

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.

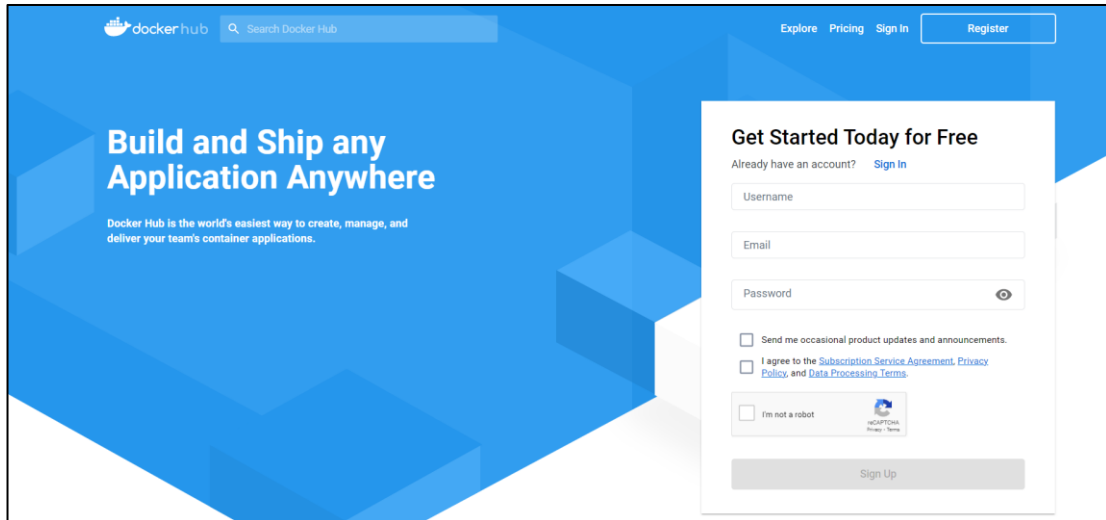
Step 1: Log in to GitHub.com

- 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.

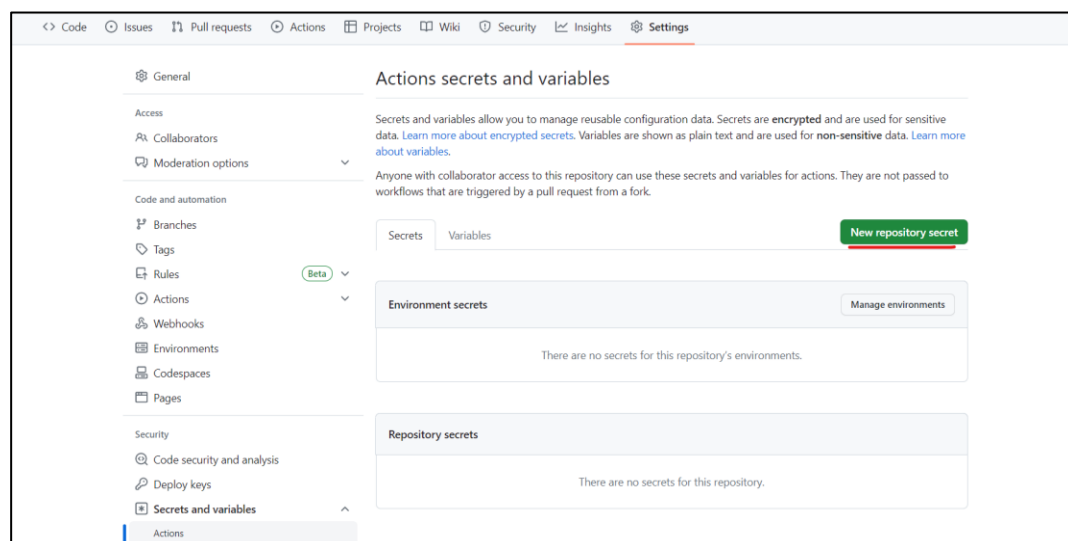
- 2.1 Navigate to the below URL and register and get a new free account on the Docker hub.
This is going to be used for publishing Docker images.

