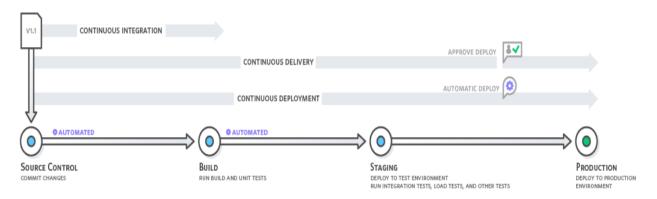
Continuous Integration



Continuous Integration is a DevOps software development practice where developers regularly merge their code changes into a central repository like GitHub, after which automated builds and tests are run



Some Continuous Integration tools



Jenkins

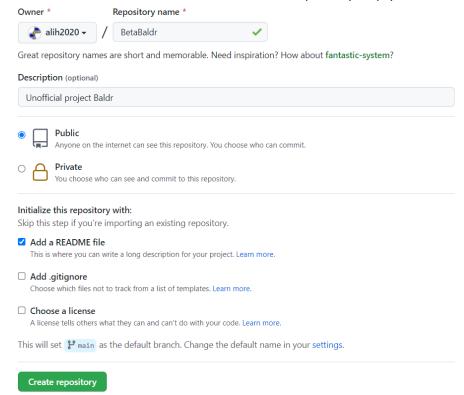


Travis CI

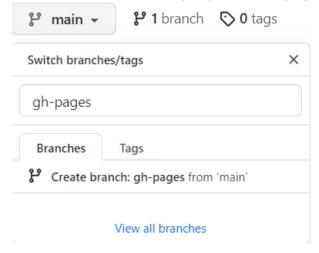
3 circleci

Cercle CI

- 1- In GitHub, create a new repository
 - Give a repository name
 - Make the repository public to access GitHub Pages afterwards
 - Add a README file in order not to initialize the repository empty



2- Create branches (if necessary, depend on the project's nature) like this

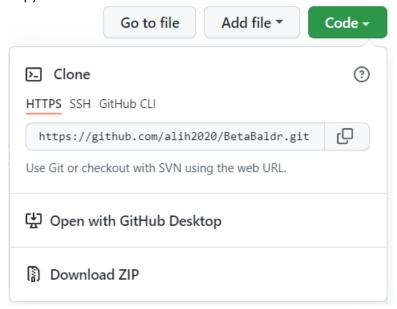


3- In GitHub Pages >> Source, change the branch for the respected source when opening GitHub Pages

GitHub Pages

GitHub Pages is designed to host your personal, organization, or project pages from a GitHub repository.

4- Copy the GitHub code in order to work with Git Bash like this



5- Clone the code URL:// by creating a directory where to clone and access the git directory

```
mamza@LAPTOP-FF4CF5E6 MINGW64 ~

git clone https://github.com/alih2020/BetaBaldr

cd BetaBaldr/

hamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr

git clone https://github.com/alih2020/BetaBaldr

cd BetaBaldr/

hamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr

schamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr

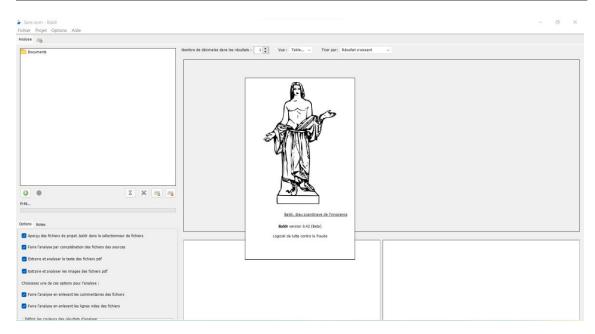
schamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr

schamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr

schamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr/BetaBaldr (main)

schamza@LAPTOP-FF4CF5E6 MINGW64 /c/BetaBaldr/BetaBaldr (main)
```

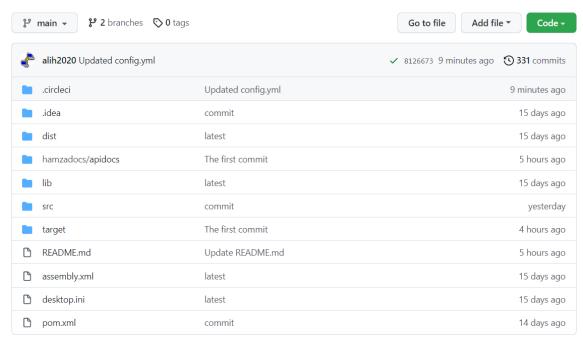
6- On IntelliJ, run the project Baldr and test Maven commands as this particular type of Java project will use the Maven plugins



