tomato
```