

CA6C1 – DevOps - National Institute of Technology, Trichy

Assignment 1 – BASH & GIT

Question 4

- a. Create a master repository using a GIT terminal in any version control platform (github, gitlab, bitbucket, gogs, codeberg, radicle, gitea etc.) and add files of any one question (Q1, Q2, Q3) from this assignment into this repository. Capture repository status at this point.


Install GitHub CLI & Authenticate with GitHub





```
PS C:\Users\sagil> gh --version
gh version 2.67.0 (2025-02-11)
https://github.com/cli/cli/releases/tag/v2.67.0
PS C:\Users\sagil> gh auth login
? Where do you use GitHub? GitHub.com
? What is your preferred protocol for Git operations on this host? HTTPS
? Authenticate Git with your GitHub credentials? Yes
? How would you like to authenticate GitHub CLI? Login with a web browser


! First copy your one-time code: CE9D-8299
Press Enter to open https://github.com/login/device in your browser...
✓ Authentication complete.
- gh config set -h github.com git_protocol https
✓ Configured git protocol
✓ Logged in as diemca
PS C:\Users\sagil>
```

Create a GitHub Repository from Terminal

```
PS S:\DevOps\assignment1-bash-diemca\q4> git init
Reinitialized existing Git repository in S:/DevOps/assignment1-bash-diemca/q4/.git/
PS S:\DevOps\assignment1-bash-diemca\q4> gh repo create Devops-Assignment-q4 --public --source=. --remote=origin
✓ Created repository diemca/Devops-Assignment-q4 on GitHub
https://github.com/diemca/Devops-Assignment-q4
✓ Added remote https://github.com/diemca/Devops-Assignment-q4.git
PS S:\DevOps\assignment1-bash-diemca\q4> |
```

 Devops-Assignment-q4 Public


 Pin  Unwatch 1  Fork 0  Star 0



Set up GitHub Copilot

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

[Get started with GitHub Copilot](#)







Add collaborators to this repository

Search for people using their GitHub username or email address.

[Invite collaborators](#)


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

 Set up in Desktop or  HTTPS  SSH <https://github.com/diemca/Devops-Assignment-q4.git> 

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 "# Devops-Assignment-q4" >> README.md
git init
git add README.md
git commit -m "first commit"
git branch -M main
git remote add origin https://github.com/diemca/Devops-Assignment-q4.git
git push -u origin main
```



Add Files and Commit Changes

```
PS S:\DevOps\assignment1-bash-diemca\q4> git init
Reinitialized existing Git repository in S:/DevOps/assignment1-bash-diemca/q4/.git/
PS S:\DevOps\assignment1-bash-diemca\q4> git add .
warning: in the working copy of 'q2/graph.dat', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'q2/graph.gnu', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'q2/q2_a.sh', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'q2/q2_b.sh', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'q2/q_2c.sh', LF will be replaced by CRLF the next time Git touches it
PS S:\DevOps\assignment1-bash-diemca\q4> git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
    new file:   CLI.png
    new file:   create-git.png
    new file:   create.png
    new file:   q2/graph.dat
    new file:   q2/graph.gnu
    new file:   q2/graph.png
    new file:   q2/q2_a.png
    new file:   q2/q2_a.sh
    new file:   q2/q2_b.png
    new file:   q2/q2_b.sh
    new file:   q2/q_2c.sh
```

- b. Push the files of one question (Q1, Q2, Q3) from this assignment from your local machine to a repository. Capture repository status at this point.

Add the GitHub Remote

