Quarkus Demo

The next-generation Kubernetes Native Java framework

JBUG Korea

@tedwon

jwon@redhat.com

Java 생명 연장의 꿈

Java 차세대 프로젝트

Getting Started Guide

https://quarkus.io/guides/getting-started-guide

Create a new Quarkus project

```
mvn io.quarkus:quarkus-maven-plugin:0.12.0:create \
    -DprojectGroupId=org.acme \
    -DprojectArtifactId=getting-started \
    -DclassName="org.acme.quickstart.GreetingResource" \
    -Dpath="/hello"


mvn compile quarkus:dev
curl -v 127.0.0.1:8080
curl -v 127.0.0.1:8080/hello
curl -v 127.0.0.1:8080/hello/greeting/tedwon
brew install httpie
http -v :8080/hello
```

Running the application

mvn compile quarkus:dev

[INFO] --- quarkus-maven-plugin:0.12.0:dev (default-cli) @ getting-started ---
[INFO] Using javaTool: /Library/Java/JavaVirtualMachines/jdk1.8.0_152.jdk/Contents/Home/jre/bin/java
[INFO] Using servlet resources /Users/tedwon/Downloads/a/getting-started/src/main/resources/META-INF/resources
Listening for transport dt_socket at address: 5005
03:30:02,263 INFO [io.qua.dep.QuarkusAugmentor] Beginning quarkus augmentation
03:30:02,423 INFO [org.jbo.threads] JBoss Threads version 3.0.0.Alpha4
03:30:02,531 WARN [io.qua.config] Unrecognized configuration key "quarkus.undertow.resources" provided
03:30:02,787 INFO [io.qua.dep.QuarkusAugmentor] Quarkus augmentation completed in 524ms
03:30:02,937 INFO [org.xnio] XNIO version 3.7.0.Final
03:30:02,948 INFO [org.xni.nio] XNIO NIO Implementation Version 3.7.0.Final
03:30:03,034 INFO [io.quarkus] **Quarkus** 0.12.0 **started in 0.885s**. Listening on: http://[::]:8080
03:30:03,034 INFO [io.quarkus] Installed features: [cdi, resteasy]

Development Mode - Hot reload mode

[INFO] --- quarkus-maven-plugin:0.12.0:dev (default-cli) @ getting-started ---

[INFO] Using javaTool: /Library/Java/JavaVirtualMachines/jdk1.8.0_152.jdk/Contents/Home/jre/bin/java

[INFO] Using servlet resources /Users/tedwon/Downloads/a/getting-started/src/main/resources/META-INF/resources

Listening for transport dt_socket at address: 5005

03:30:02,263 INFO [io.qua.dep.QuarkusAugmentor] Beginning quarkus augmentation

03:30:02,423 INFO [org.jbo.threads] JBoss Threads version 3.0.0.Alpha4

03:30:02,531 WARN [io.qua.config] Unrecognized configuration key "quarkus.undertow.resources" provided

03:30:02,787 INFO [io.qua.dep.QuarkusAugmentor] Quarkus augmentation completed in 524ms

03:30:02,937 INFO [org.xnio] XNIO version 3.7.0.Final

03:30:02,948 INFO [org.xni.nio] XNIO NIO Implementation Version 3.7.0.Final

03:30:03,034 INFO [io.quarkus] **Quarkus 0.12.0 started in 0.885s**. Listening on: http://[::]:8080

03:30:03,034 INFO [io.quarkus] Installed features: [cdi, resteasy]

03:32:37,750 INFO [io.qua.dev] Changes source files detected, recompiling [/Users/tedwon/Downloads/a/getting-started/src/main/java/org/acme/quickstart/GreetingResource.java]

03:32:38,122 INFO [io.quarkus] Quarkus stopped in 0.003s

03:32:38,122 INFO [io.qua.dep.QuarkusAugmentor] Beginning quarkus augmentation

03:32:38,141 WARN [io.qua.config] Unrecognized configuration key "quarkus.undertow.resources" provided

