



CSCI 5308
Advanced Topics in Software Development

Parking Pool (Group2)

Build and Deployment

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We have integrated our code with CI/CD pipeline which has four stages, build, tests, and checking the quality of the code, and deploying it on the server of Timberlea. For implementing this, we prepared a .yml file that consists of the script and configurations to integrate the required stages. I have discussed a few commands that we have used in detail as below:

1. Build:

For building the building phase, since we have used maven for our project, we have used the command 'mvn clean install'. This command helps to build the jar file of the project. This jar file is saved in the path that has been provided in the build stage.

```
mvn-build:
  stage: build
  tags:
    - dalfcs_docker_kvm
  script:
    - mvn clean install
  artifacts:
    paths:
      - "./com.parkingpool.backend/target/"
```

2. Test:

For testing the program, we here use the 'mvn clean test' command to test the file. Here we give the path of the file that we need to test. Here, we use the JUnit framework to test the code.

```

mvn-test:
  stage: test
  tags:
    - dalfcs_docker_kvm
  script:
    - mvn clean test
  artifacts:
    paths:
      - "/com.parkingpool.backend/target/surefire-reports/TEST-*.xml"
    reports:
      junit:
        - "/com.parkingpool.backend/target/surefire-reports/TEST-*.xml"

```

Full-screen Snip

3. Quality-check

In this stage, we examine the quality of code using DesigniteJava and the reports of this analysis will be posted on the provided QScored account. Below is a brief description of the commands that we have used for implementing the stage.

- For this, we first set the variables for the pipeline and by using the 'curl' command we have uploaded the result on QScored.
- We have use 'wget' command to download DesgniteJava and run the jar file which is created.

```

code-quality:
  stage: quality-check
  image: maven:3-jdk-11
  variables:
    UPLOAD_QUALITY_REPORT: 'curl -X PUT -H "Authorization: Token $QSCORED_API_KEY" + -H "username:vanshikagohe1@gmail.com" -H "Cc
  before_script:
    - apt-get update
    - apt-get install -y wget curl
    - wget -O DesigniteJava.jar https://www.dropbox.com/s/mwizkj8uhplz4x3/DesigniteJava.jar?dl=1
  script:
    - java -jar DesigniteJava.jar -i ./ -o quality-check/ -f XML
    - ls -l
    - ls quality-check
    - cd quality-check
    - eval "$UPLOAD_QUALITY_REPORT"
    - echo "$UPLOAD_QUALITY_REPORT"

```

4. Deploy

Since ParkingPool is a console-based application, we have deployed it on the server of Timberlea. Below I have described briefly the functions of each of the command used in the script for the .yml file.

- By using '*chmod*' command we provide the rights to access the SSH key
- For archiving the files, we have used the '*tar*' command.
- Further we share the files for deployment using the '*scp*' command to the server where we specify the details such as the name of the host and path of the directory where it is supposed to be deployed along with its configurations.

```
deploy:
  stage: deploy
  tags:
    - dalfcs_docker_kvm
  artifacts:
    paths:
      - "/com.parkingpool.backend/target/"

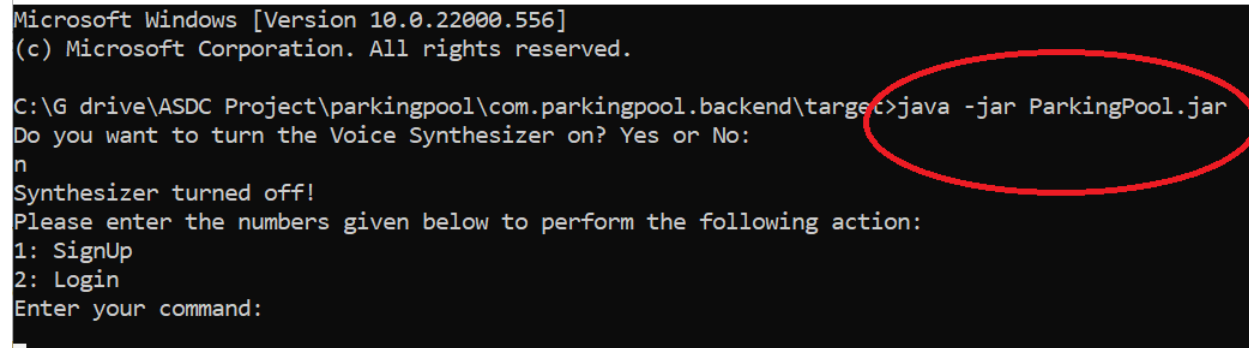
  script:
    - echo "dbURL=$DATABASE_PROD_URL" > config.properties
    - echo "dbUserName=$DATABASE_PROD_USERNAME" >> config.properties
    - echo "dbPassword=$DATABASE_PROD_PASSWORD" >> config.properties
    - echo "dbDriver=$DATABASE_DRIVER" >> config.properties
    - echo "Deploying the release pipeline"
    - chmod og-rwx ${DEPLOY_SSH_KEY}
    - tar -czf ${CI_COMMIT_SHORT_SHA}.tar.gz target
    - scp -r -o StrictHostKeyChecking=no -i "${DEPLOY_SSH_KEY}" ${CI_COMMIT_SHORT_SHA}.tar.gz "${DEPLOY_USER}@${DEPLOY_HOST}:${DEI

only:
  - dev
  - main
  - test
```

How to Run this project?

There is a ParkingPool.jar file in the target folder. You simply need to run that file using the following command.

```
java -jar ParkingPool.jar
```



```
Microsoft Windows [Version 10.0.22000.556]
(c) Microsoft Corporation. All rights reserved.

C:\G drive\ASDC Project\parkingpool\com.parkingpool.backend\target>java -jar ParkingPool.jar
Do you want to turn the Voice Synthesizer on? Yes or No:
n
Synthesizer turned off!
Please enter the numbers given below to perform the following action:
1: SignUp
2: Login
Enter your command:
_
```