

DevOps Lab

Exercise 1

Trisha Balakrishnan

21011102105

IoT-B

1. Exploring Git Commands through Collaborative Coding – Basic Git commands.

a. Create a Repository

- Setting Up Git Repository named “Master”

```
trisha@trisha-IdeaPad-5-15ITL05:~$ mkdir Master
trisha@trisha-IdeaPad-5-15ITL05:~$ cd Master
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ 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/trisha/Master/.git/
```

b. Add and Commit Changes

- Create a new text file named ReadMe.txt using any text editor.

```
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ touch ReadMe.txt
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git add ReadMe.txt
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git commit -m "Initial commit with ReadMe.txt"
Author identity unknown

*** Please tell me who you are.

Run

  git config --global user.email "you@example.com"
  git config --global user.name "Your Name"

to set your account's default identity.
Omit --global to set the identity only in this repository.

fatal: unable to auto-detect email address (got 'trisha@trisha-IdeaPad-5-15ITL05.(none)')
```

```
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git config --global user.email "rbrtrisha@gmail.com"
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git config --global user.name "trishabala"
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git commit -m "Initial commit with ReadMe.txt"
[master (root-commit) cbf145a] Initial commit with ReadMe.txt
1 file changed, 0 insertions(+), 0 deletions(-)
create mode 100644 ReadMe.txt
```

c. Exploring history

- Modify/add content to the textfile.

d. Branching and merging

- Create a new branch named "Updated_ReadMe" and commit the changes in the branch.
- Merge the changes from the Updated_ReadMe branch into the Master branch.

```

trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git log
commit 467ad9fdad5014bfff0da7083946c22d8656ba305 (HEAD -> master)
Author: trishabala <rbrtrisha@gmail.com>
Date: Thu Jul 11 09:54:09 2024 +0530

    Updated ReadMe.txt with new content

commit cbf145aee9e45d6cd2d59e84078786c7d9d3d15d
Author: trishabala <rbrtrisha@gmail.com>
Date: Thu Jul 11 09:52:51 2024 +0530

    Initial commit with ReadMe.txt
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git branch Updated_ReadMe
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git checkout Updated_ReadMe
Switched to branch 'Updated_ReadMe'
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git add ReadMe.txt
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git commit -m "Further updates to ReadMe.txt in Updated_ReadMe branch"
On branch Updated_ReadMe
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:   ReadMe.txt

no changes added to commit (use "git add" and/or "git commit -a")
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git add ReadMe.txt
fatal: pathspec 'ReadMe.txt' did not match any files
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git add ReadMe.txt
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git commit -m "Further updates to ReadMe.txt in Updated_ReadMe branch"
[Updated_ReadMe e817f41] Further updates to ReadMe.txt in Updated_ReadMe branch
 1 file changed, 1 insertion(+), 1 deletion(-)
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git checkout master
Switched to branch 'master'
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git merge Updated_ReadMe
Updating 467ad9f..e817f41
Fast-forward
  ReadMe.txt | 2 +-
  1 file changed, 1 insertion(+), 1 deletion(-)

```

e. Collaborating with Remote Repositories

- Link your local repository to the remote repository

f. Push Changes

- Push your local commits to the remote repository

```

trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git remote add origin https://github.com/trishabala/Master.git
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ git push -u origin master
Username for 'https://github.com': trishabala
Password for 'https://trishabala@github.com':
Enumerating objects: 9, done.
Counting objects: 100% (9/9), done.
Delta compression using up to 8 threads
Compressing objects: 100% (3/3), done.
Writing objects: 100% (9/9), 743 bytes | 743.00 KiB/s, done.
Total 9 (delta 0), reused 0 (delta 0), pack-reused 0
To https://github.com/trishabala/Master.git
 * [new branch]      master -> master
Branch 'master' set up to track remote branch 'master' from 'origin'.
trisha@trisha-IdeaPad-5-15ITL05:~/Master$ 

```

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DevOps Lab

Exercise 1

2. Implement GitHub Operations using Git.

a. Cloning a Repository

- Clone the repository of your project from github

```
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1$ git clone https://github.com/trishabala/Master.git Master_clone
Cloning into 'Master_clone'...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (5/5), done.
remote: Total 12 (delta 0), reused 12 (delta 0), pack-reused 0
Receiving objects: 100% (12/12), done.
```

b. Making Changes and Creating a Branch

- Navigate into the cloned repository, do the necessary changes and check the status of the repository

```
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1$ cd Master_clone
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git checkout -b new-branch
Switched to a new branch 'new-branch'
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git status
On branch new-branch
nothing to commit, working tree clean
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git status
On branch new-branch
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:   ReadMe.txt

no changes added to commit (use "git add" and/or "git commit -a")
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git add
Nothing specified, nothing added.
hint: Maybe you wanted to say 'git add .'
hint: Turn this message off by running
hint: "git config advice.addEmptyPathsSpec false"
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git add .
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git commit -m "Description of changes"
[new-branch d136e11] Description of changes
1 file changed, 3 insertions(+), 1 deletion(-)
rewrite ReadMe.txt (100%)
```

c. Pushing Changes to GitHub

- Add Repository URL in a variable

```
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ REPO_URL=https://github.com/trishabala/Master.git
```

- Push the local branch to the repository

```

trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git push $REPO_URL new-b
ranch
Username for 'https://github.com': trishabala
Password for 'https://trishabala@github.com':
Enumerating objects: 5, done.
Counting objects: 100% (5/5), done.
Delta compression using up to 8 threads
Compressing objects: 100% (2/2), done.
Writing objects: 100% (3/3), 669 bytes | 669.00 KiB/s, done.
Total 3 (delta 0), reused 0 (delta 0), pack-reused 0
remote:
remote: Create a pull request for 'new-branch' on GitHub by visiting:
remote:   https://github.com/trishabala/Master/pull/new/new-branch
remote:
To https://github.com/trishabala/Master.git
 * [new branch]   new-branch -> new-branch

```

d. Collaborating through Pull Requests

- Create a pull request on GitHub
- Choose the base branch and compare it with the branch
- Review the changes and merge the pull request.
- Add a title and description for the pull request
- Assign reviewers
- Reviewers approve the pull request, merge it into the base branch.

e. Syncing Changes

- After the pull request is merged, update your local repository

```

trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git checkout master
Switched to branch 'master'
Your branch is up to date with 'origin/master'.
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ git pull origin master
remote: Enumerating objects: 1, done.
remote: Counting objects: 100% (1/1), done.
remote: Total 1 (delta 0), reused 0 (delta 0), pack-reused 0
Unpacking objects: 100% (1/1), 912 bytes | 912.00 KiB/s, done.
From https://github.com/trishabala/Master
 * branch                master       -> FETCH_HEAD
    e817f41..809f8fe      master       -> origin/master
Updating e817f41..809f8fe
Fast-forward
 README.txt | 4 +++-
 1 file changed, 3 insertions(+), 1 deletion(-)
trisha@trisha-IdeaPad-5-15ITL05:~/Documents/Sem 7/DOLAB/Exercise 1/Master_clone$ 

```

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