Publishing Docker Image and packaging with GitHub Action

Steps to be followed:

1. Log in to GitHub.com.
2. Create a Docker Hub account to publish the Docker image.
3. Create workflow and required secrets for building Docker images.

Step 1: Log in to GitHub.com

1.1 Sign in to the GitHub portal at https://github.com

1.2 Navigate to your repository main page where we are going to create a workflow file.

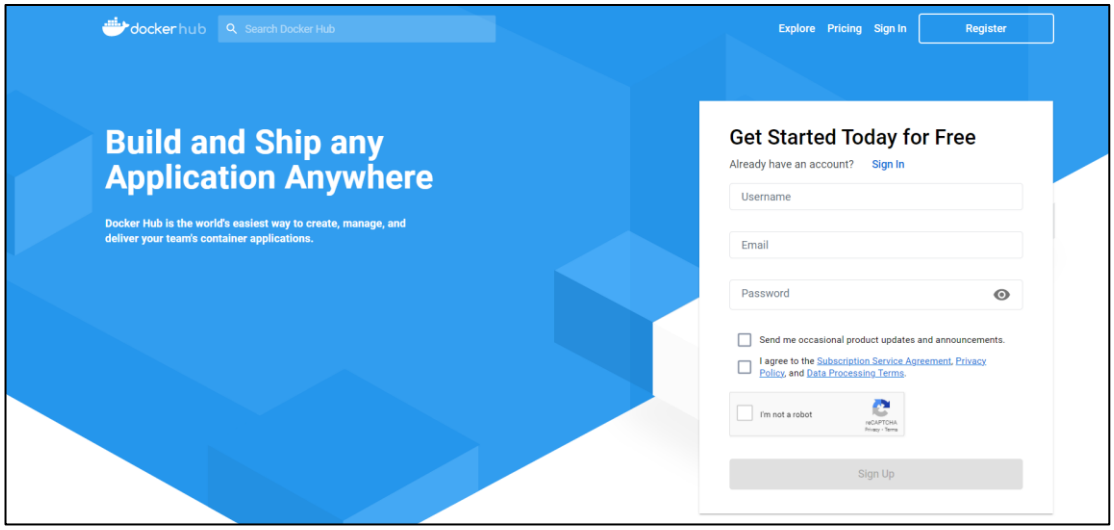
1.3 In case the repository is not available fork below mentioned repository in your GitHub account:
https://github.com/github-simplilearn-net/Docker

Step 2: Create a Docker Hub account to publish the Docker image.

2.1 Navigate to the below URL and register and get a new free account on the Docker hub. This is going to be used for publishing Docker images.

https://hub.docker.com/

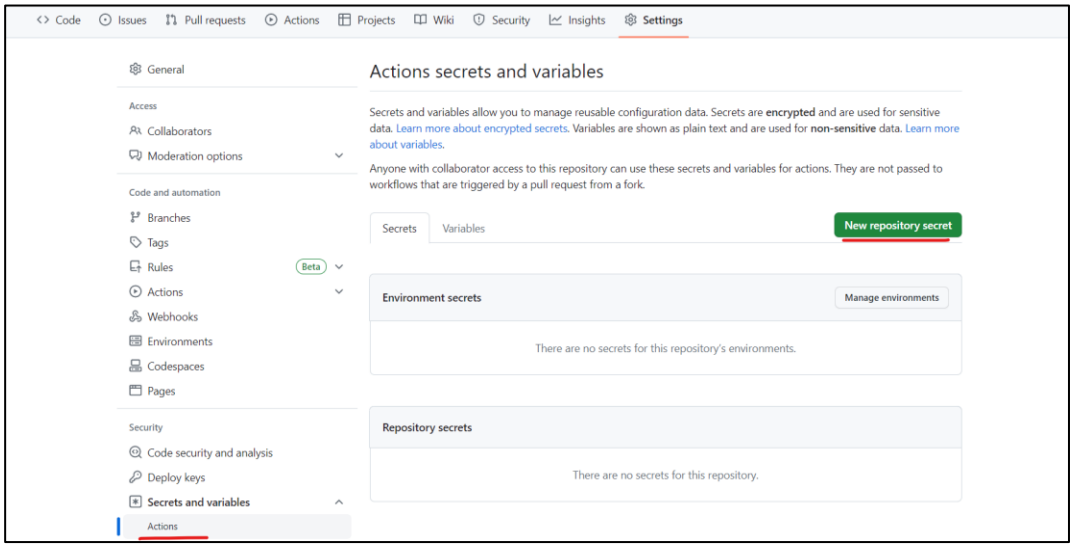
2.2 Provide user details such as **username**, **email id**, and **password**, and then select I agree and proceed with signing up for a free account.



