1. Create a new GitHub repository.

- Clone the repository to your local machine using SSH (generate an SSH key if needed, add the public key to your GitHub account).
- Create a new branch named after your username (e.g., `Tutedude`).
- Add your Flask project files to this branch.
- Commit the changes and merge the branch into the `main` branch.

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git (main)
$ git clone git@github.com:amey-21/Learning-Devops.git
Cloning into 'Learning-Devops'...
remote: Enumerating objects: 12, done.
remote: Counting objects: 100% (12/12), done.
remote: Compressing objects: 100% (10/10), done.
remote: Total 12 (delta 2), reused 0 (delta 0), pack-reused 0 (from 0)
Receiving objects: 100% (12/12), 500.09 KiB | 631.00 KiB/s, done.
Resolving deltas: 100% (2/2), done.
```

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git (amey-21)
$ git add flask

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git (amey-21)
$ git status
On branch amey-21

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   flask/flask assignment/1/app.py
        new file:   flask/flask assignment/1/text.json
        new file:   flask/flask assignment/2/backend/.env
        new file:   flask/flask assignment/2/backend/app.py
        new file:   flask/flask assignment/2/backend/requirements.txt
        new file:   flask/flask assignment/2/frontend/app.py
        new file:   flask/flask assignment/2/frontend/requirements.txt
        new file:   flask/flask assignment/2/frontend/templates/index.html
        new file:   flask/flask tutorial/backend/.env
        new file:   flask/flask tutorial/backend/app.py
        new file:   flask/flask tutorial/backend/requirements.txt
        new file:   flask/flask tutorial/backend/tempCodeRunnerFile.py
        new file:   flask/flask tutorial/frontend/app.py
        new file:   flask/flask tutorial/frontend/requirements.txt
        new file:   flask/flask tutorial/frontend/templates/index.html

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        Learning-Devops/
        hello.txt
        index.html
```

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git (amey-21)
$ git commit -m "added flask folder"
[amey-21 (root-commit) 8b9e2e0] added flask folder
 15 files changed, 292 insertions(+)
 create mode 100644 flask/flask assignment/1/app.py
 create mode 100644 flask/flask assignment/1/text.json
 create mode 100644 flask/flask assignment/2/backend/.env
 create mode 100644 flask/flask assignment/2/backend/app.py
 create mode 100644 flask/flask assignment/2/backend/requirements.txt
 create mode 100644 flask/flask assignment/2/frontend/app.py
 create mode 100644 flask/flask assignment/2/frontend/requirements.txt
 create mode 100644 flask/flask assignment/2/frontend/templates/index.html
 create mode 100644 flask/flask tutorial/backend/.env
```

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git (main)
$ git merge amey-21
Already up to date.
```

