Internet Banking(Loan)

```
nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking
$ git init
Initialized empty Git repository in D:/Java-SpringBoot/Banking/.git/

nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git status
On branch master

No commits yet

Untracked files:
  (use "git add <file>..." to include in what will be committed)
        .gitignore
        .mvn/
        bin/
        mvnw
        mvnw.cmd
        pom.xml
        src/

nothing added to commit but untracked files present (use "git add" to track)

nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git add .
warning: in the working copy of '.gitignore', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of '.mvn/wrapper/maven-wrapper.properties', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/.gitignore', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/.mvn/wrapper/maven-wrapper.properties', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/mvnw', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/mvnw.cmd', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/pom.xml', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'bin/src/main/resources/application.properties', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'mvnw', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'mvnw.cmd', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'pom.xml', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'src/main/java/com/loan/BankingApplication.java', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'src/main/java/com/loan/ServletInitializer.java', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'src/main/resources/application.properties', LF will be replaced by CRLF the next time Git touches it
warning: in the working copy of 'src/test/java/com/loan/BankingApplicationTests.java', LF will be replaced by CRLF the next time Git touches it

nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git commit -m "First Commit"
[master (root-commit) eed7680] First Commit
 Committer: Nagajeyandhan Ravi <nagajeyandhan.ravi@itp.objectfrontier.com>
Your name and email address were configured automatically based
on your username and hostname. Please check that they are accurate.
You can suppress this message by setting them explicitly:

    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 32 files changed, 2045 insertions(+)
 create mode 100644 .gitignore
```

```
nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git commit -m "First Commit"
[master (root-commit) eed7680] First Commit
 Committer: Nagajeyandhan Ravi <nagajeyandhan.ravi@itp.objectfrontier.com>
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on your username and hostname. Please check that they are accurate.
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    git config --global user.name "Your Name"
    git config --global user.email you@example.com

After doing this, you may fix the identity used for this commit with:

    git commit --amend --reset-author

 32 files changed, 2045 insertions(+)
 create mode 100644 .gitignore
 create mode 100644 .mvn/wrapper/maven-wrapper.jar
 create mode 100644 .mvn/wrapper/maven-wrapper.properties
 create mode 100644 bin/.gitignore
 create mode 100644 bin/.mvn/wrapper/maven-wrapper.jar
 create mode 100644 bin/.mvn/wrapper/maven-wrapper.properties
 create mode 100644 bin/mvnw
 create mode 100644 bin/mvnw.cmd
 create mode 100644 bin/pom.xml
 create mode 100644 bin/src/main/java/com/loan/BankingApplication.class
 create mode 100644 bin/src/main/java/com/loan/ServletInitializer.class
 create mode 100644 bin/src/main/resources/application.properties
 create mode 100644 bin/src/test/java/com/loan/BankingApplicationTests.class
 create mode 100644 mvnw
 create mode 100644 mvnw.cmd
 create mode 100644 pom.xml
 create mode 100644 src/main/java/com/loan/BankingApplication.java
 create mode 100644 src/main/java/com/loan/ServletInitializer.java
 create mode 100644 src/main/java/com/loan/bean/Address.java
 create mode 100644 src/main/java/com/loan/bean/Loans.java
 create mode 100644 src/main/java/com/loan/bean/Login.java
 create mode 100644 src/main/java/com/loan/bean/User.java
 create mode 100644 src/main/java/com/loan/controller/LoanController.java
 create mode 100644 src/main/java/com/loan/controller/LoginController.java
 create mode 100644 src/main/java/com/loan/controller/UserController.java
 create mode 100644 src/main/java/com/loan/repository/LoanRepo.java
 create mode 100644 src/main/java/com/loan/repository/UserRepo.java
 create mode 100644 src/main/java/com/loan/service/LoanService.java
 create mode 100644 src/main/java/com/loan/service/LoginService.java
 create mode 100644 src/main/java/com/loan/service/UserService.java
 create mode 100644 src/main/resources/application.properties
 create mode 100644 src/test/java/com/loan/BankingApplicationTests.java

nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git remote add origin https://github.com/Jeyandh/InternetBanking-loan.git

nagajeyandhan.ravi@RLP1638 MINGW64 /d/Java-SpringBoot/Banking (master)
$ git push -u origin master
Enumerating objects: 55, done.
Counting objects: 100% (55/55), done.
Delta compression using up to 12 threads
```