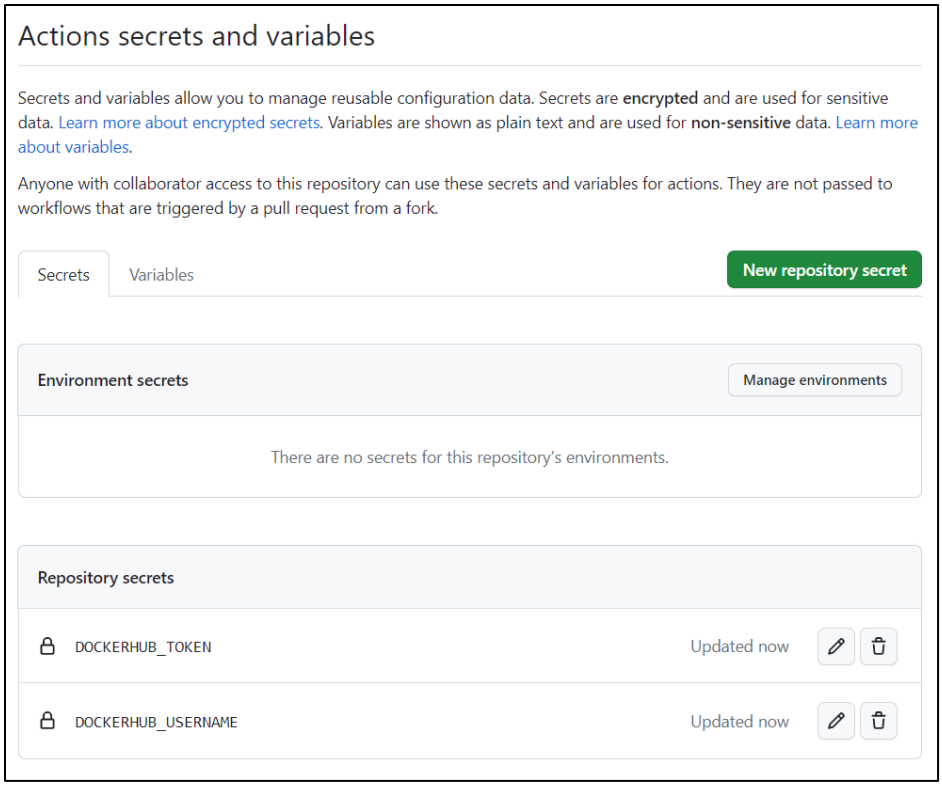
Step 3: Create workflow and required secrets for building Docker image.

3.1 Create two new secrets regarding the Docker hub username and password which will be used to publish the Docker image from GitHub actions.

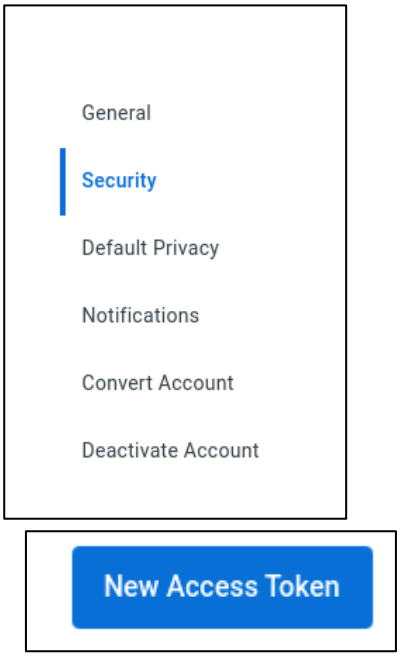
3.2 Navigate to the **settings** tab on your repository main page and go to the **Security** section and select the **Secrets and Variables** dropdown to create new Actions secrets.

