

VCS Task

Task Description:

Establish a new directory, populate it with script files, initiate an empty repository on GitHub, convert the local directory into a Git repository, and link it to GitHub for pushing the code into the repository. Perform merge, rebase, stash commands in following github repo.

1 Create a New Directory & Add Script Files

Create some sample scripts:

```
root@ip-172-31-15-201:/home/ubuntu# cd ..
root@ip-172-31-15-201:/home# ls
ubuntu
root@ip-172-31-15-201:/home# mkdir devops-scripts
root@ip-172-31-15-201:/home# cd devops-scripts/
root@ip-172-31-15-201:/home/devops-scripts# touch deploy.sh build.sh test.sh
root@ip-172-31-15-201:/home/devops-scripts# ls
build.sh deploy.sh test.sh
root@ip-172-31-15-201:/home/devops-scripts# |
```

Add content:

```
echo -e '#!/bin/bash\necho Deploying application' > deploy.sh
```

```
echo -e '#!/bin/bash\necho Building application' > build.sh
```

```
echo -e '#!/bin/bash\necho Testing application' > test.sh
```

```
root@ip-172-31-15-201:/home/devops-scripts# echo -e '#!/bin/bash\necho Deploying application' > deploy.sh
root@ip-172-31-15-201:/home/devops-scripts# cat deploy.sh
#!/bin/bash
echo Deploying application
root@ip-172-31-15-201:/home/devops-scripts# echo -e '#!/bin/bash\necho Building application' > build.sh
root@ip-172-31-15-201:/home/devops-scripts# echo -e '#!/bin/bash\necho Testing application' > test.sh
root@ip-172-31-15-201:/home/devops-scripts#
```

Make scripts executable:

```
chmod +x *.sh
```

```
root@ip-172-31-15-201:/home/devops-scripts# chmod +x *.sh
```

2 Initialize Local Git Repository

Commands used:

```
git init  
git status  
git add .  
git commit -m "Initial commit with script files"
```

To Set your global Git identity

```
git config --global user.name "sethuraman98"  
git config --global user.email "cssethuraman98@gmail.com"
```

```
root@ip-172-31-15-201:/home/devops-scripts# git add .  
root@ip-172-31-15-201:/home/devops-scripts# git commit -m "Initial commit with script files"  
[main (root-commit) dfe36e0] Initial commit with script files  
Committer: root <root@ip-172-31-15-201.ap-south-1.compute.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:  
  
    git config --global user.name "Your Name"  
    git config --global user.email you@example.com  
  
After doing this, you may fix the identity used for this commit with:  
  
    git commit --amend --reset-author  
  
3 files changed, 6 insertions(+)  
create mode 100755 build.sh  
create mode 100755 deploy.sh  
create mode 100755 test.sh  
root@ip-172-31-15-201:/home/devops-scripts# git config --global user.name "sethuramn98"  
root@ip-172-31-15-201:/home/devops-scripts# git config --global user.email cssethuraman98@gmail.com  
root@ip-172-31-15-201:/home/devops-scripts# git config --global --list  
init.defaultbranch=main  
user.name=sethuramn98  
user.email=cssethuraman98@gmail.com
```

3 Create Empty Repository on GitHub

On **GitHub UI**:

1. Click **New Repository**
2. Repository name: devops-scripts
3. Visibility: Public / Private
4. **✗** Do NOT add README / .gitignore
5. Click **Create repository**

You'll get a repo URL:

<https://github.com/sethuraman98/devops-scripts.git>

4 Link Local Repo to GitHub & Push Code

git remote add origin <https://github.com/sethuraman98/devops-scripts.git>

To verify

git remote -v

```
root@ip-172-31-15-201:/home/devops-scripts# git remote add origin https://github.com/sethuraman98/devops-scripts.git
root@ip-172-31-15-201:/home/devops-scripts# git remote -v
origin  https://github.com/sethuraman98/devops-scripts.git (fetch)
origin  https://github.com/sethuraman98/devops-scripts.git (push)
```

Push code:

git branch -M main

git push -u origin main

```
root@ip-172-31-15-201:/home/devops-scripts# git branch -M main
root@ip-172-31-15-201:/home/devops-scripts# git push -u origin main
Username for 'https://github.com': sethuraman98
Password for 'https://sethuraman98@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 2 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (5/5), 420 bytes | 420.00 KiB/s, done.
Total 5 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/sethuraman98/devops-scripts.git
 * [new branch]      main -> main
branch 'main' set up to track 'origin/main'.
```

