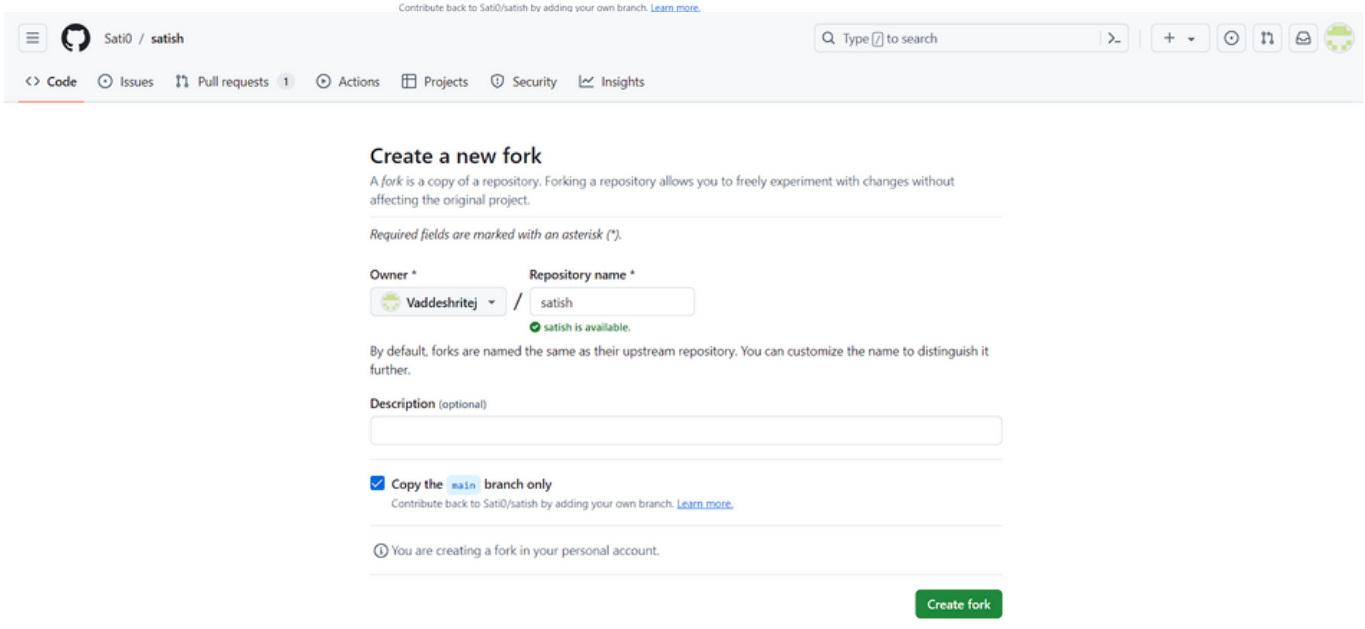
Ex. No. 5	WORKING WITH COLLABORATIVE REPOSITORY MANAGEMENT USING GIT
Date of Exercise	11/03/2024

Aim:

Working with collaborative repository management using Git involves collaborating with other developers and effectively managing changes to ashared codebase.

Forking a Repository

- When you want to contribute to a project hosted on a remote repository, it's common to start by forking the repository.
- Forking creates a personal copy of the repository under your GitHub account or another hosting platform, where you can freely make changes without affecting the original repository.
- To fork a repository on GitHub, navigate to the repository's page and click the "Fork" button.