03:32:38,211 INFO [io.qua.dep.QuarkusAugmentor] Quarkus augmentation completed in 89ms

03:32:38,225 INFO [io.quarkus] **Quarkus 0.12.0 started in 0.103s**. Listening on: http://[::]:8080

03:32:38,225 INFO [io.quarkus] Installed features: [cdi, resteasy]

03:32:38,225 INFO [io.qua.dev] **Hot replace total time: 0.476s**

Unit Test - REST Assured

- REST Assured http://rest-assured.io/
- Sample Codes

[INFO] **Running org.acme.quickstart.GreetingResourceTest**
2019-03-27 03:26:20,214 INFO [io.qua.dep.QuarkusAugmentor] (main) Beginning quarkus augmentation
2019-03-27 03:26:20,732 INFO [io.qua.dep.QuarkusAugmentor] (main) Quarkus augmentation completed in 518ms
2019-03-27 03:26:21,068 INFO [io.quarkus] (main) **Quarkus 0.12.0 started** in 0.323s. Listening on: http://[::]:8081
2019-03-27 03:26:21,068 INFO [io.quarkus] (main) Installed features: [cdi, resteasy]
[INFO] **Tests run: 1, Failures: 0, Errors: 0, Skipped: 0, Time elapsed: 1.898 s - in org.acme.quickstart.GreetingResourceTest**
2019-03-27 03:26:22,055 INFO [io.quarkus] (main) Quarkus stopped in 0.005s

BUILDING A NATIVE EXECUTABLE

- https://quarkus.io/guides/building-native-image-guide.html
- Installing GraalVM
  - http://www.graalvm.org/downloads/
- Community Edition (CE)
  - GraalVM CE is available for free for development and production use.
- Enterprise Edition (EE)
  - GraalVM EE provides additional performance relevant for running applications in production.

Producing a native executable

mvn -DskipTests clean package -Pnative

./mvnw package -Pnative

./target/getting-started-1.0-SNAPSHOT-runner

ps -o pid,rss,command -p $(pgrep -f runner)
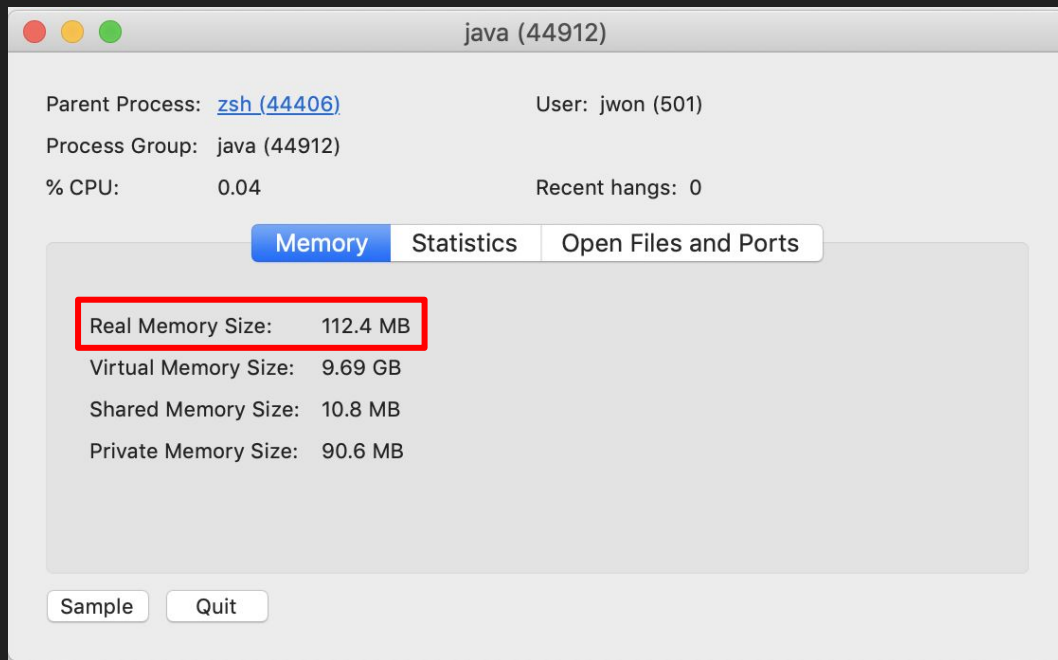
curl -v 127.0.0.1:8080

