# Developing the Micronaut Application

Due to our Lab session time constraint, we already provided the code for the app, so you have time to experience other exiting capabilities available in the Platform.

This version of the app implements the same logic, exposing the exact same http resources, but now using **Micronaut** as its underline Runtime.

Feel free to go through the source code. But **you don't need to code any Java Class in this section** .

**You can jump right to the Running the Micronaut Application Locally** section and just run the Maven commands (or run the Tasks using the IDE Task Manager) to run and test the app inside your DevWorkspace.

In this section you will:

- Develop a REST API with Micronaut that consumes memory and CPU (the exact same algorithm than before)
- Add a Statistics persistent entity to store metrics in a PostgreSQL database
- Configure the application
- Develop some tests to validate the behavior of the application
- Test and run the application locally
- Check a few metrics locally

You should have a directory called `micronaut-app` inside your project repo ( `$PROJECT_SOURCE/` ). This is the root of the Micronaut microservice source code that we will be working on during this this section.

## The Micronaut REST Resource

The Micronaut application is also made of a simple REST resource that exposes the endpoints that consume memory and CPU. Before creating the REST resource, let's check the existing main Micronaut class that will bootstrap the application. Open the `MicronautApplication` class under the `io/containerapps/javaruntime/workshop/micronaut` package.

*Bootstrapping Micronaut Class*

JAVA

```
package io.containerapps.javaruntime.workshop.micronaut;

import io.micronaut.runtime.Micronaut;

public class MicronautApplication {

    public static void main(String[] args) {
        Micronaut.run(MicronautApplication.class, args);
    }
}
```

The REST resource is defined in the `MicronautResource` class. Create a new file called `MicronautResource.java` under the `src/main/java/io/containerapps/javaruntime/workshop/micronaut` directory. Then add the following to the header of this class file (replacing any existing content generated by the IDE).

As you can see in the header of the class, the resource is exposed on the `/micronaut` path.

*Header of the Micronaut REST Resource*

JAVA

```
package io.containerapps.javaruntime.workshop.micronaut;

import io.micronaut.http.MediaType;
import io.micronaut.http.annotation.Controller;
import io.micronaut.http.annotation.Get;
import io.micronaut.http.annotation.QueryValue;

import java.lang.System.Logger;
import java.time.Duration;
import java.time.Instant;
import java.util.ArrayList;
import java.util.HashMap;
import java.util.List;

import static java.lang.System.Logger.Level.INFO;
import static java.lang.invoke.MethodHandles.lookup;

@Controller("/micronaut")
```