

Method Execution Report

Date: 12-04-2017
Type: FN / NF
System: South Children.

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?
7 years
- How long have you been programming in Java for?
3 years
- Which Java programming environments (IDE) are you familiar with?
Eclipse
- Which other programming languages and programming environments do you use?
Pharo, Python, Ruby, JavaScript
- While programming, if your application does not behave as you expect, what do you usually do?
How do you usually debug an application?

I use the tools of the systems, mostly in Pharo.

In the other languages I use the REPL to reproduce the error or a lot of prints

- How do you usually do to improve the performance of a particular method?

I'm not used to improve the performance.

In Ruby I used an external tool once that work with Rails, then I use my intuition.

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.

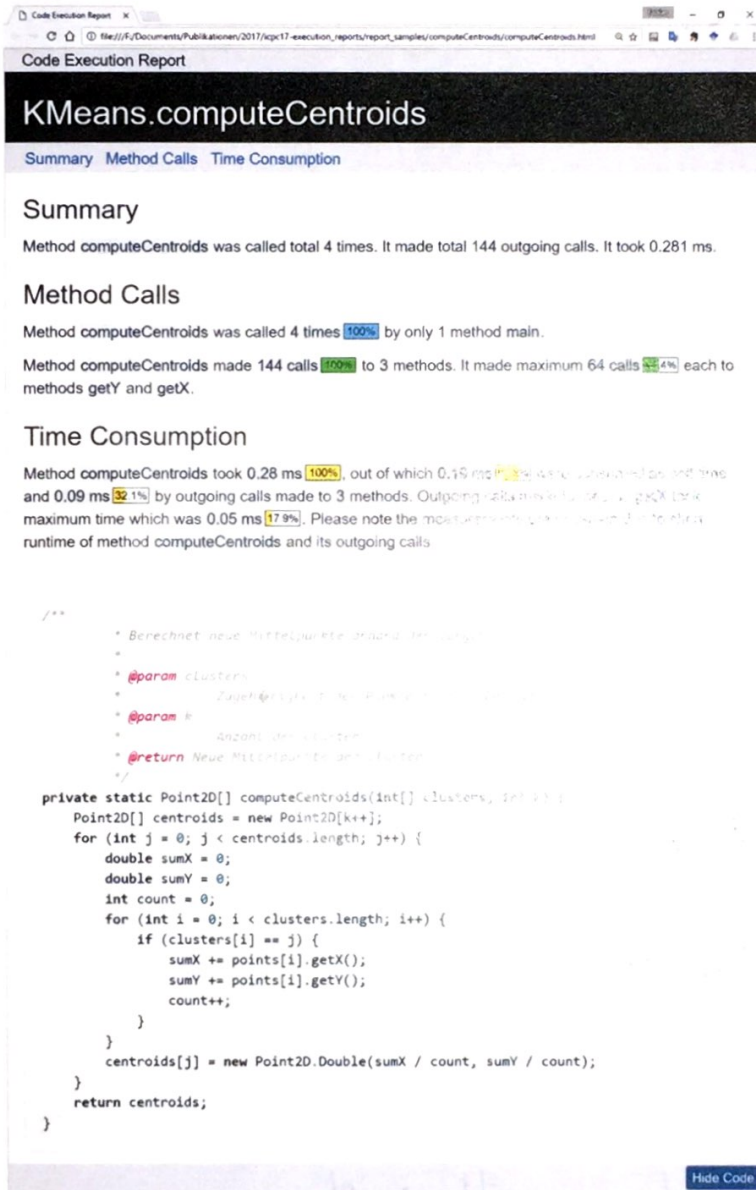


Figure on the left gives an example of the report. The report is structured into three sections, and lists the code of the method.

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: 9:27

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

I understand everything except for '...with maximum calls to method has next'. I do not understand what is 'maximum call'

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

Please, justify

I find useful to see that, this method, is mostly called recursively. But I miss information about each recursive call, for example, it made 63761 calls to 26 methods, but I do not know how these calls are distributed in the recursion, I suppose they are all mostly evenly between recursions.

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, neutral, disagree, strongly disagree)

Please, justify

They are easy to understand and they give good overall understanding. The recursion depth histogram was a bit confusing, but with the mouse over and 'click' I did not have any problem to understand it.

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

Please, justify

without the need of reading, I know what is happening right away. Even after I read, I can move quickly over the text when I need to recall something.

QUESTION 3:

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

(strongly agree, agree, neutral, disagree, strongly disagree)

Please, justify

At first I could say it is useful, but I would like to test it first to say for sure.

I know the most called method, but I do not know nothing about the time and maybe that information is useful. I can not say for sure.

QUESTION 4:

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

Please, justify

when we identify a method that is too time ~~consuming~~ ^{consuming} or memory consuming. I can see how this method behave ^{quickly}

Reducing the number of certain calls I can reduce the time or memory consumption of the method.

QUESTION 5:

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

Please, justify

I would look for some kind of execution profiler, then I would look for the specific method.

I ~~have~~ believe there must be profilers with this information but I do not know them and I do not believe they have the visual help of this report.

QUESTION 6:

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

Please, justify

I like the report. I would like to see:

- the actual time of some calls (maybe the most ^{consuming})

- I find cool to know that the method is called recursively, maybe a quick visual notation would be interesting. Even when I can see the histogram, I know that the method is recursive in the first line and it would be nice to know that.

TIME END:

4:49