

Case Study 1 - Git Workflow - Method - 1

Problem Statement:

You work as a DevOps Architect in Zendrix Softwares. The company has been struggling to manage their product releases. The releases should happen on the 25th of every month. Suggest a Git workflow architecture for this requirement.

Simulate this workflow by creating pseudo code files and branches and upload the same to your GitHub account.

As a part of the solution, share the link to your GitHub repository.

Solution:-

I suggest git workflow for this task git flow work flow. For this Git-flow we used the given below steps:-

```
$ sudo su
# apt update
```

```
ubuntu@Git-CaseStudy-1-Mtd-1:~$ sudo su
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# apt update
Hit:1 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy InRelease
Get:2 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-updates InRelease [119 kB]
Get:3 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy-backports InRelease [108 kB]
Get:4 http://security.ubuntu.com/ubuntu jammy-security InRelease [110 kB]
Get:5 http://us-east-1.ec2.archive.ubuntu.com/ubuntu jammy/universe amd64 Packages [14.1 MB]
```

```
# apt upgrade
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# apt upgrade
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
Calculating upgrade... Done
#
# An OpenSSL vulnerability has recently been fixed with USN-6188-1 & 6119-1:
# CVE-2023-2650: possible DoS translating ASN.1 object identifiers.
# Ensure you have updated the package to its latest version.
#
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
```

```
# apt install git
# which git
# git --version
# git config --global user.name "Amit Tiwari"
# git config --global user.email "redhat.amitiwari@gmail.com"
# git config --list
```

```

root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# apt install git
Reading package lists... Done
Building dependency tree... Done
Reading state information... Done
git is already the newest version (1:2.34.1-1ubuntu1.9).
git set to manually installed.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# which git
/usr/bin/git
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# git --version
git version 2.34.1
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# git config --global user.name "Amit Tiwari"
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# git config --global user.email "redhat.amitiwari@gmail.com"
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# git config --list
user.name=Amit Tiwari
user.email=redhat.amitiwari@gmail.com

```

* Simulate this workflow by creating pseudo code files and branches:-

```

# mkdir gitdir
# cd gitdir
# git init

```

```

root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# mkdir gitdir
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu# cd gitdir
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# 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 /home/ubuntu/gitdir/.git/

```

```

# touch master.txt
# git status

```

```

root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# touch master.txt
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git status
On branch master

No commits yet

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

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

```

```
# git add master.txt && git commit -m "Master file commit."  
master.txt
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add master.txt && git commit  
-m "Master file commit." master.txt  
[master (root-commit) fba10a5] Master file commit.  
1 file changed, 0 insertions(+), 0 deletions(-)  
create mode 100644 master.txt
```

```
# git status  
# git branch develop  
# git checkout develop  
# touch develop.txt  
# git add develop.txt && git commit -m "Develop file commit."  
develop.txt  
# git branch feature1  
# git branch feature2  
# git branch
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git status  
On branch master  
nothing to commit, working tree clean  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch develop  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout develop  
Switched to branch 'develop'  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# touch develop.txt  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add develop.txt && git commit  
-m "Develop file commit." develop.txt  
[develop cdd09fd] Develop file commit.  
1 file changed, 0 insertions(+), 0 deletions(-)  
create mode 100644 develop.txt  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch feature1  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch feature2  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch  
* develop  
feature1  
feature2  
master
```

```
# git checkout feature1  
# touch f1.txt  
# git add . && git commit -m "f1.txt file commit." f1.txt
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout feature1  
Switched to branch 'feature1'  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# touch f1.txt  
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add . && git commit -m "f1.t  
xt file commit." f1.txt  
[feature1 35a64f9] f1.txt file commit.  
1 file changed, 0 insertions(+), 0 deletions(-)  
create mode 100644 f1.txt
```

```
# git checkout feature2
# git branch
# touch f2.txt
# git add . && git commit -m "f2.txt file commit." f2.txt
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout feature2
Switched to branch 'feature2'
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch
  develop
  feature1
* feature2
  master
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# touch f2.txt
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add . && git commit -m "f2.t
xt file commit." f2.txt
[feature2 3330870] f2.txt file commit.
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 f2.txt
```

```
# git checkout develop
# git branch
# git merge feature1 && git merge feature2
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout develop
Switched to branch 'develop'
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git branch
* develop
  feature1
  feature2
  master
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git merge feature1 && git merge
feature2
Updating cdd09fd..35a64f9
Fast-forward
 f1.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 f1.txt
Merge made by the 'ort' strategy.
 f2.txt | 0
 1 file changed, 0 insertions(+), 0 deletions(-)
 create mode 100644 f2.txt
```



```
# echo "Editing f2 file." >> f2.txt
# git add . && git commit -m "f2.txt file re-commit" f2.txt
# git checkout master
# git merge develop
```

