

Master MQL M2
2021-2022

ABDELHAK BENTOUIS
Devoir à Rendre

Exercice à faire

Tout d'abord doit être installé les images nécessaires
à l'aide de commande **docker pull**

NAME ↑		TAG	IMAGE ID	CREATED	SIZE
mngospring	IN USE	latest	5c78adca89be	5 minutes ago	681.97 MB
mongo	IN USE	latest	798d1656acba	5 days ago	697.62 MB
mysql		5.7	05311a87aeb4	7 days ago	449.61 MB
openjdk		11	a6de6da8040c	6 days ago	659.76 MB

```
C:\Users\Descartes\Desktop
λ docker images
REPOSITORY    TAG       IMAGE ID       CREATED        SIZE
mngospring    latest    5c78adca89be   2 hours ago    682MB
mongo         latest    798d1656acba   5 days ago     698MB
openjdk       11        a6de6da8040c   6 days ago     660MB
mysql         5.7       05311a87aeb4   7 days ago     450MB
```

1. Construisez une image docker pour votre programme springboot.

➤ Code source : <https://github.com/bentouis/api-rest-devops>

Création un fichier Dockerfile sans extension dans le répertoire du projet

```
FROM openjdk:11
EXPOSE 8080
ADD target/mongo-0.0.1-SNAPSHOT.jar mongo-0.0.1-SNAPSHOT.jar
ENTRYPOINT ["java", "-jar", "/mongo-0.0.1-SNAPSHOT.jar"]
```

Après tapez la commande **docker build -f Dockerfile -t mngospring .**

2. Supposons que vous voulez connecter votre programme à une base de données de votre choix :

Création un fichier docker-compose.yml avec extension yml dans le répertoire du projet

```
version: '3.7'
services:
  mongodb_container:
    image: mongo:latest
    environment:
      #This user is created in the admin authentication database and given
      the role of root, which is a "superuser" role.
      MONGO_INITDB_ROOT_USERNAME: root
      MONGO_INITDB_ROOT_PASSWORD: password
    ports:
      - 27017:27017
    volumes:
      - mongodb_data_container:/data/db

volumes:
  mongodb_data_container:
```

Après tapez la commande docker-compose up

- ❖ docker-compose pull
- ❖ docker-compose up -d

```
PS C:\Users\Descartes\Desktop\mongo-master> docker-compose up
[+] Running 1/0
 - Container mongo-master-mongodb_container-1 Created 0.0s
Attaching to mongo-master-mongodb_container-1
Error response from daemon: driver failed programming external connectivity on endpoint mongo-master-mongodb_container-1
(7c241ed9d74234b32ac9d4eb51df6ccfa6d886acc28883baec0726bcc27692b9): Bind for 0.0.0.0:27017 failed: port is already allo
cated
PS C:\Users\Descartes\Desktop\mongo-master> docker-compose up
[+] Running 2/2
 - Network mongo-master_default Created 0.8s
 - Container mongo-master-mongodb_container-1 Created 0.3s
Attaching to mongo-master-mongodb_container-1
mongo-master-mongodb_container-1 | {"t":{"$date":"2022-03-25T07:45:13.207+00:00"},"s":"I", "c":"NETWORK", "id":491570
1, "ctx":"-", "msg":"Initialized wire specification", "attr":{"spec":{"incomingExternalClient":{"minWireVersion":0,"maxWir
eVersion":13},"incomingInternalClient":{"minWireVersion":0,"maxWireVersion":13},"outgoing":{"minWireVersion":0,"maxWireV
ersion":13},"isInternalClient":true}}}
mongo-master-mongodb_container-1 | {"t":{"$date":"2022-03-25T07:45:13.225+00:00"},"s":"I", "c":"CONTROL", "id":23285,
"ctx":"main", "msg":"Automatically disabling TLS 1.0, to force-enable TLS 1.0 specify --sslDisabledProtocols 'none'"}
mongo-master-mongodb_container-1 | {"t":{"$date":"2022-03-25T07:45:13.232+00:00"},"s":"W", "c":"ASIO", "id":22601,
"ctx":"main", "msg":"No TransportLayer configured during NetworkInterface startup"}
mongo-master-mongodb_container-1 | {"t":{"$date":"2022-03-25T07:45:13.233+00:00"},"s":"I", "c":"NETWORK", "id":464860
1, "ctx":"main", "msg":"Implicit TCP FastOpen unavailable. If TCP FastOpen is required, set tcpFastOpenServer, tcpFastOpe
nClient, and tcpFastOpenQueueSize."}
mongo-master-mongodb_container-1 | {"t":{"$date":"2022-03-25T07:45:13.246+00:00"},"s":"W", "c":"ASIO", "id":22601,
"ctx":"main", "msg":"No TransportLayer configured during NetworkInterface startup"}
```

<http://localhost:8080/store>

ReportsExplore

Search Postman

GET http://localhost:8080/s

POST http://localhost:8080/

+

...

