gh-actions-task

Practical task

- 1. Fork spring-petclinic repository in GitHub. Add your Dockerfile.
- Create 2 docker repositories on your own Nexus Repository (<u>Instruction</u>)
 or https://hub.docker.com/ called "main" and "mr". Alternatively, you can use a
 container registry provided by a Cloud Provider.
- 3. Add .github/workflows/build.yml file and describe the following behavior there:
 - a. The pipeline for a merge request should include the following jobs:
 - Checkstyle: Use <u>Maven</u> or <u>Gradle</u> checkstyle plugin to generate a code style report. It should be available as a job artifact.
 - ii. Test (with Maven or Gradle)
 - iii. Build: Build without tests (with Maven or Gradle).

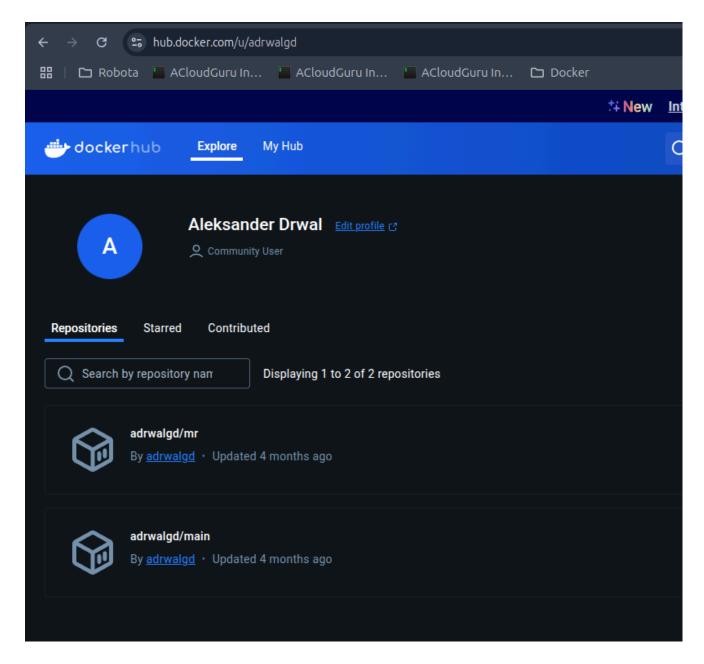
Note: For the first 3 jobs, the GitHub Actions runner can use maven: 3.8.5openjdk-17 docker image.

iv. Create a docker image: Using your Dockerfile in the spring-petclinic repo, create a docker image with spring-petclinic application, tag it using a unique commit id and push it to the "mr" repository.

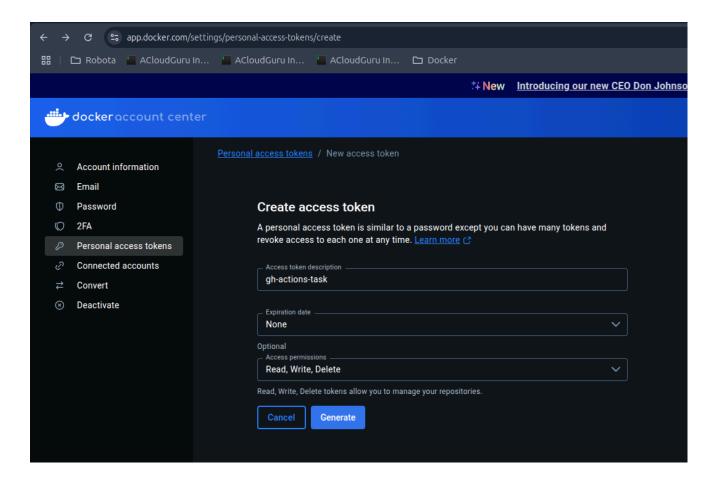
Note: https://github.com/marketplace/actions/build-and-push-docker-images

- b. The pipeline for the main branch should include the following job:
 - Create a docker image: Build a docker image and push it to the "main" repository.