<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:

Actions secrets and variables

Secrets and variables allow you to manage reusable configuration data. Secrets are **encrypted** and are used for sensitive data. [Learn more about encrypted secrets](#). Variables are shown as plain text and are used for **non-sensitive** data. [Learn more about variables](#).

Anyone with collaborator access to this repository can use these secrets and variables for actions. They are not passed to workflows that are triggered by a pull request from a fork.

Secrets

Variables

New repository secret

Environment secrets

Manage environments

There are no secrets for this repository's environments.

Repository secrets

🔒 DOCKERHUB_TOKEN

Updated now



🔒 DOCKERHUB_USERNAME

Updated now



To create an Access Token:

General

Security

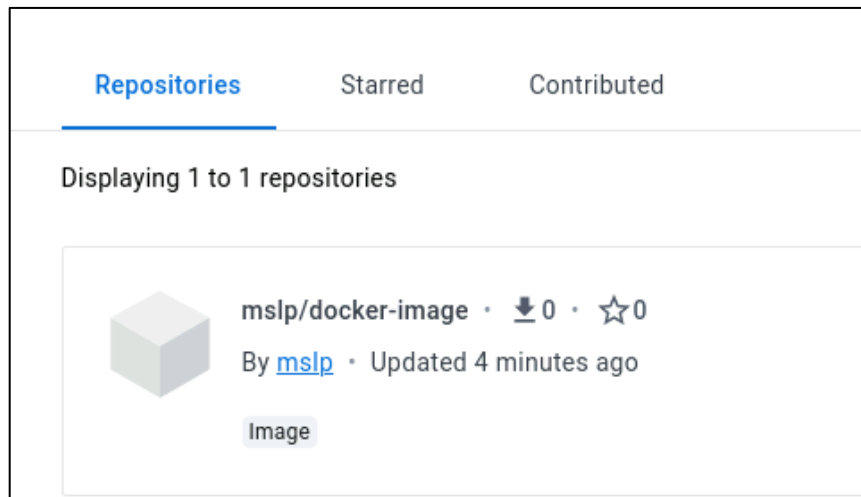
Default Privacy

Notifications

Convert Account

Deactivate Account

New 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

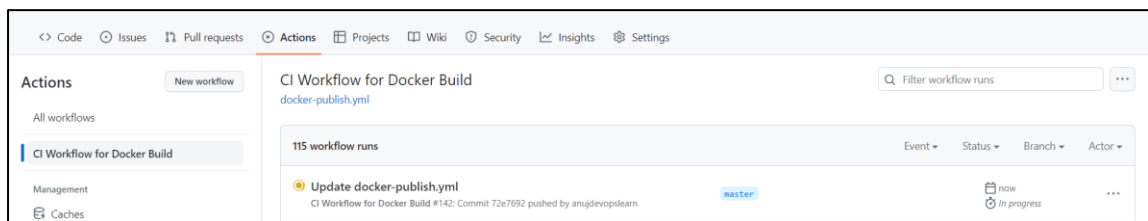
uses: docker/build-push-action@v4

with:

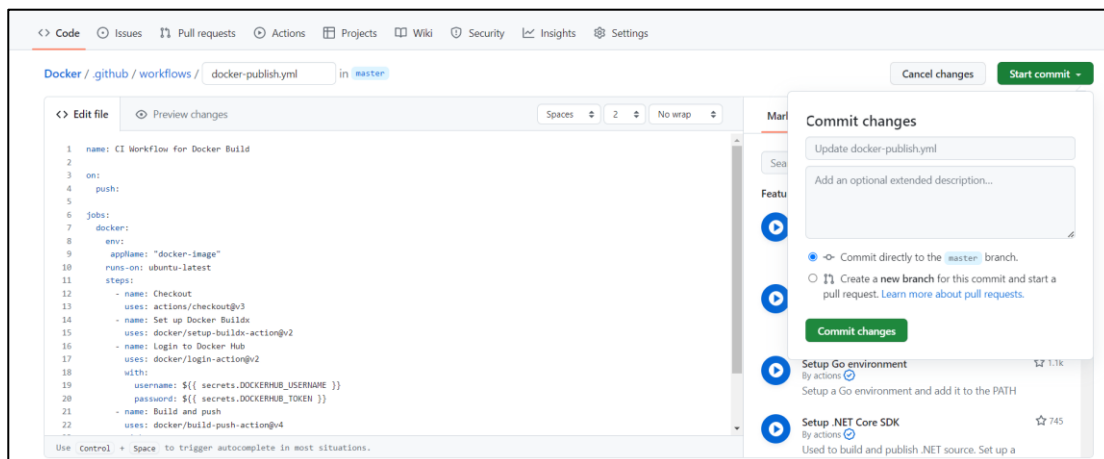
context: .