No Envir

...

http://localhost:8080/store

Sa

GET

http://localhost:8080/store

Params

Authorization

Headers (6)

Body

Pre-request Script

Tests

Settings

Query Params

	KEY	VALUE	DESCRIPTION
	Key	Value	Description

Body

Cookies

Headers (5)

Test Results

Status: 200 OK

Time: 112 ms

Size: 82

Pretty

Raw

Preview

Visualize

JSON

...

1

2

3

4

5

6

7

8

{

"id": "623c44ac8e09e93b95962f26",

"name": "bentouis",

"description": "Description 1 2 3 4 5 66 7 7 8 8 ",

"email": "bentouis@bentous.ma",

"emailVerified": false,

"score": null

}

http://localhost:8080/store

Save

...

...

POST

http://localhost:8080/store

Send

...

Params

Authorization

Headers (8)

Body

Pre-request Script

Tests

Settings

Cookies

Beautiful

none

form-data

x-www-form-urlencoded

raw

binary

GraphQL

JSON

...

1

2

3

4

5

6

7

8

[

{

... "name": "DEVOPS - 2022",

... "description": "DEVOIR DEVOPS MASTER QUALITE LOGICIEL Mme SAFA ",

... "email": "bentouis@bentous.ma"

},

{

Response

...

Atelier | api_res | bentou | Cloning | localho | loca x | (65) Ho | localho |

localhost:8080/store

Spring boot | LIEN RECRUT | Clouad ET Manage... | ENTR | francais | SPRING | No

```
52     },
53     {
54         "id": "623da249a677dd063f3e2027",
55         "name": "ahmed",
56         "description": "Description 1 2 3 4 4 5 66 7 7 8 8 ",
57         "email": "ahmed@bentous.ma",
58         "emailVerified": false,
59         "score": null
60     },
61     {
62         "id": "623da249a677dd063f3e2028",
63         "name": "said",
64         "description": "Description 1 2 3 4 4 5 66 7 7 8 8 ",
65         "email": "said@bentous.ma",
66         "emailVerified": false,
67         "score": null
68     },
69     {
70         "id": "623da249a677dd063f3e2029",
71         "name": "sawsan",
72         "description": "Description 1 2 3 4 4 5 66 7 7 8 8 ",
73         "email": "sawsan@bentous.ma",
74         "emailVerified": false,
75         "score": null
76     }
```

3. Construisez une pipeline CI/CD sur Jenkins ou bien GitLab (selon votre choix) permettant de réaliser les étapes suivantes :

Il faut mettre le Code sur GitHub.

```
git init
git add .
git commit -m "TD DEVOPS"
git branch -M main
git remote add origin https://github.com/bentouis/api-rest-devops.git
git push -u origin main
```

- (a) Si vous êtes sur Jenkins: pour lancer la pipeline concernant votre code, Commencez par connecter votre dépôt sur Github à Jenkins.

Saisissez un nom

» Champ obligatoire

 **Construire un projet free-style**
Ceci est la fonction principale de Jenkins qui sert à builder (construire) votre projet. Vous pouvez intégrer tous les outils de gestion de version avec tous les systèmes de build. Il est même possible d'utiliser Jenkins pour tout autre chose qu'un build logiciel.

 **Construire un projet maven**
Construit un projet avec maven. Jenkins utilise directement vos fichiers POM et diminue radicalement l'effort de configuration. Cette fonctionnalité est encore en bêta mais elle est disponible afin d'obtenir vos retours.

 **Pipeline**
Organise des activités de longue durée qui peuvent s'étendre sur plusieurs agents de construction. Adapté pour la création des pipelines (anciennement connues comme workflows) et/ou pour organiser des activités complexes qui ne s'adaptent pas facilement à des tâches de type libre.

spring_mongo_api_rest ▾ ▸

General Build Triggers Advanced Project Options **Pipeline**

Definition

Pipeline script ▾

Script ?

```
1 pipeline{
2   agent any
3   stages{
4     stage('git checkout'){
5       steps{
6         git url: 'https://github.com/abdelhakbentouis/api-rest-devops.git'
7       }
8     }
9   }
10 }
11 }
```