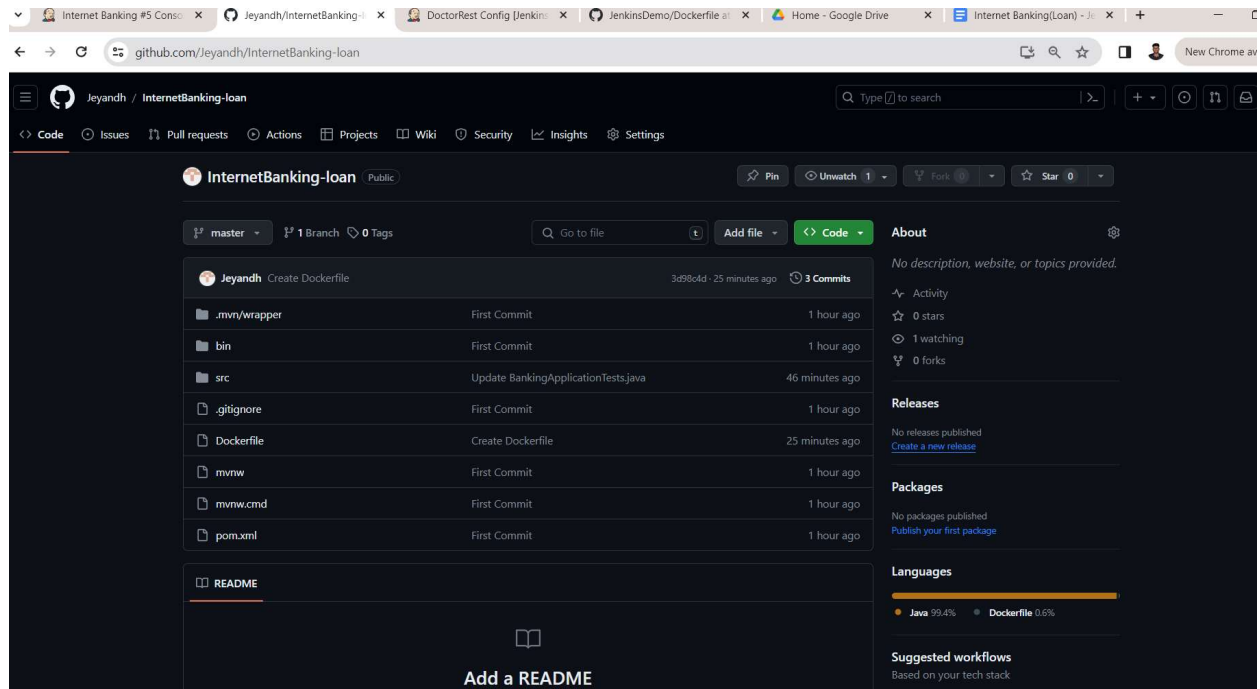**Fig 1: Pushing the project to the github repository**

Fig 2: GitHub

Fig 3: Project in jenkins

```
1   node
2   {
3       stage('Stage 1 : GIT Checkout')
4       {
5           git 'https://github.com/Jeyandh/InternetBanking-loan.git'
6       }
7
8       stage('Stage 2 : Build the project')
9       {
10          bat 'mvn install'
11      }
12
13      stage('Stage 3 : Run the Test Cases')
14      {
15          bat 'mvn test'
16      }
17
18      stage('Stage 4 : Run Quality Test using Sonar')
19      {
20          bat 'mvn clean verify sonar:sonar -Dsonar.projectKey=InternetBan -Dsonar.host.url=http://localhost:8081 -Dsonar.login=sqp_1cce24267
21      }
22
23      stage('Stage 5 :Deploy project in Docker')
24      {
25          bat 'docker image build --tag internetbanking .'
26      }
27  }
```

Fig 4: Configure file

Dashboard > Internet Banking > #5

- Status
- Changes
- **Console Output**
  - View as plain text
- Edit Build Information
- Delete build '#5'
- Git Build Data
- Replay
- Pipeline Steps
- Workspaces
- ← Previous Build

