St. Francis Institute of Technology, Mumbai-400 103

**Department Of Information Technology**

A.Y. 2023-2024

Class: TE-ITA/B, Semester: V

Subject: **DevOps Lab**

**Experiment – 3: To Perform various GIT operations on local and Remote repositories using GIT Cheat-Sheet**

1. **Aim:** To understand version control using Git and create a GitHub account
2. **Objectives:** Aim of this experiment is that, the students will be able

* To be aware of different Version Control tools like GIT and GitHub
* To obtain complete knowledge of the “version control system” to effectively track changes augmented with Git and GitHub

1. **Outcomes:** After study of this experiment, the students will be able to

* Create and fork repositories in GitHub
* Apply branching, merging and rebasing concepts.
* Implement different Git workflow strategies in real-time scenarios
* Understand Git operations in IDE

1. **Prerequisite:** Knowledge of software engineering concept of version control
2. **Requirements:** Git,Personal Computer, Windows operating system, browser, Internet Connection, Microsoft Word.
3. **Pre-Experiment Exercise:**

**Brief Theory:** Refer shared material

1. **Laboratory Exercise**
   * + 1. **Procedure:**

**a. Answer the following:**

* Give differences between Git and GitHub
* What is Git Cheat sheet?
* Attach sample Git Cheat sheet

**b**. **Execute following on Git and GitHub (Refer the shared material) and attach screenshots:**

* Create a repository in GitHub
* Create a branch on repository
* Fork, push and Pull request
* Fetch and merge on Git

1. **Post-Experiments Exercise**
2. **Extended Theory:**

Nil

1. **Questions:**

* What are the different Git workflow strategies in real-time scenarios?
* What are the different Git IDEs available?

1. **Conclusion:**

* Write what was performed in the experiment.
* Write the significance of the topic studied in the experiment.

1. **References:**

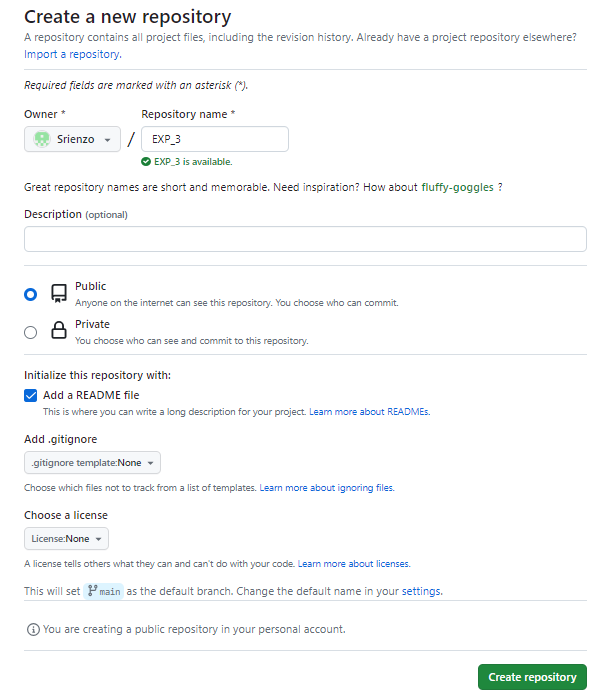
[**https://github.com/**](https://github.com/)

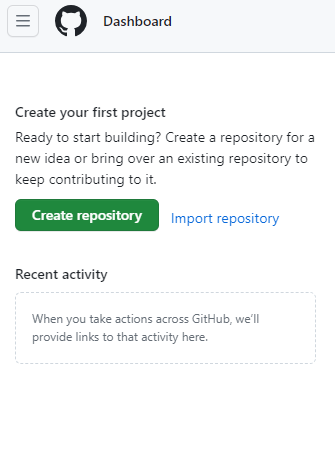
[**https://guides.github.com/activities/hello-world/**](https://guides.github.com/activities/hello-world/)

[**https://git-scm.com/docs/gittutorial**](https://git-scm.com/docs/gittutorial)

List of screenshots to be included in this experiment

7b. Execute following on Git and GitHub (Refer the shared material)

and attach screenshots:

