Performance Engineering Questionnaire

Contents

[1 Document Information 3](#_Toc536105203)

[2 Introduction 3](#_Toc536105204)

[3 Project Overview 4](#_Toc536105205)

[3.1 Who are our project contacts? 4](#_Toc536105206)

[3.2 What technologies are used by your application? 4](#_Toc536105207)

[3.3 Is the application code owned by the company or by a third party provider? 4](#_Toc536105208)

[3.4 Do you have graphical overviews? 4](#_Toc536105209)

[3.5 Does the application have dependencies on other systems? 4](#_Toc536105210)

[3.6 Did the application already undergo any performance testing in the past? 4](#_Toc536105211)

[4 Test Target 5](#_Toc536105212)

[4.1 What does the project want to achieve with the load test? 5](#_Toc536105213)

[4.2 Which non-functional requirements (NFR’s) should be tested? 5](#_Toc536105214)

[4.3 Does the application have any known performance issues which should be analyzed? 5](#_Toc536105215)

[5 Use Cases 6](#_Toc536105216)

[5.1 What are the main use cases of the application? 6](#_Toc536105217)

[6 Load 7](#_Toc536105218)

[6.1 What is the overall load on the application? 7](#_Toc536105219)

[6.2 What is the estimated distribution of the load expected between the above use cases? 7](#_Toc536105220)

[7 Test Environment 8](#_Toc536105221)

[7.1 Which environment will be used for executing load tests? 8](#_Toc536105222)

[7.2 How can we access the environment? 8](#_Toc536105223)

[8 Test Users and Session Handling 9](#_Toc536105224)

[8.1 Is it possible to grant our tests users the required rights on your application? 9](#_Toc536105225)

[8.2 What are the rigths the test users will need? 9](#_Toc536105226)

[8.3 Are their specific user groups which have performance issues? 9](#_Toc536105227)

[8.4 What is the session timeout of the application? 9](#_Toc536105228)

[9 Test Data 10](#_Toc536105229)

[9.1 How is the test data generated in the environment used for performance testing? 10](#_Toc536105230)

[9.2 What is the amount of data in the environments? 10](#_Toc536105231)

[9.3 Are there any constellations of data known to cause performance impacts? 10](#_Toc536105232)

[10 Monitoring 11](#_Toc536105233)

[10.1 What monitoring approach/tools are used for your system? 11](#_Toc536105234)

[10.2 Are the logs managed by a log management system? 11](#_Toc536105235)

# Document Information

|  |  |  |  |
| --- | --- | --- | --- |
| Date | Author | Version | Comment |
| 24.01.2019 | R. Scheiwiller | 1.0 | Initial Version |
|  |  |  |  |

# Introduction

This questionnaire is intended to collect basic information about a project or application, in order to do further planning for performance engineering tasks.

About filling out this questionnaire:

* Please fill out as many questions you can
* If you are not able to answer a question leave it blank.
* Feel free to add more details wherever you think it will be helpful
* Text in “<…>” is used as placeholder for your answer and for comments. You can replace them with your answer.

# Project Overview

## Who are our project contacts?

|  |  |  |
| --- | --- | --- |
| Role | Name | Contact Info |
| Application Owner |  | <email> <phone> <comments> |
| Project Lead |  |  |
| Test Manager |  |  |
| Architect |  |  |
| Developer |  |  |
| […] |  |  |

## What technologies are used by your application?

Backend:

<language: Java, C#, PHP …>  
<frameworks: Spring, Hibernate, ADO.NET …>

Frontend:

<Fat-Client, Browser >

<frameworks: AWT, Spring, Angular, JQuery, React …>

## Do we have access to the application source code?

Yes  
 No

If yes, is the source code owned by our company?

Yes  
 No

## Do you have graphical overviews?

<if yes please provide the graphic or documents here>

* Application Architecture
* System Landscape
* Deployment Overview

Hint: Often these graphics can be found in the application blueprint.