Tableau de bord » spring_mongo_api_rest »

Supprimer Pipeline

Full Stage View

Renommer

Pipeline Syntax

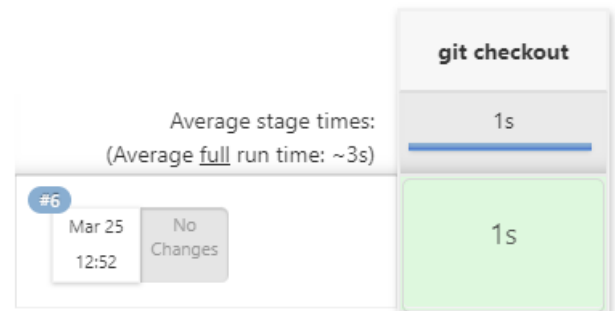
Historique des builds **tendance**

Filter builds...

✓ #6	25 mars 2022 12:52
✓ #5	25 mars 2022 12:46
✓ #4	25 mars 2022 12:28
✗ #3	25 mars 2022 12:26
✗ #2	25 mars 2022 12:25
✗ #1	25 mars 2022 12:24

Atom feed des builds Atom feed des échecs

Stage View



Liens permanents

- Dernier build (#6), il y a 53 s
- Dernier build stable (#6), il y a 53 s
- Dernier build avec succès (#6), il y a 53 s
- Dernier build en échec (#3), il y a 26 mn
- Dernier build non réussi (#3), il y a 26 mn
- Last completed build (#6), il y a 53 s

Tableau de bord » spring_mongo_api_rest » #6

Back to Project

Status

Changes

Console Output

View as plain text

Edit Build Information

Supprimer le build "#6"

Git Build Data

Restart from Stage

Replay

Pipeline Steps

Workspaces

Previous Build

Sortie de la console

Démarré par l'utilisateur ABDELHAK BENTOUIS

```
[Pipeline] Start of Pipeline
[Pipeline] node
Running on Jenkins in C:\ProgramData\Jenkins\jenkins\workspace\spring_mongo_api_rest
[Pipeline] {
[Pipeline] stage
[Pipeline] { (git checkout)
[Pipeline] git
The recommended git tool is: NONE
No credentials specified
> git.exe rev-parse --resolve-git-dir C:\ProgramData\Jenkins\jenkins\workspace\spring_mongo_api_rest\.git # timeout=10
Fetching changes from the remote Git repository
> git.exe config remote.origin.url https://github.com/abdelhakbentouis/api-rest-devops.git # timeout=10
Fetching upstream changes from https://github.com/abdelhakbentouis/api-rest-devops.git
> git.exe --version # timeout=10
> git --version # 'git version 2.35.1.windows.2'
> git.exe fetch --tags --force --progress -- https://github.com/abdelhakbentouis/api-rest-devops.git
+refs/heads/*:refs/remotes/origin/* # timeout=10
> git.exe rev-parse "refs/remotes/origin/master^{commit}" # timeout=10
Checking out Revision a41746f4c11cea2ed787e21e64876e579d2ae877 (refs/remotes/origin/master)
> git.exe config core.sparsecheckout # timeout=10
> git.exe checkout -f a41746f4c11cea2ed787e21e64876e579d2ae877 # timeout=10
> git.exe branch -a -v --no-abbrev # timeout=10
> git.exe branch -D master # timeout=10
> git.exe checkout -b master a41746f4c11cea2ed787e21e64876e579d2ae877 # timeout=10
```

- (b) Faire le build et packager votre application sous format ".jar" (avec maven ou tout autre outils de build).

Pour utiliser l'outil maven, on doit avoir cet outil pré-installé ou pré-configuré.