2. Create a new branch named `<your_name>_new` (e.g., `Tutedude_new`).

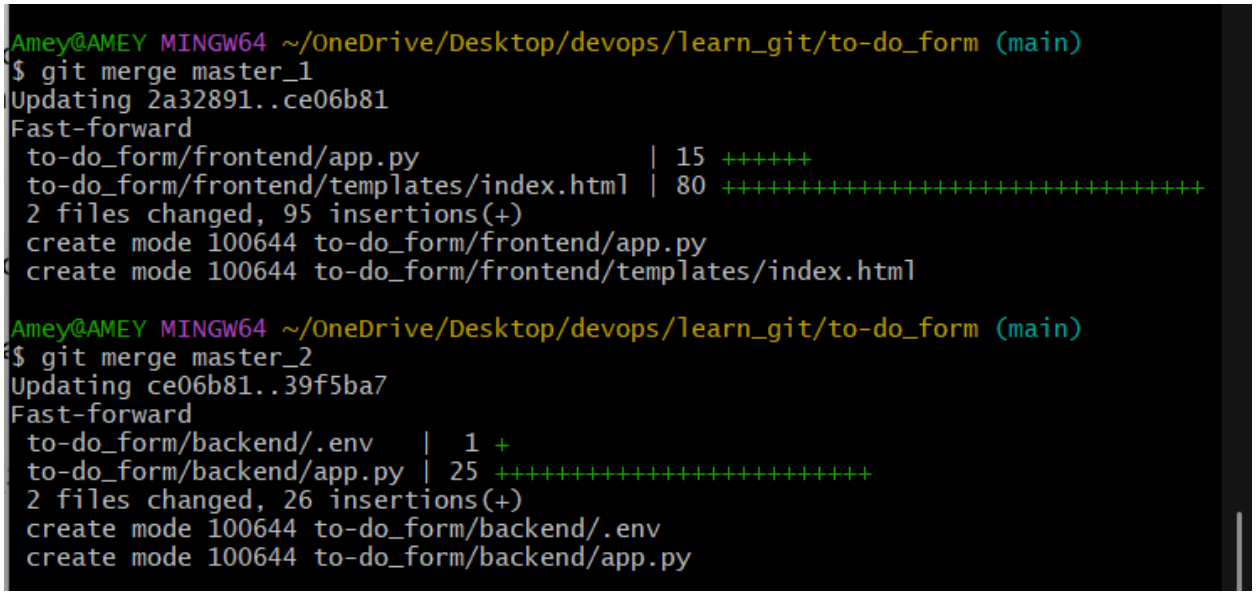
- Update the content of the JSON file used for the `/api` route in this branch.
- Merge the `<your_name>_new` branch into the `main` branch.
- If there are conflicts during the merge, resolve them by accepting the changes from the `<your_name>_new` branch.
- Add the resolved changes to the staging area, commit them, and push the updates to the remote repository.

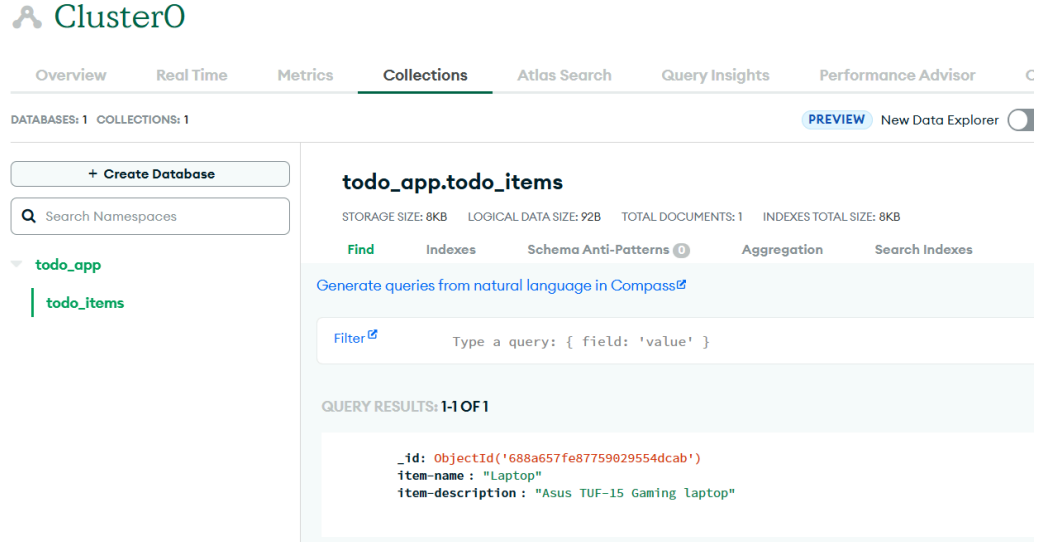
```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/flask (main)
$ git merge amey_new
Updating 4db8ef6..2a32891
Fast-forward
 flask/flask assignment/1/app.py                    | 14 ++++
 flask/flask assignment/1/text.json                 | 18 +++++
 flask/flask assignment/2/backend/.env              |  1 +
 flask/flask assignment/2/backend/app.py            | 27 +++++++
 flask/flask assignment/2/backend/requirements.txt  |  0
 flask/flask assignment/2/frontend/app.py           | 19 +++++
 flask/flask assignment/2/frontend/requirements.txt |  0
 .../2/frontend/templates/index.html                | 90 ++++++++++++++++++++++
 flask/flask tutorial/backend/.env                  |  1 +
 flask/flask tutorial/backend/app.py                | 42 ++++++++++
 flask/flask tutorial/backend/requirements.txt      |  4 +
 flask/flask tutorial/backend/tempCodeRunnerFile.py |  1 +
 flask/flask tutorial/frontend/app.py               | 31 ++++++++
 flask/flask tutorial/frontend/requirements.txt     |  2 +
 flask/flask tutorial/frontend/templates/index.html | 54 +++++++++++++
 hello.txt                                          |  1 +
 index.html                                         | 14 ++++
 17 files changed, 319 insertions(+)
```