## Does the application have dependencies on other systems?

<if yes please specify in detail if not visible in a graphical overview>

## Was the application already performance tested in the past or by the supplier?

<if yes, please provide the results if available>

# Test Target

This section tries to find out what the project wants to achieve with performance engineering. The target will influence how the use cases and load test scenarios will be set up.

## What does the project want to achieve with the load test?

<freetext answer, e.g. intial test, test release changes, test of sub system changes, test of application replacement …>

## Are there any application changes which should be considered in the tests?

<if yes please provide details>

## Which non-functional requirements (NFR’s) should be tested?

Response times below certain limits

CPU usage below certain threshold

Memory usage below certain threshold

Error rate below certain threshold

<other>

## Does the application have any known performance issues which should be analyzed?

If the application has any known performance issues, please list them briefly here.

<examples: certain transactions are slow, regular crashes, high response times during batch executions etc…>

# Use Cases

Use cases to create load test scripts will be needed. Depending on what you want to test, the use cases should met one or more of the following conditions:

* The use case is part of the main activity of the users daily work
* The use case has known performance issues
* The use case is part of a periodic peak scenario(e.g. end of year activities)

Preferably, the use cases should be documented in a word document with screenshots of each step.

## What are the main use cases of the application?

<add a short list of use cases or if available document(s) with use case description>

# Load

To create load test scenarios, the load which is expected in a productive environment should be extracted from a monitoring tool or from log files. In case this data cannot be extracted, the load should be estimated.

The production load of an application could be extracted from the following sources:

* Monitoring tools
* Log file analysis (e.g. ElasticSearch, Splunk)
  + Application Logs
  + Server Logs
  + Load Balancer Logs
  + Host Logs
* Business responsible estimation/interpretation
* Business requirements

## What is the overall load on the application?

<requests/hour, executions/hour>

## What is the estimated distribution of the load expected between the above use cases?

<percentage for each use case or executions/hour>

# Test Environment

The test environment should be similar to a productive environment:

* Vertically scaled identically as the productive environment (=same hardware)
* Data amount and complexity similar to the productive environment
* Test users have similar rights as productive users
* The environment should be “reservable” for performance testing, so no other activities take place during test runs

## Which environment will be used for executing load tests?

<define environment, e.g.: DEV, LUP, UAT >

## How can we access the environment?

<URL, Client installation>

## Is the environment shared or solely for performance testing?

<shared, not shared>

# Test Users and Session Handling

For executing the use cases, test users will be required. Depending on how data and session handling is managed, the users should be chosen by the following criteria:

* If a lot of data is stored in the session, number of sessions should be simulated accordingly. Users should have similar amount of session data as in the productive environment.
* Users should have similar rights and data volume they can access as in the productive environment
* Users might have different data volume depending on their role. You might want to include multiple roles in the load test.

## Is it possible to grant our tests users the required rights on your application?

<yes or no>

## What are the rights the test users will need?

<list of rights>

## Does the application support different user groups/roles?

<if yes please list>

## Are there specific users/groups/roles which have performance issues?

<if yes please list>

## What is the session timeout(s) of the application?

<time>

# Test Data

The amount and complexity of the data is a main factor on how fast it will be processed by your application. Therefore the quality of test data is crucial for simulating productive like load.

## Which type of test data will be deliver by the project?

Import data from old system

Existing data in system

Synthetic data from system owner

## What is the amount of data in the environments?

* Productive Environment
  + <e.g. number of articles, shares, reports>
  + […]
* Performance Test Environment
  + <e.g. number of articles, shares, reports>
  + […]

## Are there any constellations of data known to cause performance impacts?

<if yes please explain>

# Monitoring

The monitoring of your system is important in order to analyze the performance of your system. As better the in-signs into what the system is doing under load, as better the application can be analyzed and performance improvements can be found.

## What monitoring approach/tools are used/planed for your system?

Frontend:

<freetext answer>

Backend:

<freetext answer>

Business Analytics:

<freetext answer>

## Are the logs managed by a log management system?

<like ElasticSearch or Splunk, if yes please specify>