./mvnw verify -Pnative

target/getting-started-1.0-SNAPSHOT-runner -Dquarkus.http.port=8081
-Dquarkus.log.file.path=target/quarkus.log

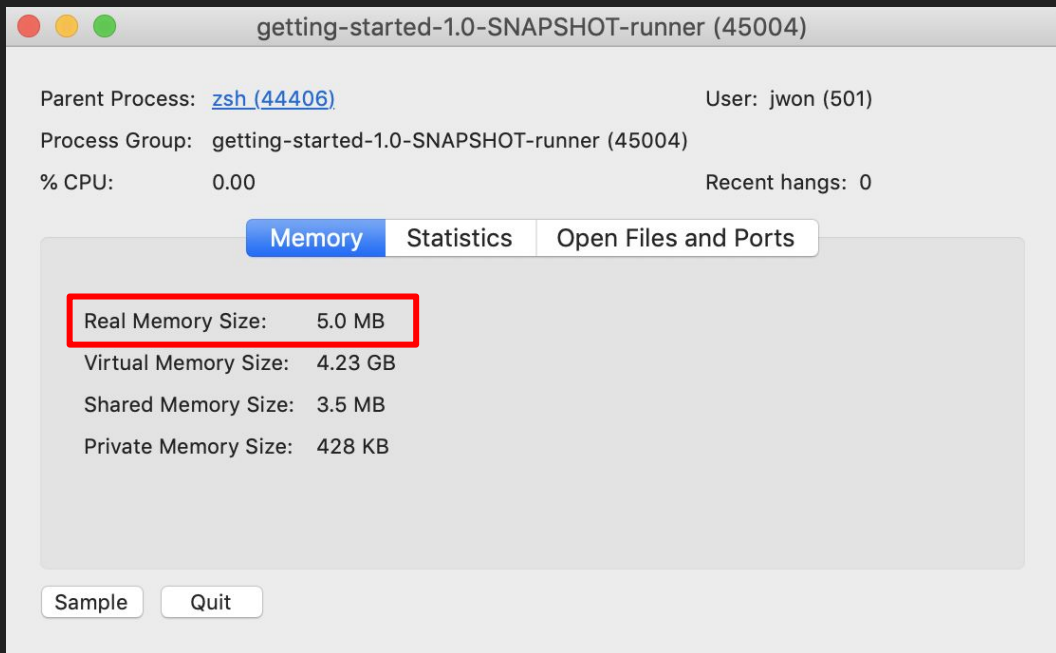# Producing a native executable

java -jar target/getting-started-1.0-SNAPSHOT-runner.jar

Producing a native executable

target/getting-started-1.0-SNAPSHOT-runner

Producing a native executable

./mvnw package -Pnative -Dnative-image.docker-build=true

docker build -f src/main/docker/Dockerfile.native -t quarkus-quickstart/getting-started .

docker run -i --rm -p 8080:8080 quarkus-quickstart/getting-started

curl -v 127.0.0.1:8080
curl -v 127.0.0.1:8080/hello
curl -v 127.0.0.1:8080/hello/greeting/tedwon
brew install httpie
http -v :8080/hello

DEPLOYING ON KUBERNETES AND OPENSHIFT

https://quarkus.io/guides/kubernetes-guide.html