Maven

Installations Maven

Ajouter Maven

Maven
Nom

MAVEN_HOME

MAVEN_HOME

C:\Data\006_Configurations\apache-maven

```
pipeline {
    agent any

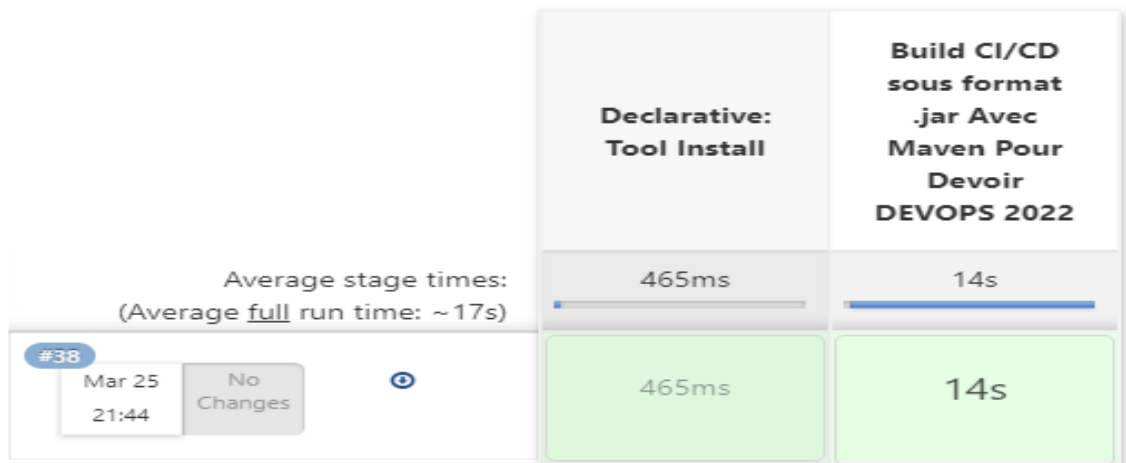
    tools {
        // Install the Maven version configured as "M3" and add it to the
path.
        maven "MAVEN_HOME"
    }

    stages {
        stage('Build CI/CD sous format .jar Avec Maven Pour Devoir DEVOPS
2022') {
            steps {
                // Get some code from a GitHub repository
                git 'https://github.com/abdelhakbentouis/api-rest-
devops.git'

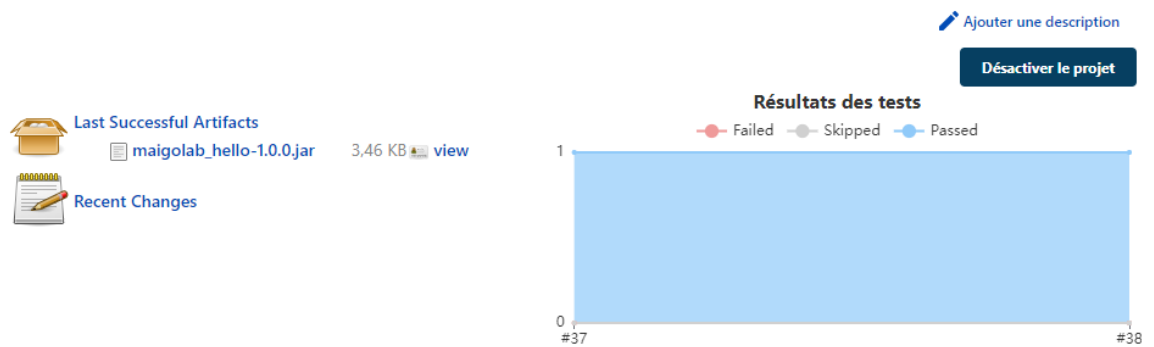
                // To run Maven on a Windows agent, use
                bat "mvn -Dmaven.test.failure.ignore=true clean package"
            }

            post {
                success {
                    junit '**/target/surefire-reports/TEST-*.xml'
                    archiveArtifacts 'target/*.jar'
                }
            }
        }
    }
}
```

Stage View



Pipeline spring_mongo_api_rest



(c) La construction de l'image docker de votre programme et son envoi sur DockerHub

```
pipeline {
  agent any

  tools {
    // Install the Maven version configured as "M3" and add it to the
path.
    maven "MAVEN_HOME"
  }

  stages {
    stage('Build CI/CD sous format .jar Avec Maven Pour Devoir DEVOPS
2022') {
      steps {
        // Get some code from a GitHub repository
        git 'https://github.com/abdelhakbentouis/api-rest-
devops.git'

        // To run Maven on a Windows agent, use
        bat "mvn -Dmaven.test.failure.ignore=true clean package"
      }

      post {
        success {
          junit '**/target/surefire-reports/TEST-*.xml'
          archiveArtifacts 'target/*.jar'
        }
      }
      stage('Build the docker image') {
        steps{
          withCredentials([string(credentialsId:'dockerhubdevops',
variable:'dockerkey')]) {
            sh "docker login -u bentouis -p $dockerkey"
          }
          sh 'docker push bentouis/mngospring:laste'
        }
      }
    }
  }
}
```

❖ <https://hub.docker.com/u/bentouis>



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[Repositories](#)

[Starred](#)

[Contributed](#)

Displaying 2 of 2 repositories



bentouis/mngospring

By [bentouis](#)

Container

0
Stars



bentouis/api_springbootmongodb

By [bentouis](#)

rest api spring boot mongodb

Container

0
Stars