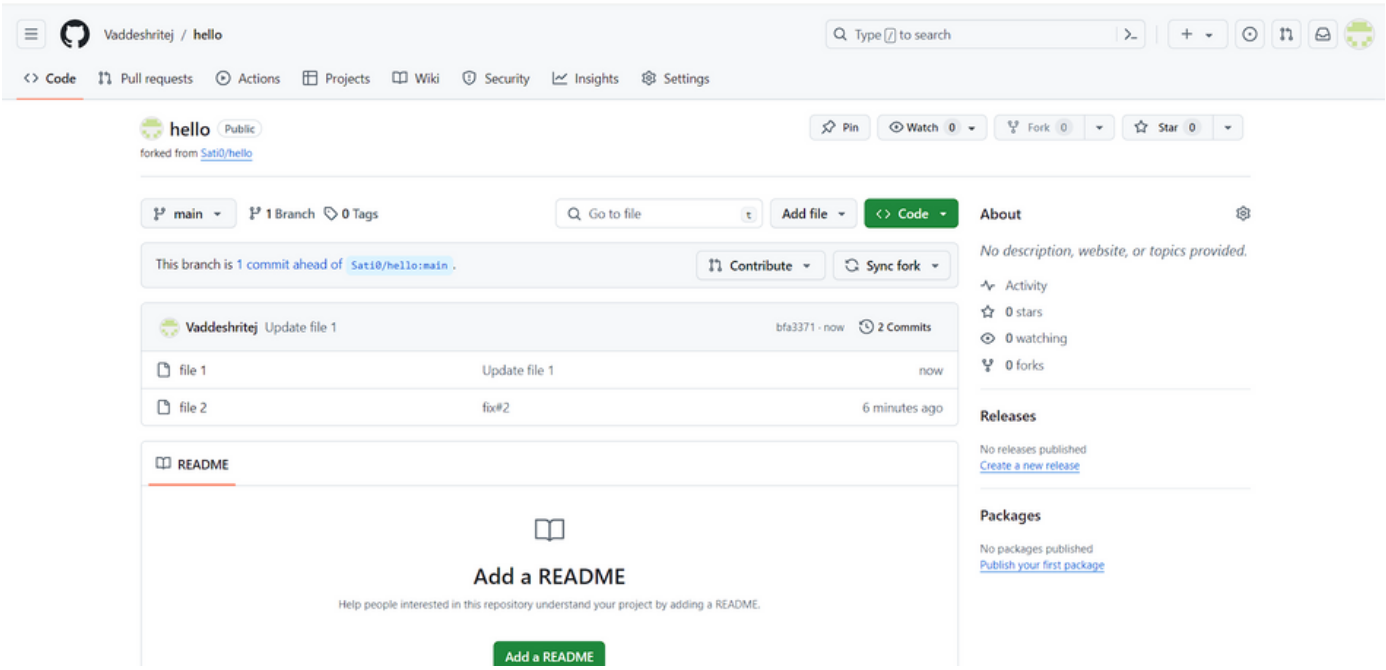


Cloning a Forked Repository

- After forking a repository, you need to clone the forked repository to your local machine to start making changes.
- Use the `git clone` command, as explained in a previous answer, to clone theforked repository.

Adding an Upstream Remote

- The original repository that you forked is known as the "upstream" repository.It represents the source of truth for the project.
- To synchronize your forked repository with the latest changes from theupstream repository, you can add an "upstream" remote.
- Use the `git remote add` command to add the upstream remote URL. Forexample: git remote add upstream <upstream-url>



Keeping Your Forked Repository Up to Date

- To incorporate the latest changes from the upstream repository into your forked repository, follow these steps:
- Fetch the latest changes from the upstream remote: `git fetch upstream`
- Checkout your local main branch: `git checkout main`

