

# GIT ASSIGNMENT SUBMISSION

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**Assignment:** Git – Branch Merging & Code Synchronization

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## Problem Statement

You are required to work with multiple Git branches, perform commits, merge code between branches, and keep all branches updated by synchronizing changes across master, public, and private branches.

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## Environment Used

All Git tasks were performed on an Amazon Linux EC2 instance using the EC2 Instance Connect terminal.

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## Tasks Performed

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### Task 1: Put master.txt on master branch, stage and commit

#### Steps Taken:

1. Initialized the Git repository and created master.txt:

```
git init -b master
```

```
touch master.txt
```

```
echo "Master file content" > master.txt
```

```
git add master.txt
```

```
git commit -m "Added master.txt on master branch"
```

```
[ec2-user@ip-10-0-3-185 ~]$ git init -b master
Initialized empty Git repository in /home/ec2-user/.git/
[ec2-user@ip-10-0-3-185 ~]$ touch master.txt
[ec2-user@ip-10-0-3-185 ~]$ echo "Master file content" > master.txt
[ec2-user@ip-10-0-3-185 ~]$ git add master.txt
[ec2-user@ip-10-0-3-185 ~]$ git commit -m "Added master.txt on master branch"
[master (root-commit) 1ff903d] Added master.txt on master branch
Committer: EC2 Default User <ec2-user@ip-10-0-3-185.ec2.internal>
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 master.txt
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 2: Create three branches – public1, public2, and private

### Steps Taken:

`git branch public1`

`git branch public2`

`git branch private`

```
[ec2-user@ip-10-0-3-185 ~]$ git branch public1
git branch public2
git branch private
[ec2-user@ip-10-0-3-185 ~]$ git branches
git: 'branches' is not a git command. See 'git --help'.
[ec2-user@ip-10-0-3-185 ~]$ git branch
* master
  private
  public1
  public2
[ec2-user@ip-10-0-3-185 ~]$
```

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### Task 3: Put public1.txt on public1 branch, stage and commit

#### Steps Taken:

`git checkout public1`

`echo "Public 1 file" > public1.txt`

`git add public1.txt`

`git commit -m "Added public1.txt in public1 branch"`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout public1
Switched to branch 'public1'
[ec2-user@ip-10-0-3-185 ~]$ echo "public 1 file" > public1.txt
[ec2-user@ip-10-0-3-185 ~]$ git add public1.txt
[ec2-user@ip-10-0-3-185 ~]$ git commit -m "public1.txt file added in public1 branch"
[public1 2458a30] public1.txt file added in public1 branch
  Committer: EC2 Default User <ec2-user@ip-10-0-3-185.ec2.internal>
  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 public1.txt
[ec2-user@ip-10-0-3-185 ~]$
```

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### Task 4: Merge public1 into master

#### Steps Taken:

`git checkout master`

`git merge public1`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout master
Switched to branch 'master'
[ec2-user@ip-10-0-3-185 ~]$ git merge public1
Updating 1ff903d..2458a30
Fast-forward
 public1.txt | 1 +
1 file changed, 1 insertion(+)
create mode 100644 public1.txt
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 5: Merge public2 into master

### Steps Taken:

1. Added file in public2 branch:

```
git checkout public2
```

```
echo "Public 2 file" > public2.txt
```

```
git add public2.txt
```

```
git commit -m "Added public2.txt in public2 branch"
```

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout public2
Switched to branch 'public2'
[ec2-user@ip-10-0-3-185 ~]$ echo "publicf 2 file" > public2.txt
[ec2-user@ip-10-0-3-185 ~]$ rm -rf echo "publicf 2 file" > public2.txt
[ec2-user@ip-10-0-3-185 ~]$ echo "public 2 file" > public2.txt
[ec2-user@ip-10-0-3-185 ~]$ git add public2.txt
[ec2-user@ip-10-0-3-185 ~]$ git commit -m "public2.txt file added in public2 branch"
[public2 6296144] public2.txt file added in public2 branch
Committer: EC2 Default User <ec2-user@ip-10-0-3-185.ec2.internal>
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 public2.txt
[ec2-user@ip-10-0-3-185 ~]$
```

2. Merged into master:

```
git checkout master
```

```
git merge public2
```

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout master
Switched to branch 'master'
[ec2-user@ip-10-0-3-185 ~]$ git merge public2
Merge made by the 'ort' strategy.
 public2.txt | 1 +
1 file changed, 1 insertion(+)
create mode 100644 public2.txt
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 6: Edit master.txt on private branch, stage and commit

### Steps Taken:

`git checkout private`

`echo "Updated master text from private branch" >> master.txt`

`git add master.txt`

`git commit -m "Updated master.txt from private branch"`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout private
Switched to branch 'private'
[ec2-user@ip-10-0-3-185 ~]$ echo "Updated master text from private branch" >> master.txt
[ec2-user@ip-10-0-3-185 ~]$ git add master.txt
[ec2-user@ip-10-0-3-185 ~]$ git commit -m "Updated master.txt from private branch"
[private b192b06] Updated master.txt from private branch
  Committer: EC2 Default User <ec2-user@ip-10-0-3-185.ec2.internal>
  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(+)
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 7: Update public1 and public2 branches with new master code from private

### Steps Taken:

#### Public1 update:

`git checkout public1`

`git merge private`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout public1
Switched to branch 'public1'
[ec2-user@ip-10-0-3-185 ~]$ git merge private
Merge made by the 'ort' strategy.
  master.txt | 1 +
  1 file changed, 1 insertion(+)
[ec2-user@ip-10-0-3-185 ~]$
```

## Public2 update:

`git checkout public2`

`git merge private`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout public2
Switched to branch 'public2'
[ec2-user@ip-10-0-3-185 ~]$ git merge private
Merge made by the 'ort' strategy.
 master.txt | 1 +
 1 file changed, 1 insertion(+)
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 8: Update master with new changes from private

### Steps Taken:

`git checkout master`

`git merge private`

```
[ec2-user@ip-10-0-3-185 ~]$ git checkout master
Switched to branch 'master'
[ec2-user@ip-10-0-3-185 ~]$ git merge private
Merge made by the 'ort' strategy.
 master.txt | 1 +
 1 file changed, 1 insertion(+)
[ec2-user@ip-10-0-3-185 ~]$
```

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## Task 9: Finally update all code on the private branch

### Steps Taken:

`git checkout private`

`git merge master`

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```
[ec2-user@ip-10-0-3-185 ~]$ git checkout private
Switched to branch 'private'
[ec2-user@ip-10-0-3-185 ~]$ git merge master
Updating b192b06..c5c6e38
Fast-forward
 public1.txt | 1 +
 public2.txt | 1 +
 2 files changed, 2 insertions(+)
 create mode 100644 public1.txt
 create mode 100644 public2.txt
[ec2-user@ip-10-0-3-185 ~]$
```

## Conclusion

Successfully completed all Git operations including branching, file creation, merging between multiple branches, and synchronizing updates across master, public, and private branches. This assignment demonstrates clear understanding of Git branch management and merge workflows.