✔ **Console Output**

```
Started by user Nagajeyandhan
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking
[Pipeline] {
[Pipeline] stage
[Pipeline] { (Stage 1 : GIT Checkout)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
 > C:\Program Files\Git\bin\git.exe rev-parse --resolve-git-dir C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\.git # timeout=10
Fetching changes from the remote Git repository
 > C:\Program Files\Git\bin\git.exe config remote.origin.url https://github.com/Jeyandh/InternetBanking-loan.git # timeout=10
Fetching upstream changes from https://github.com/Jeyandh/InternetBanking-loan.git
 > C:\Program Files\Git\bin\git.exe --version # timeout=10
 > git --version # 'git version 2.41.0.windows.3'
 > C:\Program Files\Git\bin\git.exe fetch --tags --force --progress -- https://github.com/Jeyandh/InternetBanking-loan.git +refs/heads/*:refs/remotes/origin/* # timeout=10
 > C:\Program Files\Git\bin\git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision 3d98c4d94987b393d00048b0244962feda3a177b (refs/remotes/origin/master)
 > C:\Program Files\Git\bin\git.exe config core.sparsecheckout # timeout=10
 > C:\Program Files\Git\bin\git.exe checkout -f 3d98c4d94987b393d00048b0244962feda3a177b # timeout=10
 > C:\Program Files\Git\bin\git.exe branch -a -v --no-abbrev # timeout=10
 > C:\Program Files\Git\bin\git.exe branch -D master # timeout=10
 > C:\Program Files\Git\bin\git.exe checkout -b master 3d98c4d94987b393d00048b0244962feda3a177b # timeout=10
Commit message: "Create Dockerfile"
 > C:\Program Files\Git\bin\git.exe rev-list --no-walk 3d98c4d94987b393d00048b0244962feda3a177b # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Stage 2 : Build the project)
[Pipeline] bat
```

```
   Commit message: "Create Dockerfile"
  > C:\Program Files\Git\bin\git.exe rev-list --no-walk 3d98c4d94987b393d00048b0244962feda3a177b # timeout=10
[Pipeline] }
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Stage 2 : Build the project)
[Pipeline] bat

C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking>mvn install
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< com.loan:Banking >------------------------
[INFO] Building Banking 0.0.1-SNAPSHOT
[INFO]   from pom.xml
[INFO] --------------------------------[ war ]---------------------------------
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ Banking ---
[INFO] Copying 1 resource from src\main\resources to target\classes
[INFO] Copying 0 resource from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.11.0:compile (default-compile) @ Banking ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ Banking ---
[INFO] skip non existing resourceDirectory C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\src\test\resources
[INFO]
[INFO] --- compiler:3.11.0:testCompile (default-testCompile) @ Banking ---
[INFO] Changes detected - recompiling the module! :source
[INFO] Compiling 1 source file with javac [debug release 17] to target\test-classes
[INFO]
[INFO] --- surefire:3.1.2:test (default-test) @ Banking ---
[INFO]
[INFO] --- war:3.4.0:war (default-war) @ Banking ---
[INFO] Packaging webapp
[INFO] Assembling webapp [Banking] in [C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\target\Banking-0.0.1-SNAPSHOT]
[Pipeline] // stage
[Pipeline] stage
[Pipeline] { (Stage 3 : Run the Test Cases)
[Pipeline] bat

C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking>mvn test
[INFO] Scanning for projects...
[INFO]
[INFO] ------------------------< com.loan:Banking >------------------------
[INFO] Building Banking 0.0.1-SNAPSHOT
[INFO]   from pom.xml
[INFO] --------------------------------[ war ]---------------------------------
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ Banking ---
[INFO] Copying 1 resource from src\main\resources to target\classes
[INFO] Copying 0 resource from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.11.0:compile (default-compile) @ Banking ---