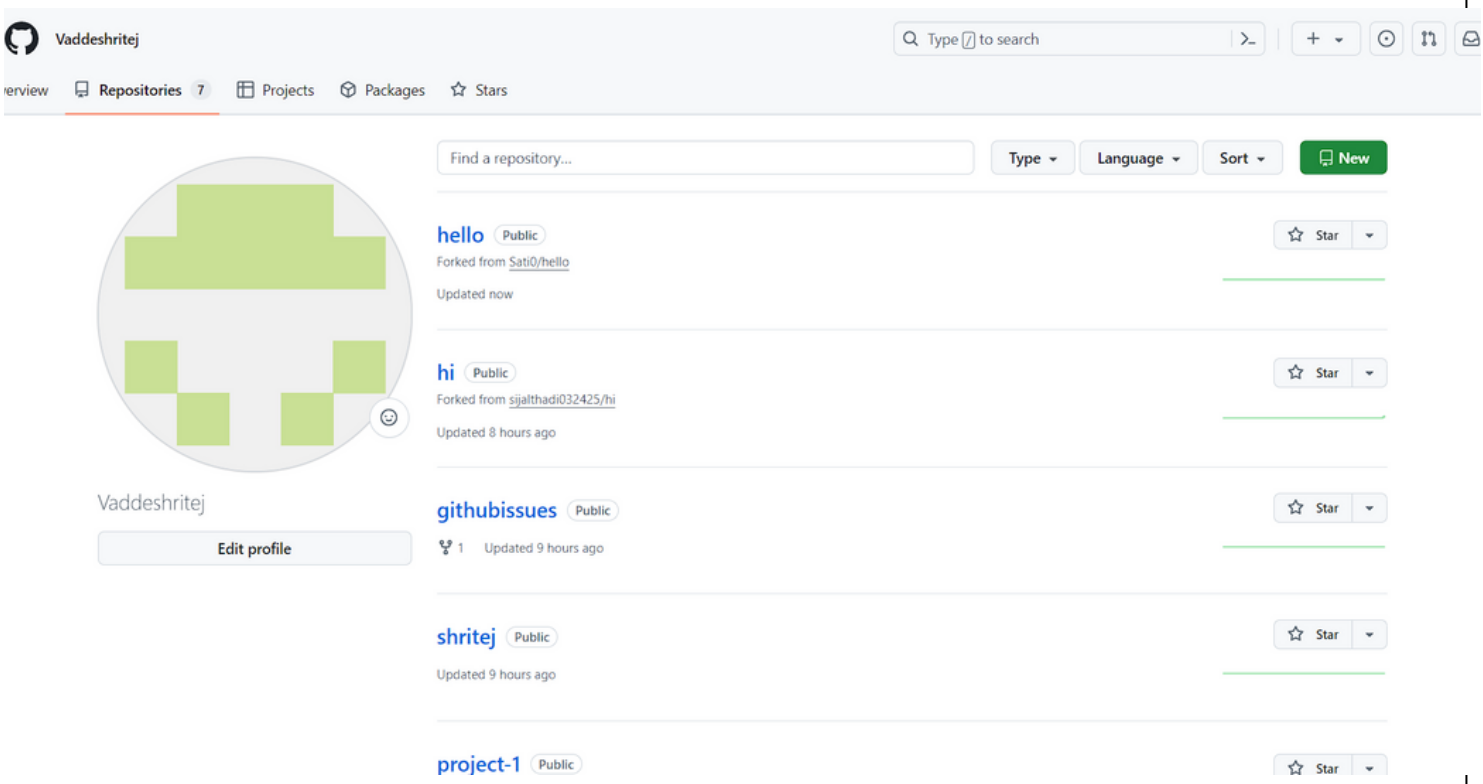
- Merge the changes from the upstream/main branch into your lo cal main branch: `git merge upstream/main`
- Push the updated main branch to your forked repository: `git push origin main`

Creating Branches for Collaborative Work

- When working on a collaborative project, it's common to create branches for new features, bug fixes, or other changes.
- Use the `git branch` command to create a new branch: `git branch <branch-name>`
- Switch to the newly created branch using `git checkout`: `git checkout <branch-name>`
- Alternatively, you can create and switch to a new branch in one command: `gitcheckout -b <branch-name>`

Pushing Changes and Creating Pull Requests

- Once you've made changes on a branch, you can push the branch to yourforked repository using `git push origin <branch-name>`.
- After pushing the branch, you can create a pull request on the upstream repository to propose your changes for merging into the main codebase.
- On the upstream repository's page, find the "Pull requests" section and clickthe "New pull request" button.
- Select the appropriate branches for the base (usually main) and compare (your branch) branches.
- Provide a title and description for your pull request, then click "Create pullrequest" to submit it.



Reviewing and Merging Pull Requests

- Collaborators or maintainers of the upstream repository can review and comment on your pull request.
- They may request changes or provide feedback before merging the changes.
- Once the pull request is approved, it can be merged into the main branch of theupstream repository.

Result:

The program working with collaborative repository management using GIT was completed successfully .