



**Linnéuniversitetet**  
Kalmar Vaxjö

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## **Linnaeus University**

Faculty of Technology – Department of Computer Science

### **2DV610 – Software Testing**



# Test Plan

## 1. Introduction:

The following test plan will describe the process of the workflow. What I mean by this is that the categorizes like what important parts need to be done first, and what risks may occur during the testing will be mentioned in this documentation.

## 2. Scope:

The main objective of this test plan is to make sure of the software. That is, this open-source software needs to fulfill some requirements. What I mean by this is that My Web Server should be secure enough so that the end-user can be sure that this server from this software development company is reliable. Consequently, the webserver can be used for IOT. Lastly, some of the requirements can not be tested and they will be covered in detail in a different part of this report.

Since in this project we have been given some requirements to follow, we need to make sure that the conditions will be met. That is, the system should be smooth and understandable for the other people that were not directly involved in this project. Apart from that, the webserver should be responsive and not having any kind of bugs.

## 3. Test Approach:

The following test approaches are the most common and important ones.

- ◆ Manual Testing
- ◆ Unit Testing
- ◆ Acceptance Testing
- ◆ Stress Testing
- ◆ Compatibility Testing

To be able to achieve the goal of this test plan, manual testing will be used. Therefore, based on dissimilar scenarios and use cases it will be obvious if the server is responsible for different conditions. Also, it can be used to discover new bugs. This can be achieved by checking the entire test case.

Regarding the compatibility of testing, it is critical to check whether the server can be used on different operating systems that were specified in the requirements. (e.g. Windows and Mac). The way of reaching this kind of testing is to deploy it on different operating systems.

Another kind of testing known as acceptance testing will be used to check if the server has been well prepared or not. What I mean by this is that it should correspond to the requirements and state that either it is ready to be used or not. To make sure if it is working, we need to launch the webserver and see its behavior on the website.

Additionally, to be able to find out that the webserver can last under demanding load, stress testing will be used. The way for accomplishing this approach is by using JMeter.

Finally, this testing method that is known as Unit testing is critical as it will show the results of the tests that are supposed to be included in the test report. What I mean by this is that the performance is required to check by the execution of each test by using Junit.

#### 4. Roles and responsibilities:

Role	Responsibilities
Tester 1	<ul style="list-style-type: none"><li>➤ Create Test Plan.</li><li>➤ Create Test Strategy.</li><li>➤ Gaining information about the project.</li><li>➤ Executing the manual and automated tests.</li><li>➤ Documenting the outcome.</li></ul>
Tester 2	<ul style="list-style-type: none"><li>➤ Create Test Cases</li><li>➤ Create Test Report</li><li>➤ Gaining information about the project.</li><li>➤ Executing the manual and automated tests.</li><li>➤ Documenting the outcome.</li></ul>

Note:

Although the above table it has mentioned that these tasks have been done by these testers, all the works have been done by both testers. What I mean by this is that, if tester 1 was working on the test strategy, tester 2 was helping and giving his opinions to tester 1. Also, we were helping each other by specifying the parts that were required to be fixed and done through sharing our screens.

#### 5. Test requirements:

- ❖ It is expected from the web server to be responsive under high load.
- ❖ It is critical for the web server to obey the minimum requirements for HTTP 1.1
- ❖ The web server is expected to function on different operating systems.
- ❖ Regarding the source code, it is critical to be announced under GPL-2.0.
- ❖ The out put of the access log is required to be showable on the text editor.

#### 6. Priority of tasks:

Although all the requirements needed to be checked, there are some requirements which will outweigh the other tasks. First and foremost, requirement 3 should be done to check if it will respond to a different operating system. However, there will be a slight problem regarding this requirement which will be discussed in what will not be tested section. Moving on, it is critical to see if the webserver can last under heavy load. Consequently, requirements 3 and 5 then 4 are required to be checked in turn.

## 7. What will not be tested:

N/A

## 8. Test results:

By gathering the output that has been provided by doing the manual test cases, it will be assembled in the test report. Also, the results of the test cases which indicate the output of each test will be included in the test report.