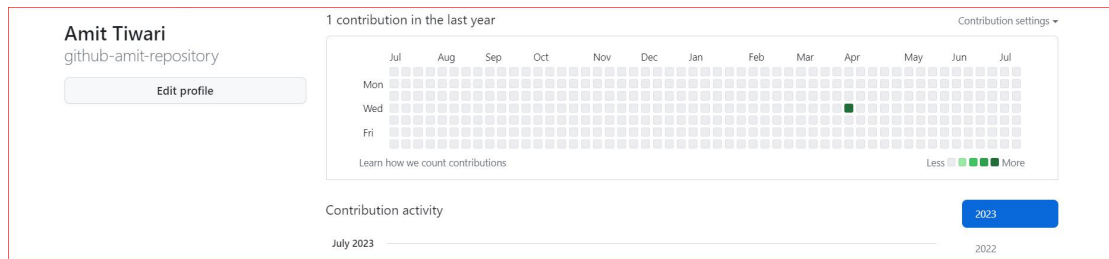
```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# echo "Editing f2 file." >> f2.txt
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add . && git commit -m "f2.txt
xt file re-commit." f2.txt
[develop c5023b6] f2.txt file re-commit.
1 file changed, 1 insertion(+)
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout master
Switched to branch 'master'
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git merge develop
Updating fba10a5..c5023b6
Fast-forward
 develop.txt | 0
  f1.txt      | 0
  f2.txt      | 1 +
3 files changed, 1 insertion(+)
create mode 100644 develop.txt
create mode 100644 f1.txt
create mode 100644 f2.txt
```

```
# git checkout -b hotfix
# touch h.txt
# git add h.txt && git commit -m "last minute very less addition and
also we do not need to merge develop branch to master branch
again. h.txt file re-commit." h.txt
# git checkout master
# git merge hotfix
```

```
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout -b hotfix
Switched to a new branch 'hotfix'
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# touch h.txt
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git add h.txt && git commit -m "
last minute very less addition and also we do not need to merge develop branch t
o master branch again. h.txt file re-commit." h.txt
[hotfix 566e981] last minute very less addition and also we do not need to merge
develop branch to master branch again. h.txt file re-commit.
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 h.txt
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git checkout master
Switched to branch 'master'
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git merge hotfix
Updating c5023b6..566e981
Fast-forward
 h.txt | 0
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 h.txt
```

* Upload the same to your GitHub account.

* Create github account



* github account login

The screenshot shows the GitHub login page with the GitHub logo and the text 'Sign in to GitHub'. The login form includes fields for 'Username or email address' (containing 'github-amit-repository') and 'Password' (masked with dots). A 'Forgot password?' link is next to the password field. A green 'Sign in' button is at the bottom.

The screenshot shows the 'Create a new repository' page. It includes a title 'Create a new repository', a description of a repository, and a link to 'Import a repository'. Below this, it asks for the 'Owner' (selected as 'github-amit-repository') and the 'Repository name' (entered as 'Case_Study_1-Git_Workflo'). A green checkmark indicates that the name is available. There is also a suggestion for a repository name: 'upgraded-palm-tree'. The 'Description' field is optional. At the bottom, there are two radio buttons for 'Public' (selected) and 'Private' repository settings.

Case_Study_1-Git_Workflow-Method-1
Public
Pin
Unwatch 1
Fork 0
Star 0

Set up GitHub Copilot
 Use GitHub's AI pair programmer to autocomplete suggestions as you code.

Invite collaborators
 Find people using their GitHub username or email address.

Quick setup — if you've done this kind of thing before

Set up in Desktop
 or
 HTTPS
 SSH

Get started by creating a new file or uploading an existing file. We recommend every repository include a README, LICENSE, and .gitignore.

...or create a new repository on the command line

```

echo "# Case_Study_1-Git_Workflow-Method-1" >> README.md
git init
git add README.md
    
```

```
# git remote add origin "https://github.com/github-amit-repository/Case_Study_1-Git_Workflow-Method-1.git"
# git push origin master
```

```

root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git remote add origin "https://github.com/github-amit-repository/Case_Study_1-Git_Workflow-Method-1.git"
root@Git-CaseStudy-1-Mtd-1:/home/ubuntu/gitdir# git push origin master
Username for 'https://github.com': github-amit-repository
Password for 'https://github.com':
Enumerating objects: 16, done.
Counting objects: 100% (16/16), done.
Compressing objects: 100% (13/13), done.
Writing objects: 100% (16/16), 1.44 KiB | 739.00 KiB/s, done.
Total 16 (delta 6), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (6/6), done.
To https://github.com/github-amit-repository/Case_Study_1-Git_Workflow-Method-1.git
* [new branch]      master -> master
    
```

Case_Study_1-Git_Workflow-Method-1
Public

master
1 branch
0 tags
Go to file
Add file
Code

github-amit-repository last minute very less addition and also we do not need to m... 566e981 11 minutes ago 7 commits

develop.txt	Develop file commit.	23 minutes ago
f1.txt	f1.txt file commit.	21 minutes ago
f2.txt	f2.txt file re-commit.	14 minutes ago
h.txt	last minute very less addition and also we do not need to merge devel...	11 minutes ago
master.txt	Master file commit.	27 minutes ago

Help people interested in this repository understand your project by adding a README.
 Add a README

* Shared link of GitHub repository:-

https://github.com/github-amit-repository/Case_Study_1-Git_Workflow-Method-1.git