Git MERGE

Create a new feature branch

```
git checkout -b feature-logging
```

```
root@ip-172-31-15-201:/home/devops-scripts# git checkout -b feature-logging
Switched to a new branch 'feature-logging'
root@ip-172-31-15-201:/home/devops-scripts#
```

Edit a file:

```
echo "echo Logging enabled" >> deploy.sh
```

Commit:

```
git add deploy.sh
```

```
git commit -m "Add logging to deploy script"
```

```
root@ip-172-31-15-201:/home/devops-scripts# echo "echo Logging enabled" >> deploy.sh
root@ip-172-31-15-201:/home/devops-scripts# git add deploy.sh
root@ip-172-31-15-201:/home/devops-scripts# git commit -m "Add logging to deploy script"
[feature-logging fde069f] Add logging to deploy script
 1 file changed, 1 insertion(+)
root@ip-172-31-15-201:/home/devops-scripts#
```

Merge into main

```
git checkout main
```

```
git merge feature-logging
```

```
root@ip-172-31-15-201:/home/devops-scripts# git checkout main
Switched to branch 'main'
Your branch is up to date with 'origin/main'.
root@ip-172-31-15-201:/home/devops-scripts# git merge feature-logging
Updating d81eb3e..fde069f
Fast-forward
  deploy.sh | 1 +
  1 file changed, 1 insertion(+)
```

Git REBASE

Create another branch

```
git checkout -b feature-debug
```

```
echo "echo Debug mode ON" >> build.sh
```

```
root@ip-172-31-15-201:/home/devops-scripts# git checkout -b feature-debug
Switched to a new branch 'feature-debug'
root@ip-172-31-15-201:/home/devops-scripts# echo "echo Debug mode ON" >> build.sh
```

```
git add build.sh
```

```
git commit -m "Add debug mode"
```

Rebase onto main

```
git checkout main
```

```
git pull origin main
```

```
git checkout feature-debug
```

```
git rebase main
```

```
root@ip-172-31-15-201:/home/devops-scripts# git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
root@ip-172-31-15-201:/home/devops-scripts# git pull origin main
From https://github.com/sethuraman98/devops-scripts
 * branch            main      -> FETCH_HEAD
Already up to date.
root@ip-172-31-15-201:/home/devops-scripts# git checkout feature-debug
Switched to branch 'feature-debug'
root@ip-172-31-15-201:/home/devops-scripts# git rebase main
Current branch feature-debug is up to date.
```

Then Merge:

```
git checkout main
```

```
git merge feature-debug
```

```
root@ip-172-31-15-201:/home/devops-scripts# git checkout main
Switched to branch 'main'
Your branch is ahead of 'origin/main' by 1 commit.
  (use "git push" to publish your local commits)
root@ip-172-31-15-201:/home/devops-scripts# git merge feature-debug
Updating fde069f..ad53ce0
Fast-forward
  build.sh | 1 +
  1 file changed, 1 insertion(+)
root@ip-172-31-15-201:/home/devops-scripts# |
```

Git STASH

Make changes but don't want to commit

```
echo "Temporary change" >> test.sh
```

```
git status
```

```
root@ip-172-31-15-201:/home/devops-scripts# echo "Temporary change" >> test.sh
root@ip-172-31-15-201:/home/devops-scripts# git status
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

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:   test.sh

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

Stash changes

```
git stash
```

```
root@ip-172-31-15-201:/home/devops-scripts# git stash
Saved working directory and index state WIP on main: ad53ce0 Add debug mode
```

View stashes

```
git stash list
```

```
root@ip-172-31-15-201:/home/devops-scripts# git stash list
stash@{0}: WIP on main: ad53ce0 Add debug mode
root@ip-172-31-15-201:/home/devops-scripts# |
```

Apply stash

```
git stash apply
```

```
root@ip-172-31-15-201:/home/devops-scripts# git stash apply
On branch main
Your branch is ahead of 'origin/main' by 2 commits.
  (use "git push" to publish your local commits)

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:   test.sh

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