## 9. Risk analysis:

It is very important to identify the possible threats to reduce their impacts on the project. There are some prominent threats to the project:

List of Risks:

- **System failure** (There may be a possibility that the system crash in one stage).
- **Delay in delivery** (The project may not be ready by the deadline because of loads of works).
- **Lack of time** (Since time is limited, it can result in some errors).
- **Lack of human resource** (Only two developers are responsible for testing the webserver).
- **Lack of knowledge** (It can be challenging for a tester who is a beginner).
- **Unstable internet connection** (If the connection get lost, having access to the webserver will not be possible).

However, there are some solutions that can become very helpful for overcoming these risks.

List of strategies:

- ✓ **Using essential tools** (e.g. gaining information and tips from teacher lectures and the internet as well).
- ✓ **Using previous knowledge** (It can result in the acceleration of the process and planning of the project).
- ✓ **Having a backup plan** (e.g. uploading the files in google one drive) can help the testers for retrieving the files.
- ✓ **Having a checklist** (e.g. highlighting the important tasks that are supposed to be done daily and having a daily conversation with the team members).
- ✓ **Communication** (e.g. contacting the teacher or teacher assistance for asking help. Also, taking advantage of the tutoring sessions will be useful and helpful).
- ✓ **Having a stable connection** (By making sure of the stable connection, the risk of losing the connection or the access to the webserver will be reduced).

## 10. Deliverables:

- ❖ Strategiey.pdf
- ❖ TestPlan.pdf
- ❖ testCases.pdf
- ❖ testReport.pdf

## 11. Overall Project Schedule:

- Assignment 2 part 1: 11/12/2020
- Assignment 2 part 2: 18/12/2020
- Assignment 2 part 3: 12/01/2021

## 12. Time Log:

- ❖ Test Plan

Category	Actual time dedicated	Assumption for finishing	Date of start	Date of finish	Deadline
Introduction	10 minutes	20 minutes	2020-11-28	2020-11-28	2020-12-11
Scope	40 minutes	20 minutes	2020-11-28	2020-11-28	2020-12-11
Test Approach	2 hours	3 hours	2020-11-28	2020-11-28	2020-12-11
Roles and Responsibilities	2 hours	1 hour	2020-11-29	2020-11-29	2020-12-11
Test Requirements	10 minutes	5 minutes	2020-11-29	2020-11-29	2020-12-11
Priority of Tasks	40 minutes	1 hour	2020-11-29	2020-11-29	2020-12-11
What will not be tested	1 hour	15 minutes	2020-11-29	2020-11-29	2020-12-11
Test results	5 minutes	5 minutes	2020-11-29	2020-11-29	2020-12-11
Risk analysis	40 minutes	30 minutes	2020-11-30	2020-11-30	2020-12-11
Deliverables	5 minutes	5 minutes	2020-11-30	2020-11-30	2020-12-11
Overall Project Schedule	3 minutes	3 minutes	2020-11-30	2020-11-30	2020-12-11
Document modification	8 hours	3 hours	2020-11-28	2020-12-9	2020-12-11
Total	15 hours and 33 minutes				

❖ Test Strategy

Category	Actual time dedicated	Assumption for finishing	Date of start	Date of finish	Deadline
Introduction	20 minutes	15 minutes	2020-11-28	2020-11-28	2020-12-11
Stakeholders	1 hour	30 minutes	2020-11-28	2020-11-28	2020-12-11
Available means	40 minutes	20 minutes	2020-11-28	2020-11-28	2020-12-11
Testing goals	35 minutes	15 minutes	2020-11-29	2020-11-29	2020-12-11
How to reach the goals	10 minutes	5 minutes	2020-11-29	2020-11-29	2020-12-11
Specify the budget	40 minutes	1 hour	2020-11-29	2020-11-29	2020-12-11
Deliverables	35 minutes	15 minutes	2020-11-29	2020-11-29	2020-12-11
Overall Project Schedule	5 minutes	5 minutes	2020-11-29	2020-11-29	2020-12-11
Document modification	6 hours	4 hours	2020-11-28	2020-12-10	2020-12-11
Total	10 hours and 10 minutes				

