

# Method Execution Report

Date: 12-04-2017

Type: FN / NF

System: paint Embrics

Student  
pre-grad

## Session overall:

This session aims at gathering impression of the *Method Execution Report* from practitioners. The session is relatively short, only a few minutes long. The session is divided into three phases. The first phase is about yourself. The second phase present Method Execution Report, and the third phase is about the evaluation of the report. Note that all your answers are treated anonymously.

## Phase 1: About yourself

- Are you Female or Male ? Male
- How many years of experience do you have in programming? 6 years in University. 1 year working
- How long have you been programming in Java for? I mainly program on Python, but I have Java experience on a couple of university courses.
- Which Java programming environments (IDE) are you familiar with? Eclipse INTELIS
- Which other programming languages and programming environments do you use? Python mainly, JS and HTML
- While programming, if your application does not behave as you expect, what do you usually do? How do you usually debug an application?
  - use debugging frameworks
  - if app is small, i use print methods
- How do you usually do to improve the performance of a particular method?
  - refactoring
  - asking for help to other programmers (a opinion)



## Phase 2: Description of Method Execution Report

Method Execution Report is a textual and interactive report that summarizes the execution of a particular method for a given software execution. The report provides an overview of the dynamic calls and time consumption.

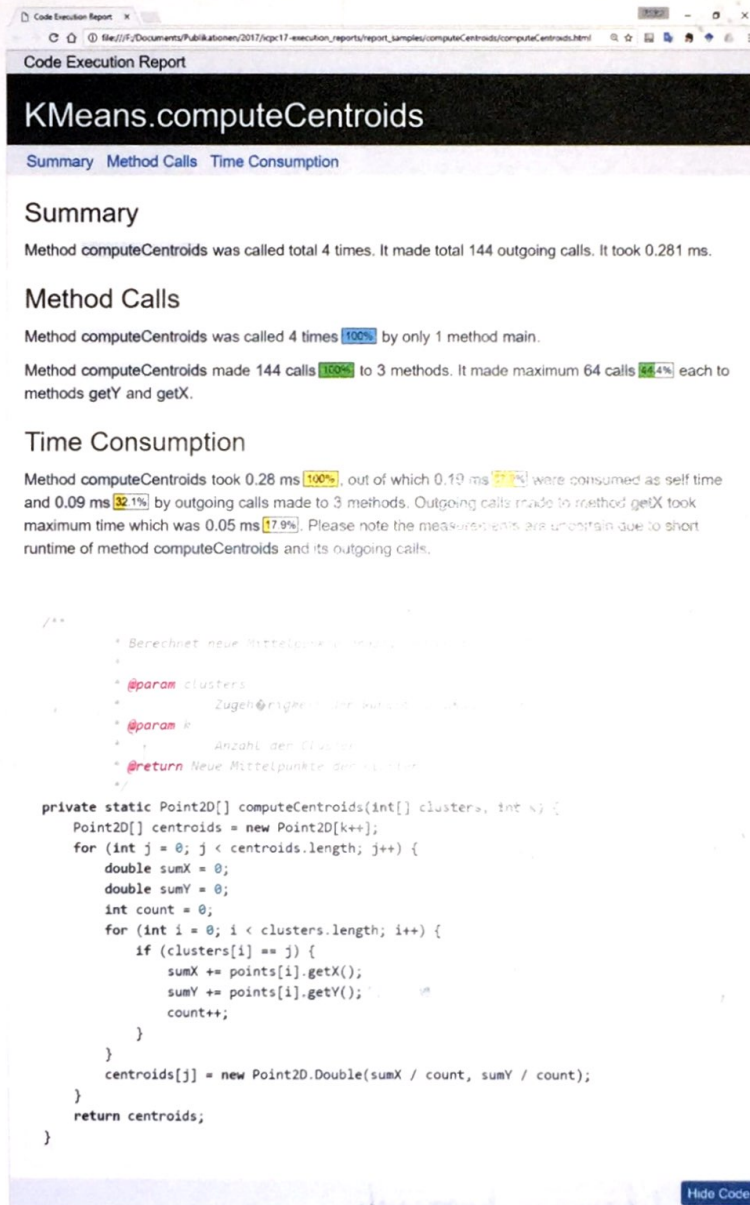


Figure on the left gives an example of the report. The report is structured into three sections, and lists the code of the method.

The summary gives first essential data, including the number of incoming and outgoing calls, and how long the summed executions of the method took.

The second section details the description of the method calls, including the most important caller and callees.

The third part provides further information about the timing.



## Phase 3:

TIME BEGIN:

### QUESTION 1:

What do you think about the content of the textual description?

- I find it easy to understand? (strongly agree) agree, neutral, disagree, strongly disagree)  
Please, justify

Strongly agree. You can get the general idea of ~~not~~ how the code behaves in execution.

- I find it useful? (strongly agree) agree, neutral, disagree, strongly disagree)  
Please, justify

The report contains useful info for the program runtime, ~~see~~ methods called, etc...

### QUESTION 2:

What do you think about the interaction and the visual elements offered by the report?

- I find them easy to understand? (strongly agree) ~~agree~~ agree, neutral, disagree, strongly disagree)  
Please, justify

Info is very clear. clickable elements are highlighted and have popups or modals that give details.

(I had small problems understanding the recursive depth description, but mainly

- I find them useful? (strongly agree) agree, neutral, disagree, strongly disagree)  
Please, justify

~~You~~ The info was complemented with in an excellent way with the visual elements.

because English is not my native

language, and the ~~graph~~

Histogram was clear enough to solve the issue.)

### QUESTION 3:

Overall, do you feel that such a report is useful?

- (strongly agree) agree, neutral, disagree, strongly disagree)  
Please, justify

This report can give you detailed info about a method and how it performs and interacts in a execution with other calls.



**QUESTION 4:**

In what scenarios and for solving which maintenance tasks would developers use Method Execution Reports?

*Please, justify*

I think this kind of report is more useful  
or when someone is trying to improve performance  
of a given method or program.  
Mainly because of the info that the report provides

**QUESTION 5:**

What tools would you use instead of Method Execution Reports to retrieve the same information?

*Please, justify*

Debugging frameworks  
but they don't usually give the same  
amount of info, and don't present it as  
clear.

**QUESTION 6:**

Do you have any suggestion on how to improve the report? Any critic?

*Please, justify*

Maybe it will be useful to be able to  
access <sup>other</sup> called methods code. This will help to  
identify performance issues ~~last~~ in an easier way.

**TIME END:**