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Study of the use of feeders in Gatling:

Introduction

For the purpose of the A+ task the group has decided to divide it and each one of use will work with his chosen US. In my case, the US I will be working with is US-15, vet plans new intervention.

The feature I will focus the extra task is the creation of the object, the intervention, with its positive and negative scenarios.

InterventionController.java | application.properties | Intervention.java

```
1
2  package org.springframework.samples.petclinic.model;
3
4  import java.time.LocalDate;
20
21 @Entity
22 @Data
23 @EqualsAndHashCode(callSuper = false)
24 @Table(name = "interventions")
25 public class Intervention extends BaseEntity {
26
27     @Column(name = "intervention_date")
28     @DateTimeFormat(pattern = "yyyy/MM/dd")
29     private LocalDate   interventionDate;
30
31     @Column(name = "intervention_time")
32     @NotNull
33     private Integer     interventionTime;
34
35     @Column(name = "intervention_description")
36     @NotEmpty
37     private String      interventionDescription;
38
39     @OneToOne(cascade = CascadeType.ALL)
40     private Vet         vet;
41
42     @ManyToOne
43     @JoinColumn(name = "pet_id")
44     private Pet         pet;
45 }
46
```

Intervention as a model is very simple and contains very few attributes so the main attention can be focused in the feeders and gatling.

With the previous knowledge about gatlin, It is known that a scala file is necessary to run it, that will be saved in the simulation folder, where as the files that we are going to use (csv format) will be contain in the resources file, so once gatlin is running the scala script we have made, it will know where to find the information.

Scala file

I have used Visual Studio Code to create the scala file and edit it.

To study this file, I have divided it in 4 parts: definition of values and headers used, objects, scenarios(positive and negatives), setUp.

Definition of values and headers

Here it is very simple, first, we need the http protocol, which it is already provided by gatlin, so there is little work to do, just revise the blacklist.

The other headers are also created automatically.

```
package dp2

import scala.concurrent.duration._

import io.gatling.core.Predef._
import io.gatling.http.Predef._
import io.gatling.jdbc.Predef._

class InterventionCreateDiagnosis extends Simulation {

    val httpProtocol = http
        .baseUrl("http://www.dp2.com")
        .inferHtmlResources(BlackList(""".*.ico""", """.*.png""", """.*.js""", """.*.css"""), WhiteList())
        .acceptHeader("text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0
        .acceptEncodingHeader("gzip, deflate")
        .acceptLanguageHeader("es-ES,es;q=0.9,en;q=0.8")
        .upgradeInsecureRequestsHeader("1")
        .userAgentHeader("Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/81.0.4044.138 Safari/537.36")

    val headers_0 = Map("Proxy-Connection" -> "keep-alive")

    val headers_2 = Map(
        "Origin" -> "http://www.dp2.com",
        "Proxy-Connection" -> "keep-alive")

```

Objects

As in performance testing, we have to define how we get to the application, the home page and login with the correct user for the operation we want to perform.

Scenarios

The scenarios consist on a feeder that reads the csv file and a method that calls a url to perform a POST operation in the application, the reads the csv file and inject the values in the attributes we have defined in the model of Intervention.

Although intervention also has a vet as a attribute for the purpose of having less complexity, and also been a non-necessary attribute, I have avoided working with it.

Positive

In the positive scenario the csv file contains correct data and when the file its runned there are no errors.

```
object InterventionFormPositive {

val feederPositive = csv("InterventionCreationPositive.csv")

val interventionFormPositive = exec(http("InterventionFormPositive")
        .get("/owners/*/pets/1/interventions/new")
        .headers(headers_0)
  .check(css("input[name=_csrf]","value").saveAs("stoken"))
).pause(34)
.feed(feederPositive)
.exec(http("InterventionCreated")
        .post("/owners/*/pets/1/interventions/new")
        .headers(headers_0)
        .formParam("id", "")
        .formParam("intervention_date", "${intervention_date}")
        .formParam("intervention_time", "${intervention_time}")
        .formParam("intervention_description", "${intervention_description}")
        .formParam("_csrf", "${stoken}"))
    .pause(5)
}
```

Negative

In the negative scenario the csv file contains incorrect data and when the file its runned there are errors.

```
object InterventionFormNegative {
    var feederNegative = csv("InterventionCreationNegative.csv")

    var interventionFormNegative = exec(http("InterventionForm")
        .get("/owners/*/pets/1/interventions/new")
        .headers(headers_0)
        .check(css("input[name=_csrf]","value").saveAs("stoken")))
    .pause(26)
    .feed(feederNegative)
    .exec(http("InterventionCreationFormWithErrorMessage")
        .post("/owners/*/pets/1/interventions/new")
        .headers(headers_0)
        .formParam("id", "")
        .formParam("intervention_date", "${intervention_date}")
        .formParam("intervention_time", "${intervention_time}")
        .formParam("intervention_description", "${intervention_description}")
        .formParam("_csrf", "${stoken}"))
    .pause(10)
 }
```

SetUp

Inside the setUp part we have two things.