1. GitHub repository creation

A screenshot of a computer

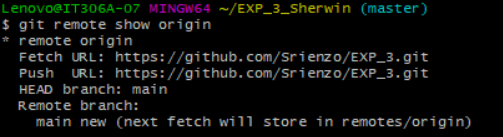
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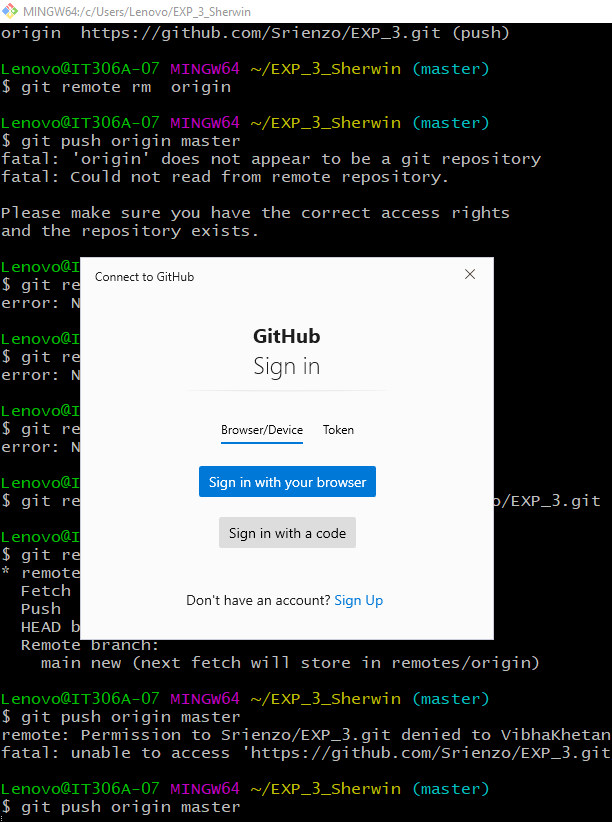
1. Execution of following Git commands along with screenshots of folder contents & corresponding GitHub repository contents

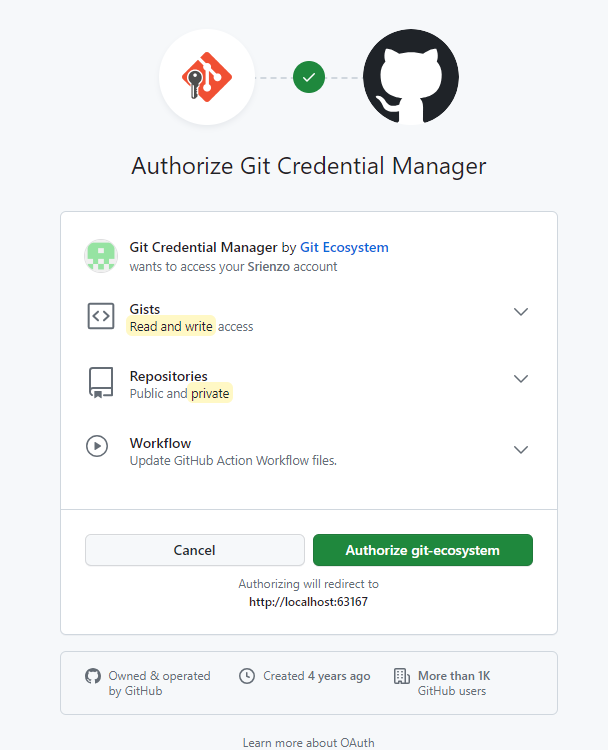
1. git remote add origin <url>



2. git remote show origin



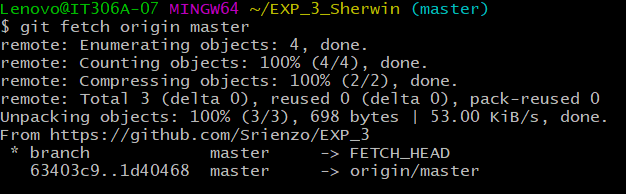
3. git push origin master



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4. git fetch origin master



5. git merge origin/master and 6. git pull origin master

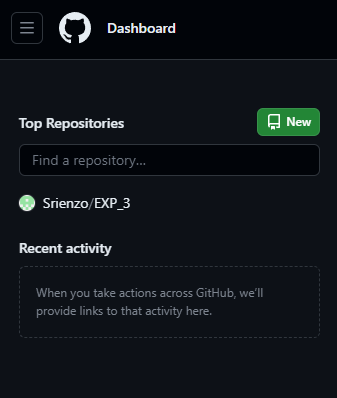
**A screen shot of a computer screen

Description automatically generated**A black screen with white text

Description automatically generated

7. git clone <url>

**A computer screen shot of a black screen

Description automatically generated**

8. On GitHub repository:

9. New branch creation in own repository

**A screenshot of a computer

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10. Fork a public repository

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11. Delete repository

**A screenshot of a computer

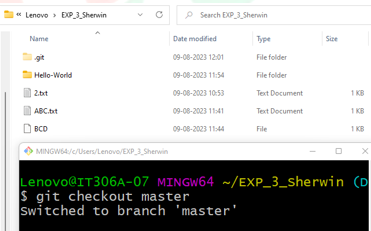
Description automatically generated**

4. Git cheat sheet commands:

1. git branch

**A computer screen shot of text

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2. git checkout 

3. git rm filename

A screenshot of a computer

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4. git remote -vA black screen with white text

Description automatically generated

5. Any 2 other commands from git cheat sheet

A computer screen with many colorful text

Description automatically generated