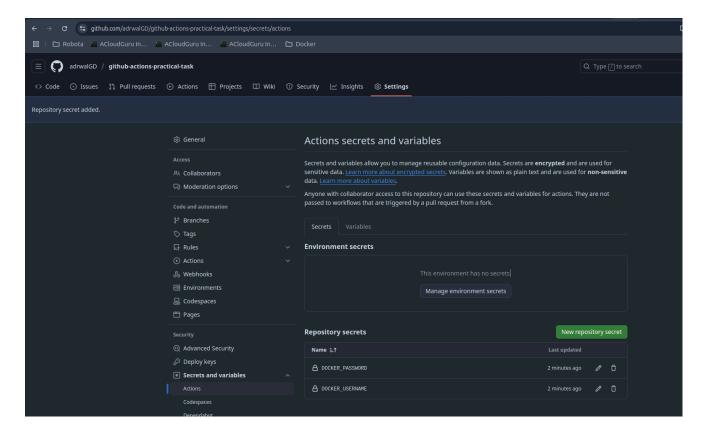
1. Create Docker hub repositories



2. Generate access token to Dockerhub



3. Add generated token and username to Github Secrets



4. Github Action workflow

name: CI Pipeline

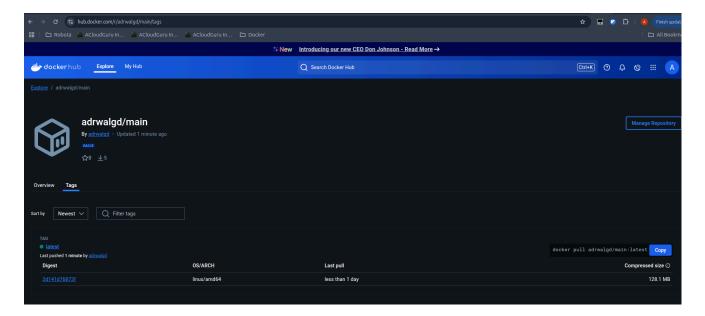
```
on:
  push:
   branches:
     - main
 pull_request:
   branches:
      _ '**'
jobs:
  checkstyle:
    name: Checkstyle Report
    runs-on: ubuntu-latest
    container:
      image: maven:3.8.5-openjdk-17
   steps:
      - name: Checkout Code
        uses: actions/checkout@v4
      - name: Run Checkstyle
        run: mvn checkstyle:checkstyle
      - name: Upload Checkstyle Report
        uses: actions/upload-artifact@v4
        with:
          name: checkstyle-report
          path: target/reports/
  test:
    name: Run Tests
    runs-on: ubuntu-latest
    steps:
     - name: Checkout Code
       uses: actions/checkout@v4
      - name: Set up JDK 17
       uses: actions/setup-java@v4
        with:
          java-version: 17
          distribution: 'adopt'
          cache: maven
      - name: Build with Maven Wrapper
        run: ./mvnw test
  build:
    name: Build (Skip Tests)
    runs-on: ubuntu-latest
    container:
      image: maven:3.8.5-openjdk-17
   steps:
```

```
- name: Checkout Code
      uses: actions/checkout@v4
    name: Build Application (Skip Tests)
      run: mvn package -DskipTests
docker-build-mr:
  name: Build & Push Docker Image for Merge Request
 if: github.event name == 'pull request'
  runs-on: ubuntu-latest
 steps:
   - name: Checkout Code
     uses: actions/checkout@v4
    - name: Set up Docker Buildx
     uses: docker/setup-buildx-action@v1
    - name: Log in to Docker Registry
     uses: docker/login-action@v1
     with:
       username: ${{ secrets.DOCKER USERNAME }}
        password: ${{ secrets.DOCKER PASSWORD }}
    - name: Build and Push Docker Image
     uses: docker/build-push-action@v2
     with:
        context: .
        file: Dockerfile
        push: true
        tags: ${{ secrets.DOCKER_USERNAME }}/mr:${{ github.sha }}
docker-build-main:
  name: Build & Push Docker Image for Main Branch
  if: github.ref == 'refs/heads/main'
  runs-on: ubuntu-latest
  steps:
    - name: Checkout Code
      uses: actions/checkout@v4
    - name: Set up Docker Buildx
     uses: docker/setup-buildx-action@v1
    - name: Log in to Docker Registry
     uses: docker/login-action@v1
     with:
        username: ${{ secrets.DOCKER USERNAME }}
        password: ${{ secrets.DOCKER PASSWORD }}
    - name: Build and Push Docker Image
      uses: docker/build-push-action@v2
```

```
with:
    context: .
    file: Dockerfile
    push: true
    tags: ${{ secrets.DOCKER_USERNAME }}/main:latest
```

5. Testing

Main branch commit:



Pull request