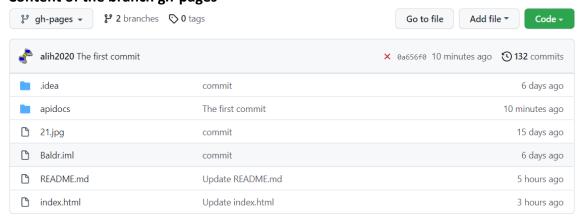
7- Modify JAVA code according the Cercle CI. For example:

```
□ TableViewCellCustomRendererjava  □ Attroposform  □ Attropos
```

Content of the branch main:



Content of the branch gh-pages



Project Baldr in Cercle CI

Build-agent version 1.0.112003-6388b7f7 (2022-03-02T09:43:51+0000)

System information:
Server Version: 20.10.12

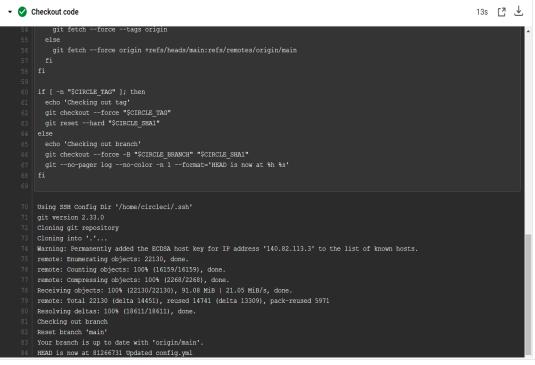
Storage Driver: overlay2
Backing Filesystem: xfs
Cgroup Driver: ogroupfs
Cgroup Driver: ogroupfs
Ograting System: Ubuntu 20.04.3 LTS
OSType: linux
Architecture: x86_64

Starting container cimg/openjdk:11.0
cimg/openjdk:11.0:
using image cimg/openjdkesha256:8a305d0cbe9f7398901f287817d034723f964b6368c03e10e2d92a37d34ac62c
pull stats: Image was already available so the image was not pulled
time to create container: 8ms
Warning: No authentication provided, using CircleCI credentials for pulls from Docker Hub.
image is cached as cimg/openjdk:11.0, but refreshing...
11.0: Fulling from cimg/openjdk
Digest: sha256:8a305d0cbe9f7398901f287817d034723f964b6368c03e10e2d92a37d34ac62c
Status: Image is up to date for cimg/openjdk:11.0
Time to upload agent and config: 324.2.10895ms
Time to upload agent and config: 324.2.10895ms
Time to start containers: 337.202634ms

▼ ✓ Preparing environment variables

0s [7 ±

1 Using build environment variables: 2 BASH_ENV=/tmp/.bash_env-622053b71e32854a0a556f8c-0-build CI=true CIRCLECI=true CIRCLE BRANCH=main 6 CIRCLE BUILD NUM=707 7 CIRCLE_BUILD_URL=https://circleci.com/gh/alih2020/AlphaBaldr/707 8 CIRCLE_COMPARE_URL= CIRCLE JOB=build-and-test CIRCLE NODE INDEX=0 11 CIRCLE NODE TOTAL=1 12 CIRCLE_PREVIOUS_BUILD_NUM=705 13 CIRCLE_PROJECT_REPONAME=AlphaBaldr 14 CIRCLE_PROJECT_USERNAME=alih2020 CIRCLE REPOSITORY URL=git@github.com:alih2020/AlphaBaldr.git CIRCLE SHA1=81266731e44bc7886d59f8edead520373ec79f76 17 CIRCLE SHELL ENV=/tmp/.bash env-622053b71e32854a0a556f8c-0-build 18 CIRCLE_STAGE=build-and-test 19 CIRCLE_USERNAME=alih2020 CIRCLE_WORKFLOW_ID=eaebd302-1af8-4834-bce3-923e56bc2645 CIRCLE_WORKFLOW_JOB_ID=ce108a17-713b-4b31-a36c-4dafd2ef2f36 CIRCLE WORKFLOW UPSTREAM JOB IDS= CIRCLE WORKFLOW WORKSPACE ID=7f387889-6820-4a93-897c-c2e2e79a82c6 CIRCLE_WORKING_DIRECTORY=~/project The redacted variables listed above will be masked in run step output.



