Performance Testing Course : JMeter - JSR223 Sampler & Groovy

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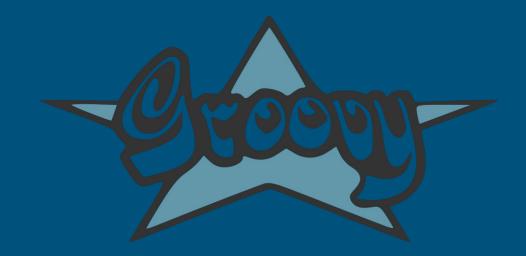
Agenda

- Introduction about Groovy.
- Showcases of JSR223 sampler + Groovy.
- Exercises.

Groovy vs Java- Similarities

Definition: Groovy is **powerful**, **optionally typed** and **dynamic** language, with **static-typing and static compilation** capabilities, for the Java platform aimed at improving developer productivity thanks to a concise, **familiar and easy to learn syntax** developed by Apache.

Similarities with Java: **99%**

Groovy - Library importation

Just like JAVA!:

- If you want to use a specific library, explicit import it by `import java.io.*`

```
Your Code ...
1    import java.util.*;
2
3    def x = 10
4    def y = 25
5
6    print "Sum of x + y = " + (x+y)
7
```

Groovy - Class

Easy-going syntax:

```
class className{

 ...

}
```

Properties:

-    public by default.


```
Your Code ...
1    import java.util.*;
2
3 ▾  class Person{
4
5        String firstName;
6        String lastName;
7
8    }
9
```

Groovy - Variable declaration

2 ways:

- Either go with:
  - int varName;
- OR
  - def varName;

Groovy - Methods

Easy-going syntax:

```
def function(int param1,int param2=3,String a){

 ...

}
```

Properties:

● public by default.

```
 2
 3 ▾ class Person{
 4
 5      String firstName;
 6      String lastName;
 7
 8      def age;
 9
10 ▾    def printAge(){
11          print(age)
12      }
13 }
14
15 def student = new Person();
16 student.setAge(22);
17 student.printAge();
18
```

Groovy - Array

```
int[] array;
```

Properties:

- Replace {} by [] : `int[] array = [1,2,3]`

Groovy vs Java - Lambda vs Closures

Closures:

Open, anonymous, block of code that can take arguments, return a value and be assigned to a variable. A closure may reference variables declared in its surrounding scope. In opposition to the formal definition of a closure, Closure in the Groovy language can also contain free variables which are defined outside of its surrounding scope.

Syntax: (look alike to Java lambda)

```
{ [closureParameters -> ] statements }
```

Groovy vs Java - Lambda vs Closures(continued)

Example:

```
def print = { name ->
    println name
}
```

Properties:

- We can define a unary closure without a parameter because **when parameters are not defined, Groovy assumes an implicit parameter named "*it*"**:
- Don't need to System.out either.
- Multiple parameters are separated by comma.
- We can declare a variable number of arguments in closures.

Groovy usage in JMeter - Simulate HTTP request

Showcase:

- Simulate search character request in https://restool-sample-app.herokuapp.com/#/characters with JSR223 Sampler.

Exercise:

- Simulate request to create character request with JSR223 Sampler.
- Simulate request to delete character request with JSR223 Sampler.
- Simulate request to update character request with JSR223 Sampler.

Groovy usage in JMeter - pacing time

Showcase:

- Use JSR223 Timer to adjust throughput of the script *pacing.jmx*

Exercise:

- Update JSR223 Timer in order to make throughput approximately to be 2 req/s.

Groovy usage in JMeter - assertion

- Add the Dummy Sampler and pass these following contents in Response section.

```
{"category_id": "1","category_name": "Computers and accessories","category_goods": [{"id": "100", "name":
"monitor","price": "125"},{"id": "101", "name": "usb wire ","price": "10"}]}
```

- Use JSR223 Assertion to verify if we have category_id = 1 in the response.

Exercise:

- Update category_id = 3 and when make the request failed because the actual value = 3 is different to expected category_id = 1.

Groovy usage in JMeter - JDBC request simulation

Showcase:

Pre-requisites: Host: remotemysql.com, port: 3306, database name: aCduOluBJS, username : aCduOluBJS, password: jHNSLnYXzZ

- Use Groovy + JSR223 Sampler to print result of query to get employees first name, last name from offices with code = 2.

Exercise:

- Use Groovy + JSR223 Sampler to insert new employees to table offices.