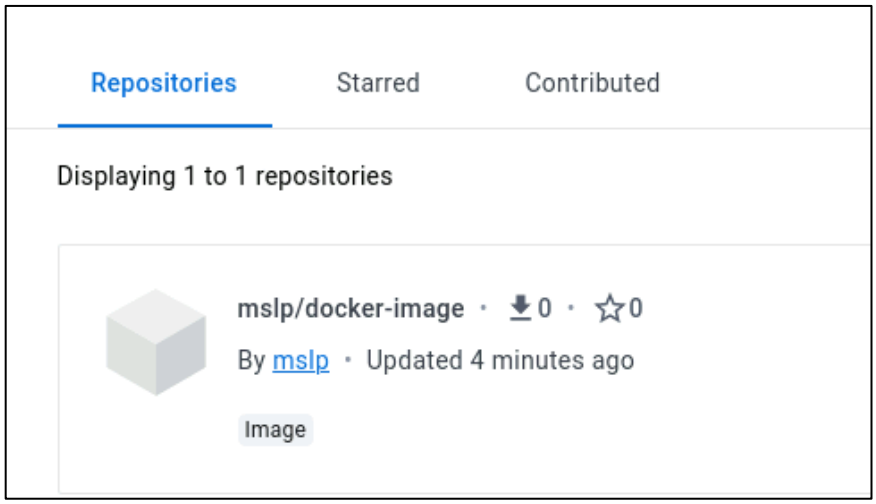


3.3 Next, we have to create a **new repository secret** to have a Docker hub username and password as below:



To create an Access Token:





3.4 Next, we have to create a Docker workflow file to automate the CI process for building custom Docker images.

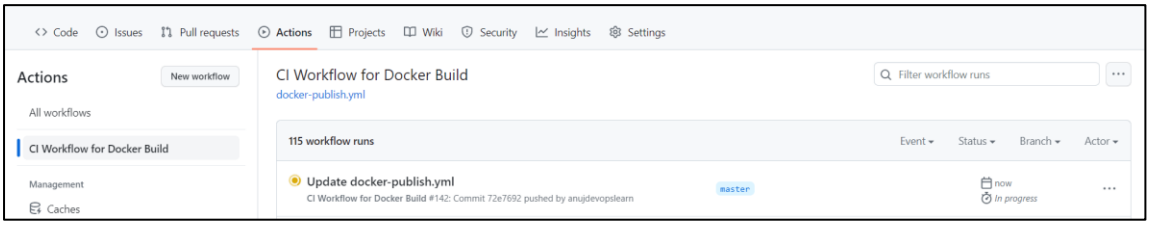
3.5 Create a **.github/workflows** directory in your repository in case the directory does not exist.

3.6 In the workflow directory, create a new workflow file with the name docker-**publish.yml.**

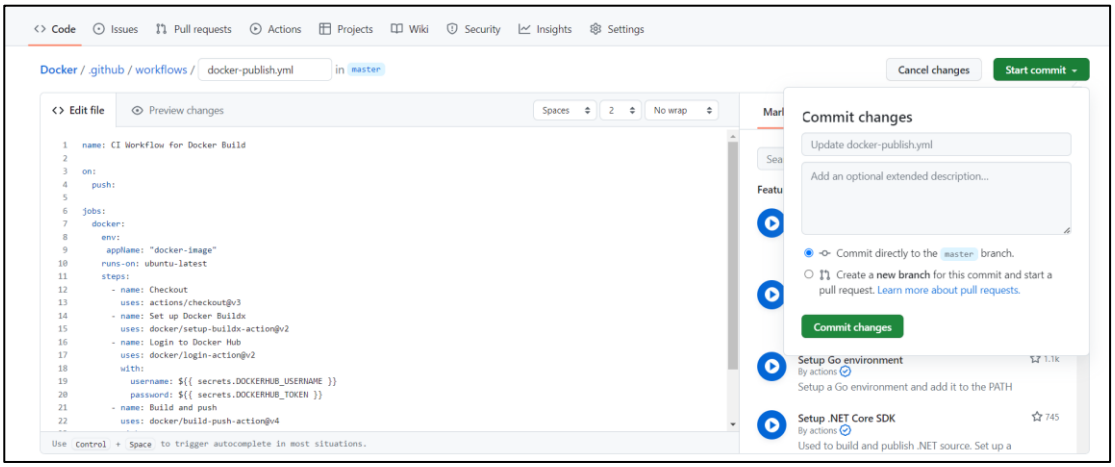
3.7 Add the below workflow content in the above created file.

```
name: CI Workflow for Docker Build

on:
  push:

jobs:
  docker:
    env:
     appName: "docker-image"
    runs-on: ubuntu-latest
    steps:
      - name: Checkout
        uses: actions/checkout@v3
      - name: Set up Docker Buildx
        uses: docker/setup-buildx-action@v2
      - name: Login to Docker Hub
        uses: docker/login-action@v2
```