```
PS S:\DevOps\assignment1-bash-diemca\q4> git add .
warning: in the working copy of 'q1/q_1.sh', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'q3/q_3.sh', LF will be replaced by CRLF the next time Git touches it
PS S:\DevOps\assignment1-bash-diemca\q4> git commit -m "Initial commit with scripts"
[master (root-commit) c34455f] Initial commit with scripts
12 files changed, 222 insertions(+)
create mode 100644 q1/q_1.png
create mode 100644 q1/q_1.sh
create mode 100644 q2/graph.dat
create mode 100644 q2/graph.gnu
create mode 100644 q2/graph.png
create mode 100644 q2/q2_a.png
create mode 100644 q2/q2_a.sh
create mode 100644 q2/q2_b.png
create mode 100644 q2/q2_b.sh
create mode 100644 q2/q2c.sh
create mode 100644 q3/q3.png
create mode 100644 q3/q_3.sh
PS S:\DevOps\assignment1-bash-diemca\q4> git push -u origin master
Enumerating objects: 17, done.
Counting objects: 100% (17/17), done.
Delta compression using up to 8 threads
Compressing objects: 100% (17/17), done.
Writing objects: 100% (17/17), 301.27 KiB | 14.35 MiB/s, done.
Total 17 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), done.
To https://github.com/diemca/Devops-Assignment-q4.git
 * [new branch]      master -> master
branch 'master' set up to track 'origin/master'.
```

The screenshot shows a GitHub repository page for 'Devops-Assignment-q4' by user 'Sagil Imam'. The repository is public and has 1 branch (master) and 0 tags. The commit history shows an initial commit with scripts, dated 1 minute ago. The file list shows three folders: q1, q2, and q3, each containing initial commit with scripts. The README section is empty, with a prompt to 'Add a README'. The right sidebar shows repository statistics: 0 stars, 1 watching, and 0 forks. The 'Releases' section shows no releases published. The 'Packages' section shows no packages published. The 'Languages' section shows a bar chart with 'Shell' at 93.8% and 'Gnuplot' at 6.2%.

```
PS S:\DevOps\assignment1-bash-diemca\q4> git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean
PS S:\DevOps\assignment1-bash-diemca\q4>
```

- c. Create a new branch to your existing repository and now pull your repository locally, make changes to 10 lines and merge into the master repository. Capture repository status at this point.

Create and Switch to a New Branch

```
PS S:\DevOps\assignment1-bash-diemca\q4> git checkout -b newBranch
Switched to a new branch 'newBranch'
```

This creates a new branch named newBranch and switches to it.

Pull the Latest Changes from GitHub

```
PS S:\DevOps\assignment1-bash-diemca\q4> git pull origin master
From https://github.com/diemca/Devops-Assignment-q4
 * branch                master      -> FETCH_HEAD
Already up to date.
```

Make changes to q3.sh

```
39  Kap_Rou "$input"
40  #comment 1
41  #comment 2
42  #comment 3
43  #comment 4
44  #comment 5
45  #comment 6
46  #comment 7
47  #comment 8
48  #comment 9
49  #comment 10
```

Add and Commit Changes

```
PS S:\DevOps\assignment1-bash-diemca\q4> git add .
warning: in the working copy of 'q1/q_1.sh', LF will be replaced by CRLF the next time Git touches it
PS S:\DevOps\assignment1-bash-diemca\q4> git commit -m "Modified 10 lines in q1/q_1.sh"
[newBranch 12e8bf7] Modified 10 lines in q1/q_1.sh
1 file changed, 10 insertions(+)
```

Push the New Branch to GitHub

```
PS S:\DevOps\assignment1-bash-diemca\q4> git push -u origin newBranch
Enumerating objects: 7, done.
Counting objects: 100% (7/7), done.
Delta compression using up to 8 threads
Compressing objects: 100% (4/4), done.
Writing objects: 100% (4/4), 440 bytes | 220.00 KiB/s, done.
Total 4 (delta 1), reused 0 (delta 0), pack-reused 0
remote: Resolving deltas: 100% (1/1), completed with 1 local object.
remote:
remote: Create a pull request for 'newBranch' on GitHub by visiting:
remote:   https://github.com/diemca/Devops-Assignment-q4/pull/new/newBranch
remote:
To https://github.com/diemca/Devops-Assignment-q4.git
 * [new branch]      newBranch -> newBranch
branch 'newBranch' set up to track 'origin/newBranch'.
```

Switch Back to Master

```
PS S:\DevOps\assignment1-bash-diemca\q4> git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
PS S:\DevOps\assignment1-bash-diemca\q4> git pull origin master
From https://github.com/diemca/Devops-Assignment-q4
 * branch            master      -> FETCH_HEAD
Already up to date.
```

Merge the Feature Branch into Master

```
PS S:\DevOps\assignment1-bash-diemca\q4> git merge newBranch
Updating c34455f..12e8bf7
Fast-forward
 q1/q_1.sh | 10 ++++++++
 1 file changed, 10 insertions(+)
```

Push the Merged Changes to GitHub

```
PS S:\DevOps\assignment1-bash-diemca\q4> git push origin master
Total 0 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/diemca/Devops-Assignment-q4.git
 c34455f..12e8bf7  master -> master
```

Capture Repository Status

```
PS S:\DevOps\assignment1-bash-diemca\q4> git status
On branch master
Your branch is up to date with 'origin/master'.

nothing to commit, working tree clean
```