The first one is the code that executes the scenarios when the file is runned. It calls the object we have defined in the file in the order we need, in this case: Home, Login and InterventionFormPositive/Negative.

The second part is the configuration of the simulation scenario. This is done by performing changes in the assertions part. First we limit the time in which we want the operation to be done and we define the percentage of expected requests.

```
    val interventionCreationPositiveScn = scenario("InterventionCreationPositive").exec(Home.home,
                                                                                        Login.login,
                                                                                        InterventionFormPositive.interventionFormPositive)

    val interventionCreationNegativeScn = scenario("InterventionCreationNegative").exec(Home.home,
                                                                                        Login.login,
                                                                                        InterventionFormNegative.interventionFormNegative)

    setUp(interventionCreationPositiveScn.inject(rampUsers(40) during (50 seconds)),
          interventionCreationNegativeScn.inject(rampUsers(40) during (50 seconds)))
        .protocols(httpProtocol)
        .assertions(
            global.responseTime.max.lt(5000),
            global.responseTime.mean.lt(1000),
            global.successfulRequests.percent.gt(95))
}
```

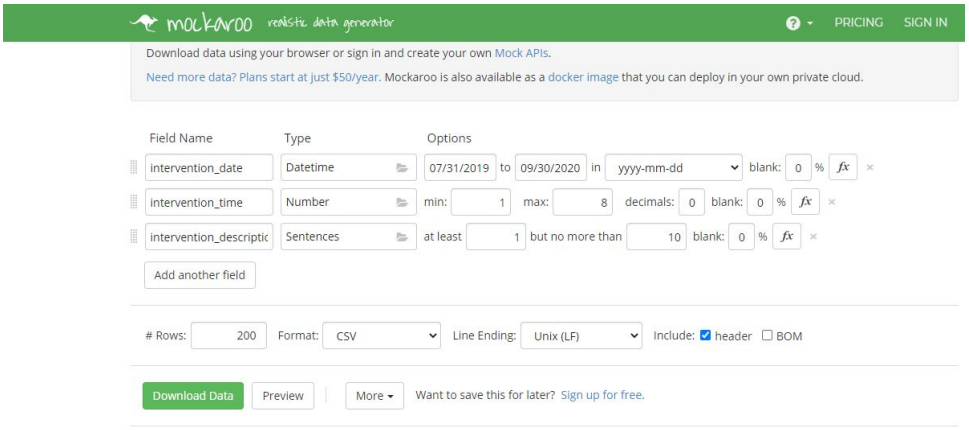
CSV files

The csv files have been done using www.mockaroo.com.

I have simply defined the attributed I want to appeared in the csv file, define its attributes, its values and the rows I want.

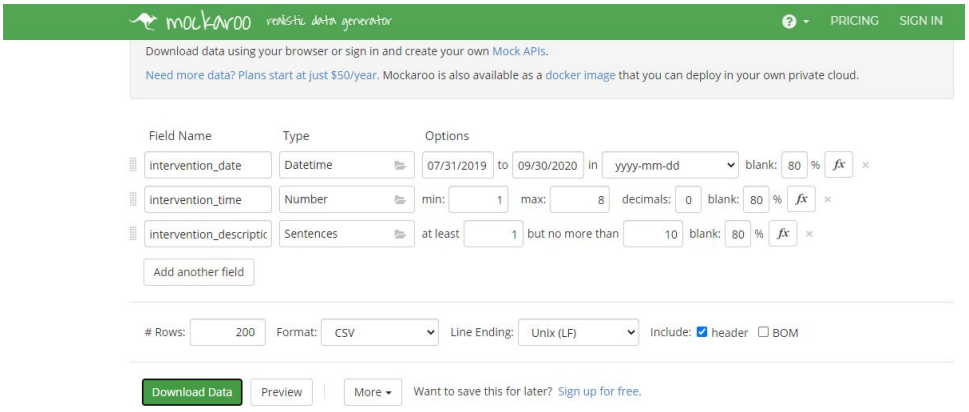
Positive scenario:

Just the correct data.



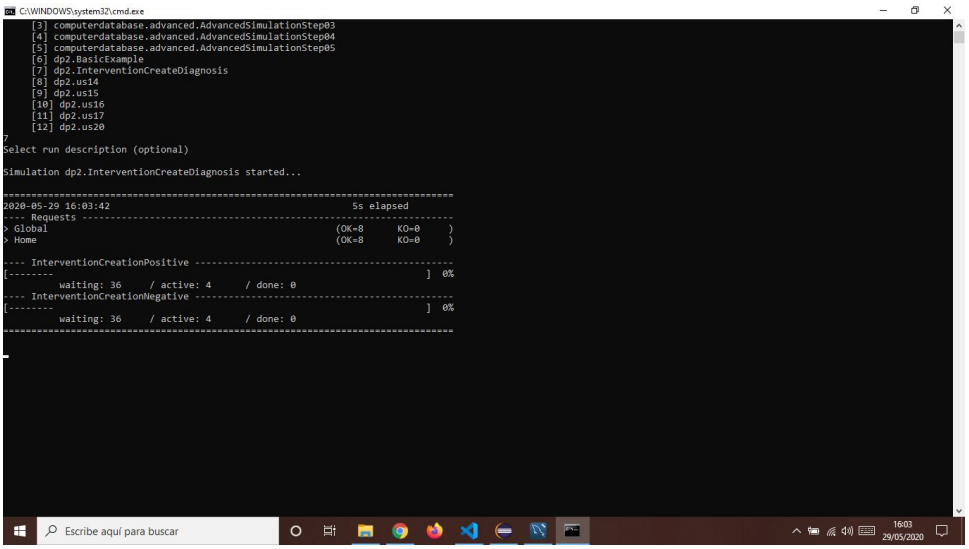
Negative scenario:

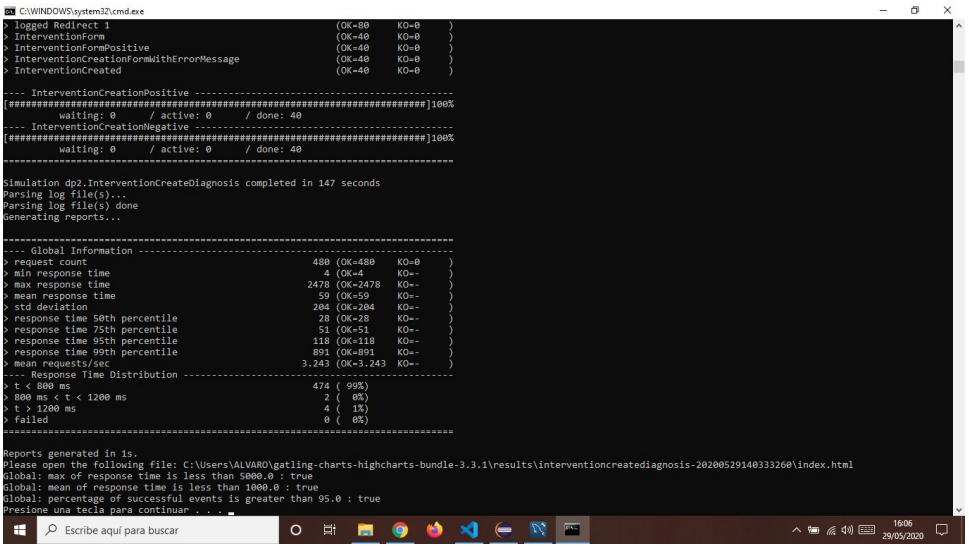
Here I just ensure that there will be blank data, that will create an error once you try to create the intervention.



Result

Once the file is running the console start working on the requests.





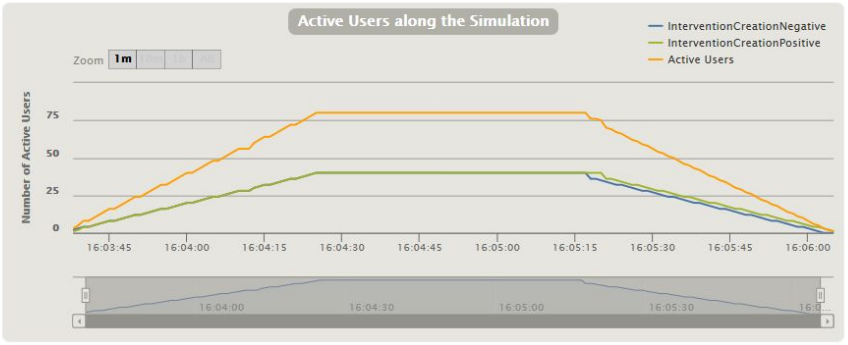
The result of Gatlin are saved in a result file. Here we have the statistics of how did the process go.

As we can see here, the assertions defined have status OK.

STATISTICS

Expand all groups | Collapse all groups

Requests	Executions					Response Time (ms)							
	Total	OK	KO	% KO	Cnt/s	Min	50th pct	75th pct	95th pct	99th pct	Max	Mean	Std Dev
Global Information	480	480	0	0%	3.243	4	28	51	118	891	2478	59	204
Home	80	80	0	0%	0.541	15	41	58	120	223	223	51	42
Login	80	80	0	0%	0.541	4	9	13	27	31	34	11	6
logged	80	80	0	0%	0.541	5	11	16	28	47	50	13	8
logged Redirect 1	80	80	0	0%	0.541	8	19	27	57	90	95	25	18
Interven...Positive	40	40	0	0%	0.27	29	76	116	926	2204	2478	202	467
InterventionForm	40	40	0	0%	0.27	24	65	106	976	2228	2476	196	476
Interven...rMessage	40	40	0	0%	0.27	25	45	58	105	129	143	53	27
InterventionCreated	40	40	0	0%	0.27	24	44	55	107	181	198	52	33



In the result, we observe that we have 40 INterventions Created and 40 messages (this are error when creating an intervention) thus, with this data we know that the csv files work.