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/flask (main)
$ git remote -v
origin  https://github.com/amey-21/Learning-Devops.git (fetch)
origin  https://github.com/amey-21/Learning-Devops.git (push)

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/flask (main)
$ git commit -m "merged new branch"
On branch main
nothing to commit, working tree clean

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/flask (main)
$ git push origin main
Enumerating objects: 30, done.
Counting objects: 100% (30/30), done.
Delta compression using up to 8 threads
Compressing objects: 100% (23/23), done.
Writing objects: 100% (29/29), 5.04 KiB | 322.00 KiB/s, done.
Total 29 (delta 3), reused 0 (delta 0), pack-reused 0 (from 0)
remote: Resolving deltas: 100% (3/3), completed with 1 local object.
To https://github.com/amey-21/Learning-Devops.git
   4db8ef6..2a32891  main -> main
```

3. **Branch Creation**:

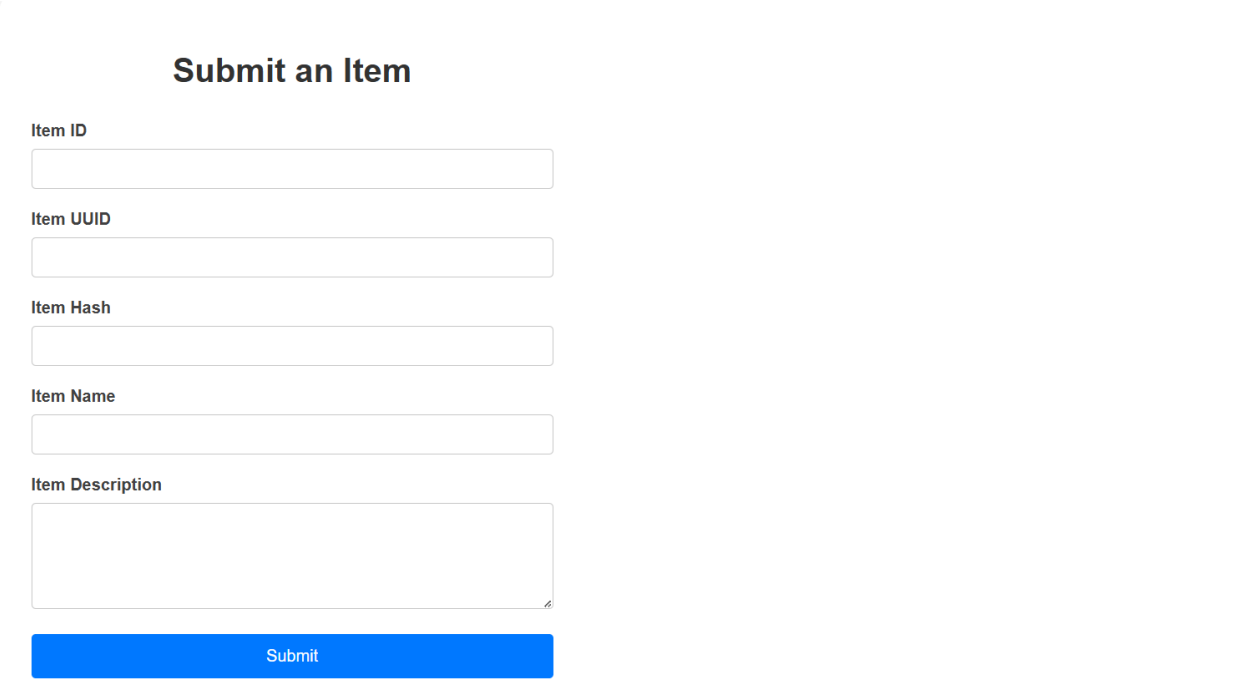
- Create two branches: `master_1` and `master_2` from the `main` branch.
- **Feature Development in** `master_1`:
- In the `master_1` branch, create a **To-Do Page** in the frontend.
    - The page should contain a form with the following fields:
        - **Item Name**
        - **Item Description**
- **Backend API in** `master_2`:
- In the `master_2` branch, create a backend route named `/submittodoitem`.
- This route will:
    - Accept `itemName` and `itemDescription` via a POST request.
    - Store these details in a MongoDB database.
- **Merging Changes**:
- Merge the changes from both `master_1` and `master_2` into the `main` branch.





4. **Enhancing the To-Do Form in** `master_1`:

- In the `master_1` branch, add the following fields to the To-Do form:
    - **Item ID**
    - **Item UUID**
    - **Item Hash**
- **Committing in Sequence**:
- Add and commit each field separately in the following order:
    - **First commit**: Add **Item ID** field.
    - **Second commit**: Add **Item UUID** field.
    - **Third commit**: Add **Item Hash** field.
- **Merging to** `main`:
- Merge the `master_1` branch into the `main` branch.
- **Git Reset and Commit Deletion**:
- In the `main` branch, use **Git Reset** to roll back to the commit where only the **Item ID** field was added.
- Use `git reset --soft` to ensure changes remain staged.
- Re-commit this state to the `main` branch.
- Merge this updated state to the `main` branch.
- **Rebasing Changes**:
- Rebase the updated changes in the `main` branch to the `master_1` branch.
  Clarification:
    - During rebasing, **preserve individual commits** to maintain the commit history for each change (i.e., do not squash commits).
    - Use `git rebase main master_1` to integrate changes from the `main` branch back into the `master_1` branch.