push: true

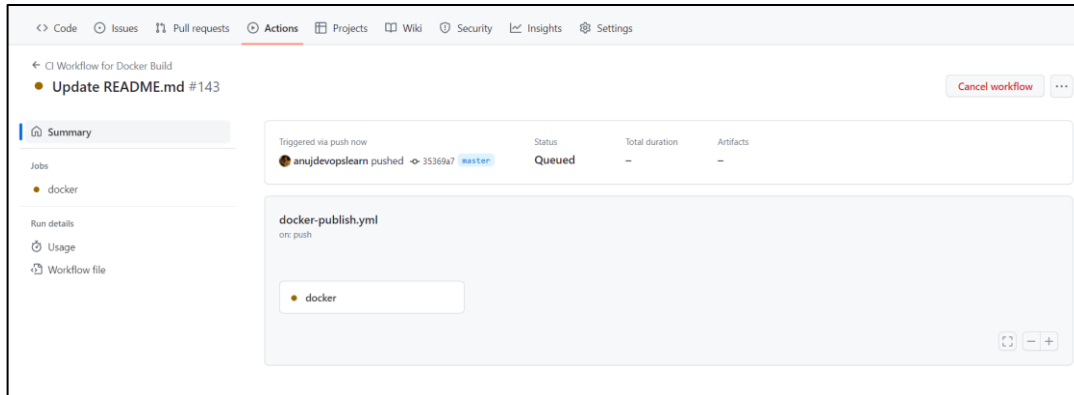
tags: \${{ secrets.DOCKERHUB_USERNAME }}/\${{ env.appName }}:latest



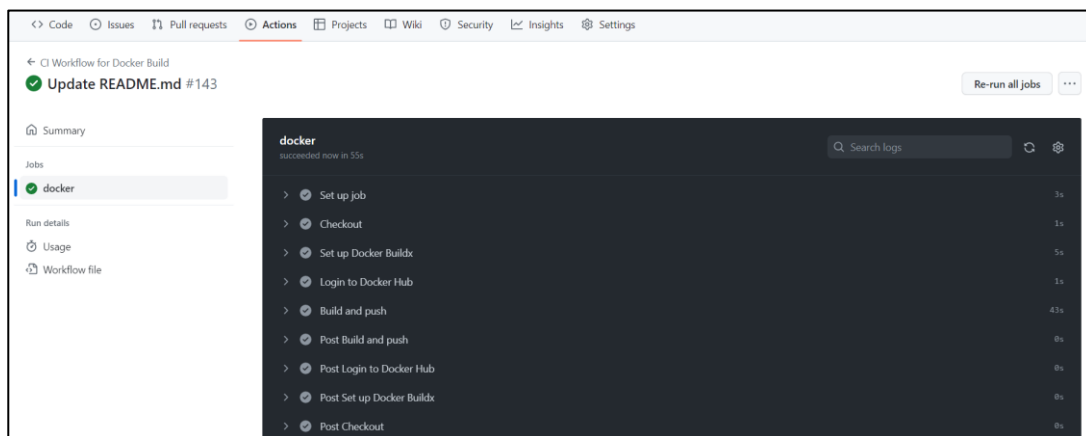
3.8 Once the file is created, click on **Commit new file** to save the workflow file in your code repository.



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.