[INFO] Nothing to compile - all classes are up to date
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ Banking ---
[INFO] skip non existing resourceDirectory C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\src\test\resources
[INFO]
[INFO] --- compiler:3.11.0:testCompile (default-testCompile) @ Banking ---
[INFO] Changes detected - recompiling the module! :source
[INFO] Compiling 1 source file with javac [debug release 17] to target\test-classes
[INFO]
[INFO] --- surefire:3.1.2:test (default-test) @ Banking ---
[INFO] ------------------------------------------------------------------------
[INFO] BUILD SUCCESS
[INFO] ------------------------------------------------------------------------
[INFO] Total time:  5.468 s
[INFO] Finished at: 2024-02-09T23:15:15+05:30
[INFO] ------------------------------------------------------------------------
```

```
[Pipeline] stage
[Pipeline] { (Stage 4 : Run Quality Test using Sonar)
[Pipeline] bat

C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking>mvn clean verify sonar:sonar -Dsonar.projectKey=InternetBan -Dsonar.host.url=http://localhost:8081 -
Dsonar.login=sqp_1cce24267373764756db59a188e225ab38a66c70
[INFO] Scanning for projects...
[WARNING] The artifact org.codehaus.mojo:sonar-maven-plugin:jar:3.10.0.2594 has been relocated to org.sonarsource.scanner.maven:sonar-maven-plugin:jar:3.10.0.2594:
SonarQube plugin was moved to SonarSource organisation
[INFO]
[INFO] ------------------------< com.loan:Banking >---------------------------
[INFO] Building Banking 0.0.1-SNAPSHOT
[INFO]   from pom.xml
[INFO] --------------------------------[ war ]---------------------------------
[INFO]
[INFO] --- clean:3.3.2:clean (default-clean) @ Banking ---
[INFO] Deleting C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\target
[INFO]
[INFO] --- resources:3.3.1:resources (default-resources) @ Banking ---
[INFO] Copying 1 resource from src\main\resources to target\classes
[INFO] Copying 0 resource from src\main\resources to target\classes
[INFO]
[INFO] --- compiler:3.11.0:compile (default-compile) @ Banking ---
[INFO] Changes detected - recompiling the module! :source
[INFO] Compiling 14 source files with javac [debug release 17] to target\classes
[INFO]
[INFO] --- resources:3.3.1:testResources (default-testResources) @ Banking ---
[INFO] skip non existing resourceDirectory C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking\src\test\resources
[INFO]
[INFO] --- compiler:3.11.0:testCompile (default-testCompile) @ Banking ---
[INFO] Changes detected - recompiling the module! :dependency
[INFO] Compiling 1 source file with javac [debug release 17] to target\test-classes
[INFO]
[INFO] --- surefire:3.1.2:test (default-test) @ Banking ---
[INFO]
```

```
[Pipeline] stage
[Pipeline] { (Stage 5 :Deploy project in Docker)
[Pipeline] bat

C:\Users\nagajeyandhan.ravi\.jenkins\workspace\Internet Banking>docker image build --tag internetbanking .
#0 building with "default" instance using docker driver

#1 [internal] load .dockerignore
#1 transferring context: 2B done
#1 DONE 0.0s

#2 [internal] load build definition from Dockerfile
#2 transferring dockerfile: 136B done
#2 DONE 0.0s

#3 [internal] load metadata for docker.io/library/tomcat:9.0
#3 DONE 4.1s

#4 [1/2] FROM docker.io/library/tomcat:9.0@sha256:e2bdaf135765a6ce6a3d92db3b58943e021ed3301e21b730c7e43a8dcd35351c
#4 DONE 0.0s

#5 [internal] load build context
#5 transferring context: 20.98MB 0.9s
#5 transferring context: 57.13MB 2.3s done
#5 DONE 2.3s

#4 [1/2] FROM docker.io/library/tomcat:9.0@sha256:e2bdaf135765a6ce6a3d92db3b58943e021ed3301e21b730c7e43a8dcd35351c
#4 CACHED

#6 [2/2] ADD **/*.war /usr/local/tomcat/webapps/
#6 DONE 0.2s

#7 exporting to image
#7 exporting layers
#7 exporting layers 0.4s done
```
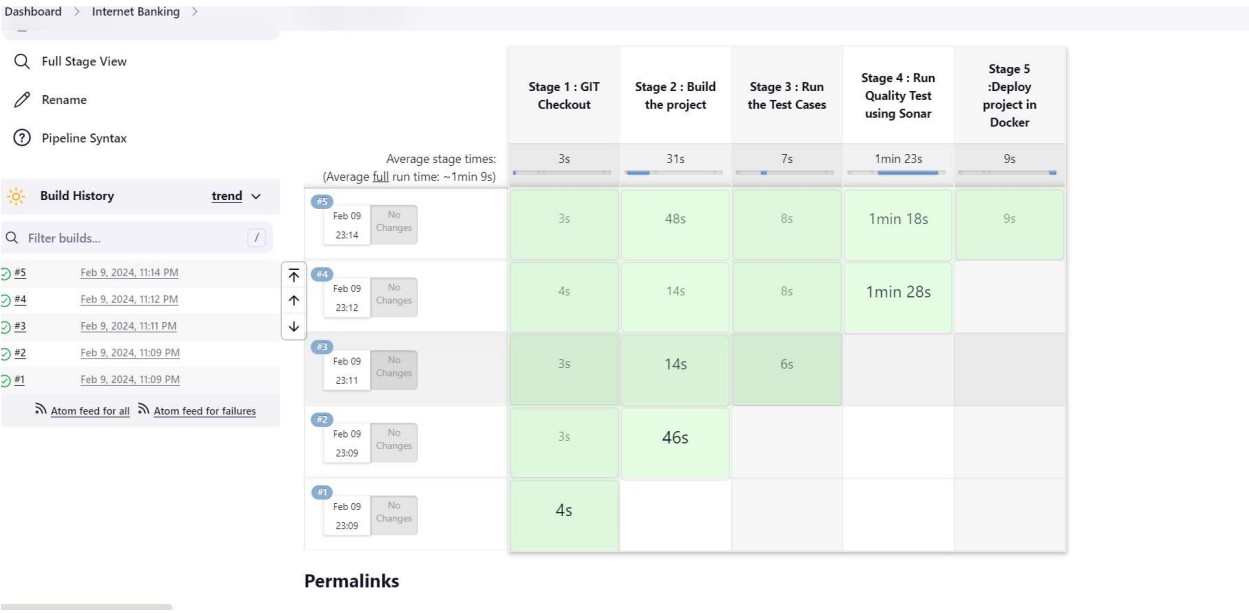
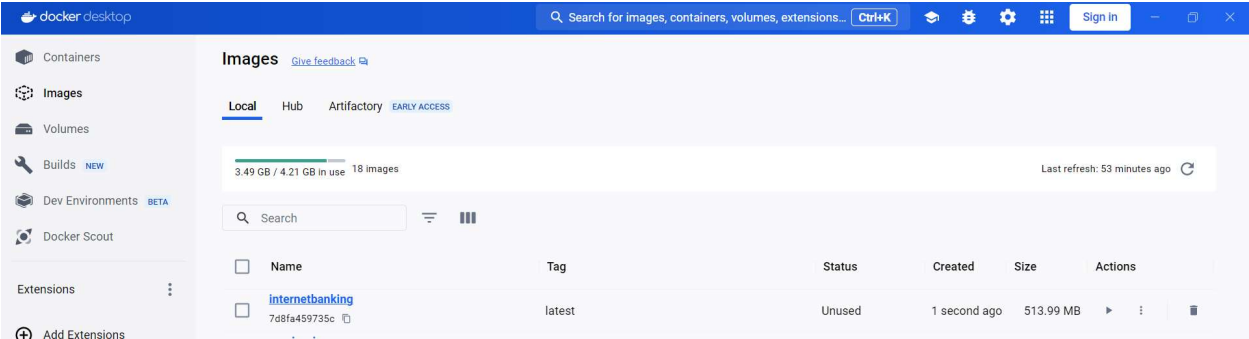**Fig 5: Console output**