Hello-world

Os C7

#!/bin/bash -eo pipefail
echo "Hello World"

Hello World
CircleCI received exit code 0

1s [7] ↓ wnloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/10/apache-10.pom (15 kB at 2.5 MB/s) Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2 Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/plugins/maven-clean-plugin/2.5/maven-clean-plugin-2 Downloading from central: https://repo.mayen.apache.org/mayen2/org/apache/mayen/mayen-plugin-api/2.0.6/mayen-plugin-api-2.0.6.pom Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.pom (1 Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-parent/5/maven-parent-5.pom Downloading from central: https://repo.maven.apache.org/maven2/org/apache/apache/3/apache-3.pom Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/apache/3/apache-3.pom (3.4 kB at 286 kB/s) Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus-utils/3.0/plexus-utils-3.0.pom (4.1 kB at Downloading from central: https://repo.maven.apache.org/maven2/org/sonatype/spice/spice-parent/16/spice-parent-16.pom Downloading from central: https://repo.maven.apache.org/maven2/org/sonatype/forge-parent/5/forge-parent-5.pom Downloaded from central: https://repo.maven.apache.org/maven2/org/sonatype/forge-parent/5/forge-parent-5.pom (8.4 kB at 1.2 ME Downloading from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus/plexus-utils/3.0/plexus-utils-3.0.jar
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven-plugin-api/2.0.6/maven-plugin-api-2.0.6.jar (1) [INFO] Deleting /home/circleci/project/target [INFO] Total time: 0.795 s [INFO] Finished at: 2022-03-03T05:36:09Z CircleCI received exit code 0

- 🗸 install

Your output is too large to display in the browser.

Only the last 400000 characters are displayed.

Download the full output as a file

Downloaded from central: https://repo.maven.apache.org/maven2/org/codehaus/plexus-interpolation/1.22/plexus-interpolation-1.22.jar (77 kB at 4.1.)

Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/mappy/0.3/snappy-0.3.jar

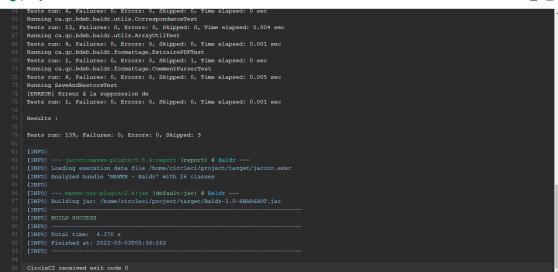
Downloaded from central: https://repo.maven.apache.org/maven2/org/apache/maven/maven-plugin-descriptor/2.2.1/maven-plugin-descriptor-2.2.1.jar (39 kB Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/file-management/1.1/file-management-1.1.jar

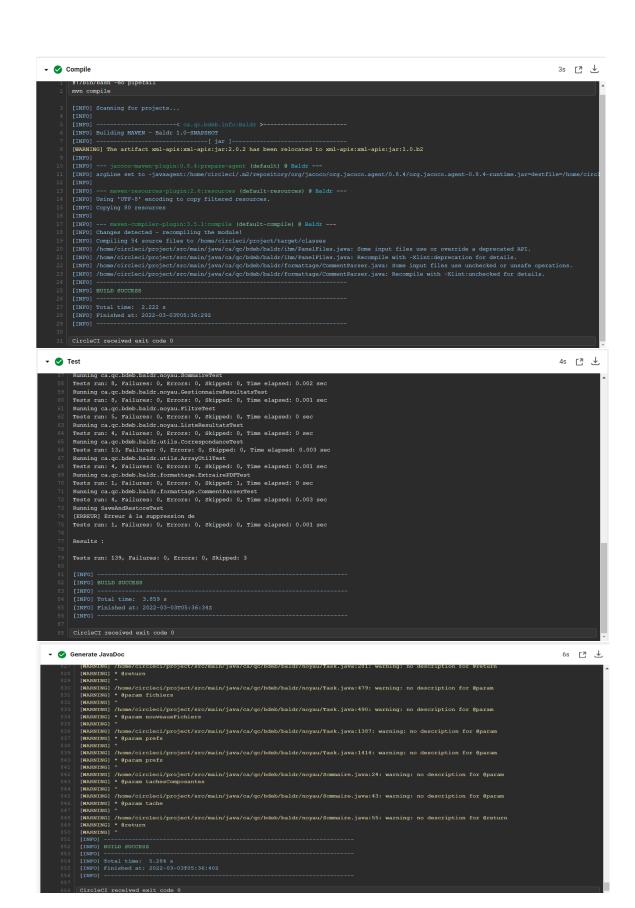
Downloading from central: https://repo.maven.apache.org/maven2/org/apache/maven/shared/maven-common-artifact-filters/1.4/maven-common-artifact-filters