❖ Test Cases

Category	Actual time dedicated	Assumption for finishing	Date of start	Date of finish	Deadline
TCJU1	2 hours	3 hours	2020-12-01	2020-12-01	2020-12-11
TCJU2	1 hour	50 minutes	2020-12-01	2020-12-01	2020-12-11
TCJU3	1 hour	30 minutes	2020-12-01	2020-12-02	2020-12-11
TCJU4	1 hour	1 hour	2020-12-01	2020-12-02	2020-12-11
TA	1 hour	40 minutes	2020-12-1	2020-12-02	2020-12-11
TC1.1.1	2 hours	1 hour	2020-12-03	2020-12-04	2020-12-11
TC1.1.2	1 hour	1 hour	2020-12-03	2020-12-04	2020-12-11
TC1.2.1	1 hour	40 minutes	2020-12-03	2020-12-04	2020-12-11
TC1.2.2	1 hour	50 minutes	2020-12-03	2020-12-04	2020-12-11
TC1.3.1	50 minutes	1 hour	2020-12-03	2020-12-05	2020-12-11
TC1.3.2	45 minutes	1 hour	2020-12-03	2020-12-05	2020-12-11
TC1.4	1 hour	55 minutes	2020-12-03	2020-12-05	2020-12-11
TC1.5	40 minutes	30 minutes	2020-12-03	2020-12-05	2020-12-11
TC1.6.1	2 hours	1 hour	2020-12-06	2020-12-06	2020-12-11
TC1.6.2	1 hour	55 minutes	2020-12-06	2020-12-06	2020-12-11
TC1.6.3	55 minutes	40 minutes	2020-12-06	2020-12-06	2020-12-11
TC1.6.4	40 minutes	1 hour	2020-12-06	2020-12-06	2020-12-11
TC1.6.5	50 minutes	55 minutes	2020-12-06	2020-12-06	2020-12-11
TC1.7.1	1 hour	40 minutes	2020-12-06	2020-12-06	2020-12-11
TC1.7.2	40 minutes	30 minutes	2020-12-07	2020-12-07	2020-12-11
TC1.8.1	2 hours	55 minutes	2020-12-07	2020-12-07	2020-12-11
TC1.8.2	40 minutes	1 hour	2020-12-07	2020-12-07	2020-12-11
TC1.8.3	50 minutes	40 minutes	2020-12-07	2020-12-08	2020-12-11
TC1.8.4	35 minutes	50 minutes	2020-12-07	2020-12-08	2020-12-11
TC1.8.5	39 minutes	55 minutes	2020-12-07	2020-12-08	2020-12-11
Document modification	2 hours	3 hours	2020-12-01	2020-12-08	2020-12-11
Total	27 hours and 14 minutes				

❖ Test Report

Category	Actual time dedicated	Assumption for finishing	Date of start	Date of finish	Deadline
Introduction	10 minutes	5 minutes	2020-12-09	2020-12-09	2020-12-11
TCJU1	30 minutes	1 hour	2020-12-09	2020-12-09	2020-12-11
TCJU2	30 minutes	40 minutes	2020-12-09	2020-12-09	2020-12-11
TCJU3	30 minutes	20 minutes	2020-12-09	2020-12-09	2020-12-11
TCJU4	35 minutes	35 minutes	2020-12-09	2020-12-09	2020-12-11
TA	25 minutes	29 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.1.1	20 minutes	2 hours	2020-12-09	2020-12-09	2020-12-11
TC1.1.2	25 minutes	50 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.2.1	15 minutes	45 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.2.2	22 minutes	25 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.3.1	19 minutes	35 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.3.2	20 minutes	1 hour	2020-12-09	2020-12-09	2020-12-11
TC1.4	21 minutes	20 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.5	15 minutes	36 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.6.1	19 minutes	45 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.6.2	20 minutes	59 minutes	2020-12-09	2020-12-09	2020-12-11
TC1.6.3	13 minutes	35 minutes	2020-12-10	2020-12-09	2020-12-11
TC1.6.4	23 minutes	20 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.6.5	24 minutes	35 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.7.1	20 minutes	20 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.7.2	15 minutes	25 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.8.1	20 minutes	25 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.8.2	18 minutes	40 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.8.3	19 minutes	25 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.8.4	16 minutes	20 minutes	2020-12-10	2020-12-10	2020-12-11
TC1.8.5	15 minutes	19 minutes	2020-12-10	2020-12-10	2020-12-11
Screen Shots	20 minutes	35 minutes	2020-12-09	2020-12-09	2020-12-11
Document modification	2 hours	5 hours	2020-12-09	2020-12-11	2020-12-11
Total	14 hours and 21 minutes				