
GraalVM™

Download and configure GraalVM

- https://www.graalvm.org/downloads/ (Select Java 21)
- Extract the content of the zip file.
- Open CMD and execute the following: (replace `C:\Progra~1\Java\` with where you saved GraalVM)

Set `JAVA_HOME`:

```
setx /M JAVA_HOME "C:\Progra~1\Java\<graalvm>"
```

Registers GraalVM as the system-wide JDK (the `/M` flag writes to the machine environment so all users and tools—Maven, Gradle, IDEs—automatically pick it up).

Update `PATH`:

```
setx /M PATH "C:\Progra~1\Java\<graalvm>\bin;%PATH%"
```

Prepends GraalVM's `bin` folder so commands like `java`, `javac` and `native-image` invoke the GraalVM versions by default.

Install the native-image

```
gu install native-image

native-image --version     # verify it's available
```

Create `application-docker.yaml`

Under `src/main/resources/`, create `application-docker.yaml` and add exactly:

```yaml
spring:
 config:
   activate:
     on-profile: docker
 # -- datasource settings for Postgres container --
 datasource:
   url: jdbc:postgresql://localhost:5432/mydatabase
   username: myuser
   password: secret
# tell Spring Boot to expose exception traces over HTTP
server:
 error:
   include-stacktrace: always
```

Inside gradle.build.kts

```
plugins {

   . . .

   id("org.graalvm.buildtools.native") version "0.10.6"

}

configurations.all {

   // drop the old commons-logging to avoid conflicts

   exclude(group = "commons-logging", module = "commons-logging")

}
```

Removes the old `commons-logging` JAR so that only Spring's supported logging bridge (spring-jcl) remains.
This prevents GraalVM from initializing unwanted logging classes at build time and clears the "should be initialized at run time" error.

ERR: Classes that should be initialized at run time got initialized during image building

Inside gradle.build.kts

(At the bottom of the file)

```
graalvmNative {
    binaries {
        named("main") {
            imageName.set("webmvc-employees")
            // show full stack traces on errors
            buildArgs.add("-H:+ReportExceptionStackTraces")
        }
    }
}
```

Build your native image

On Windows, GraalVM Native Image for JDK 21 requires Visual Studio 2022 version 17.1.0 or later (C/C++ Optimizing Compiler Version 19.31 or later).

Search for “Native Tools Command Prompt for VS 2022” on your Windows search

From your project root run:

```
.\gradlew nativeCompile -Dspring.profiles.active=docker
```

This produces a native binary at:

```
build/native/nativeCompile/webmvc-employees.exe
```

Run it

Run your docker container

Again, from your project root:

```
build\native\nativeCompile\webmvc-employees.exe --spring.profiles.active=docker
```