 ▼ Ø package

 5s

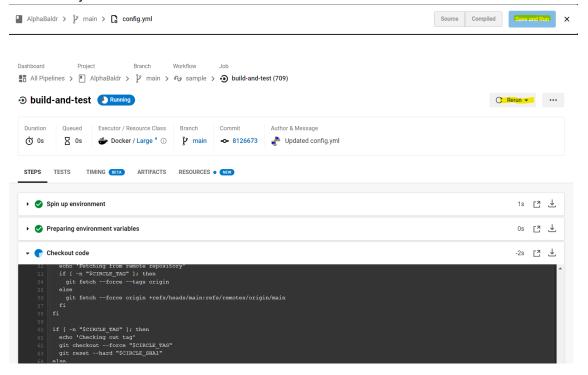
 [7] ★





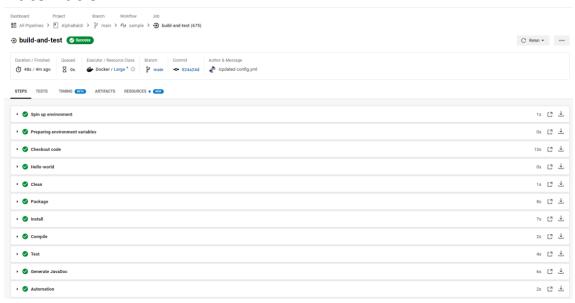
```
### Automation | Automatical |
```

8- Run the Project and Rerun



Proof that JAVADOC will now be generated as the JAVA code changes

Automation



Content of the automation file config.yml

Use the latest 2.1 version of CircleCI pipeline process engine. # See: https://circleci.com/docs/2.0/configuration-reference version: 2.1 # Define a job to be invoked later in a workflow. # See: https://circleci.com/docs/2.0/configuration-reference/#jobs jobs: # Below is the definition of your job to build and test your app, you can rename and customize it as you want. build-and-test: # These next lines define a Docker executor: https://circleci.com/docs/2.0/executor-types/ # You can specify an image from Dockerhub or use one of our Convenience Images from CircleCI's Developer Hub. # Be sure to update the Docker image tag below to openjdk version of your application. # A list of available CircleCI Docker Convenience Images are available here: https://circleci.com/developer/images/image/cimg/openjdk docker: - image: cimg/openjdk:11.0 auth: username: mydockerhub-user password: \$DOCKERHUB_PASSWORD # Add steps to the job # See: https://circleci.com/docs/2.0/configuration-reference/#steps steps: # Checkout le code comme première étape du projet. - checkout # Testez un message dans echo - run: name: Hello-world command: echo "Hello World" # Utilisez la commande mvn clean et mvn package asthe comme les phases standard de maven - run: name: Clean command: mvn clean - run: name: Package command: mvn package

```
# Après installez, compilez and démarrer vos tests!
       - run:
            name: Install
            command: mvn install
       - run:
            name: Compile
            command: mvn compile
       - run:
            name: Test
            command: mvn test
          # Générez le JavaDoc
       - run:
           name: Generate JavaDoc
           command: mvn javadoc:javadoc
       - run:
            name: Automation
            command: |
                 # Créer un fichier temporaire dans le répertoire tmp
                   cd ../../tmp
                   mkdir fichierTemporaire
                   # Copier les fichiers apidocs du projet dans le fichier temporaire
                   mv ../home/circleci/project/target/site/apidocs fichierTemporaire/
                   cd fichierTemporaire/apidocs
                   # Retourner dans le projet git avant de changer de branche
                   cd ../../home/circleci/project
                   # Nétoyyer le contenu du branche main pour pouvoir changer de branche
                   mvn clean
                   # Changer de branche
                   git switch gh-pages
           # Allez dans le fichier temporaire pour pouvoir récupérer les fichiers javadoc et les copiers dans le répertoire apidocs
                   cp -r ../../tmp/fichierTemporaire/apidocs apidocs/
                   # Effectuez le commit pour apporter et autorisez les modifications lors de l'automatisation
                  # Entrez votre nom et email pour la configuration
                   git config user.email <a href="mailto:hamzaalih@hotmail.com">hamzaalih@hotmail.com</a>
                   git config user.name "Hamza Ali"
                   git commit -m "The first commit"
```

git push origin gh-pages

See: https://circleci.com/docs/2.0/configuration-reference/#workflows

workflows:

sample: # This is the name of the workflow, feel free to change it to better match your workflow.

Inside the workflow, you define the jobs you want to run.

iobs:

- build-and-test

This might help you

Enter all require documents in the branch main Enter all require document in the branch gh-pages (git switch)

git pull = to pull a code from GitHub

git add . = to add a code in particular branch

git commit -m "message" = to commit the code after staging phase

git push origin [branch-name] = to push code into GitHub

mvn clean = clean the mayen commands

mvn install = install before analysing the project

mvn deploy = deploy the code

mvn package = establish the pakages

mvn compile = compile the code of the project

mvn test = test the project's code

mvn javadoc:javadoc = generates javadoc of the project's code

Login into Cercle CI by identifying with GitHub credentials in order to merge it with the continuous tool Circle CI