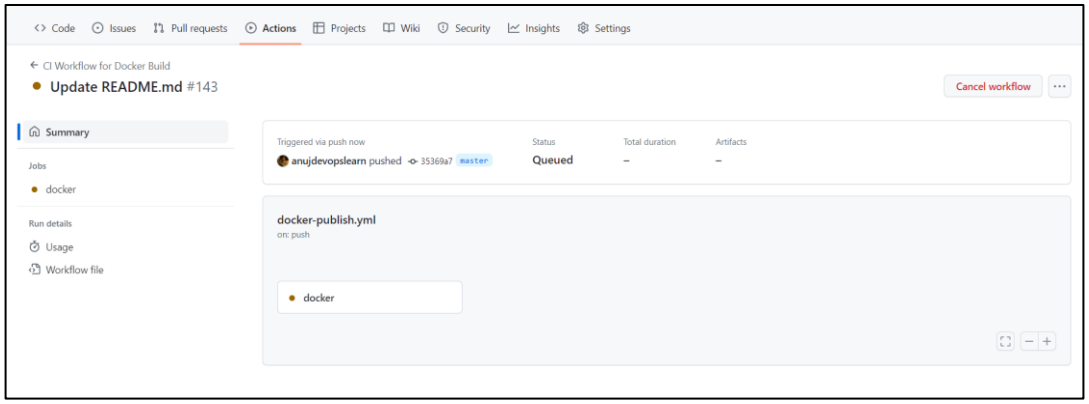
```
  with:
    username: ${{ secrets.DOCKERHUB_USERNAME }}
    password: ${{ secrets.DOCKERHUB_TOKEN }}
- name: Build and push
  uses: docker/build-push-action@v4
  with:
    context: .
    push: true
    tags: ${{ secrets.DOCKERHUB_USERNAME }}/${{ env.appName }}:latest
```



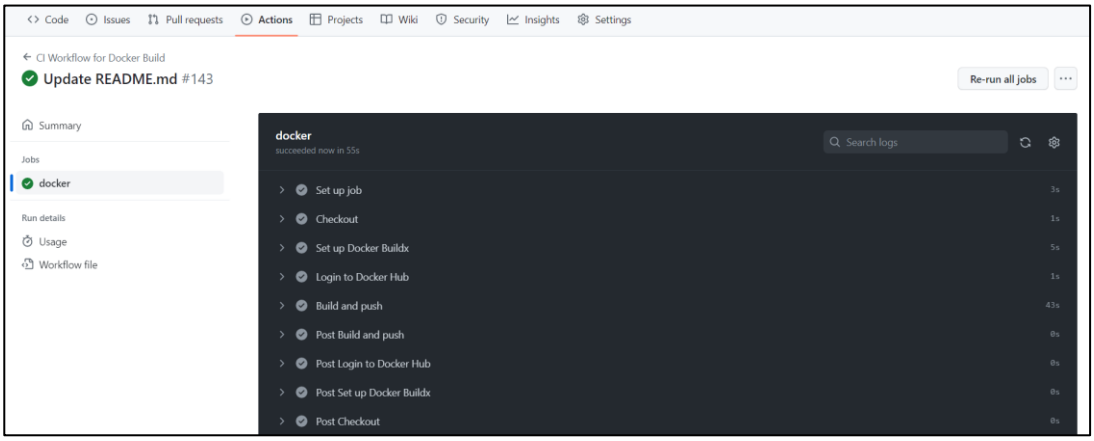
3.8 Once the file is created, click on **Commit new file** to save the workflow file in your code repository.



3.9 Next navigate to **the Actions** tab on your repository to access the workflow execution page as below:



3.10 Select the latest **execution logs** from GitHub actions and look for detailed execution logs as below:



Once the workflow is completed, Validate the Docker image on the Docker hub and see if that gets uploaded there.