```
commit decb370d404ae8712f00f921024a0b662e095deb (master_1)
Author: Amey <ameyjadhav152@gmail.com>
Date:   Thu Jul 31 00:22:15 2025 +0530

    added item hash

commit d187fa31af8f25b199c0f1937e9f0aa13a657ad3
Author: Amey <ameyjadhav152@gmail.com>
Date:   Thu Jul 31 00:19:13 2025 +0530

    added item uuid

commit 0ad0360d485f7e1c8a7a4cd9c36b7f00798fbb30
Author: Amey <ameyjadhav152@gmail.com>
Date:   Thu Jul 31 00:17:00 2025 +0530

    added item id
```

```
Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/to-do_form (main)
$ git reset 0ad0360d485f7e1c8a7a4cd9c36b7f00798fbb30
Unstaged changes after reset:
M       to-do_form/frontend/app.py
M       to-do_form/frontend/templates/index.html

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/to-do_form (main)
$ git reset --soft

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/to-do_form (main)
$ git add .

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/to-do_form (main)
$ git commit -m "used git reset"
[main b8b16f7] used git reset
 4 files changed, 40 insertions(+), 4 deletions(-)
 create mode 100644 to-do_form/backend/.env
 create mode 100644 to-do_form/backend/app.py

Amey@AMEY MINGW64 ~/OneDrive/Desktop/devops/learn_git/to-do_form (main)
$ git merge main
Already up to date.
```

Submission Guidelines -: Attach Screenshots or command along with explanation and submit in doc(google doc or microsoft doc) format , also share link of your github repo