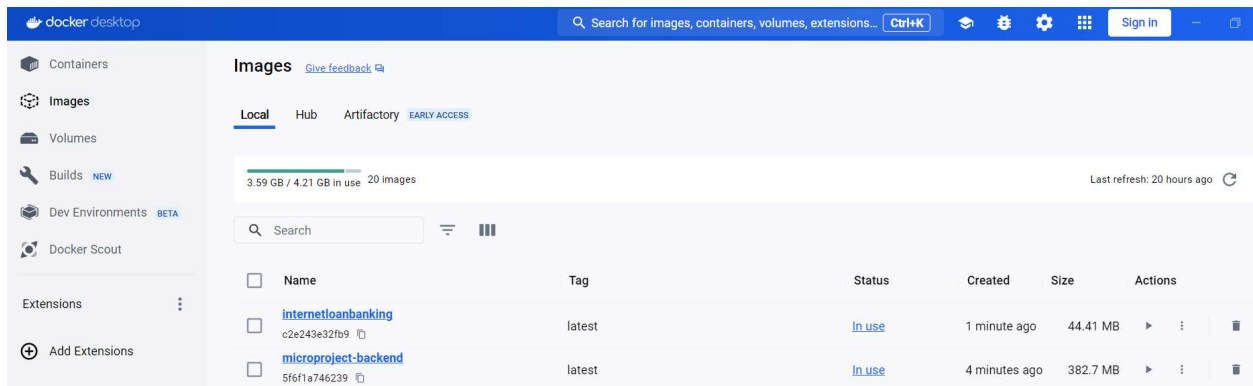**Fig 6: Build success**

Fig 7: Docker image

Fig 8: Docker build

Fig 9: docker compose up

Fig 10: Docker Image

Fig 11: Docker container