

 Sponsored through Framework Programme Sixth (Call 5) by 		<b>Document Information</b>	
		<b>Version:</b> 1.0 <b>Date :</b> Dec 10, 09 <b>Pages :</b> 12	
		<b>Owning Partner:</b> CETIC	
		<b>Author(s):</b> Jacques Flamand (CETIC)	
		<b>Reviewer(s):</b> José Ruiz (AdaCore) Nicolas Devos (CETIC)	
<b>To:</b> European Commission		<b>Purpose of distribution:</b> Documentation of the QualOSS platform	
The QUALOSS Consortium consists of: CETIC (BE), Facultés Notre Dame de la Paix à Namur (BE), Universidad Rey Juan Carlos (ES), Fraunhofer IESE (DE), ZEA Partners (BE), MERIT (NL), AdaCore (FR), PEPITe (BE)			
<b>Status:</b> <input type="checkbox"/> Draft <input type="checkbox"/> To be reviewed <input type="checkbox"/> Proposal <input checked="" type="checkbox"/> Final/Released		<b>Confidentiality:</b> <input checked="" type="checkbox"/> Public - Intended for public use <input type="checkbox"/> Restricted - Intended for QUALOSS consortium only <input type="checkbox"/> Confidential - Intended for individual partner only	
<b>Deliverable ID:</b> D2.2  <b>Title:</b>  Summary description of the QualOSS platform   Disclaimer: "All information provided to the <i>Commission</i> , publications and press releases shall have a disclaimer saying "The information in this document is provided as is and no guarantee or warranty is given that the information is fit for any particular purpose. The user thereof uses the information at its sole risk and liability."			

	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 2 of 12
		Version: 1.0
		Date: Dec 10, 09
		Status : Final Confid : Public

## **Deliverable: D2.2**

**Title: Summary description of the QualOSS platform**

### **Executive Summary:**

The QualOSS Platform helps in following the QualOSS Methodology described in Deliverable 4.1 QualOSS Methodology. This document provides a short description of the QualOSS platform and its associated tools.


Section 1 of this document summarizes the different use cases provided by the QualOSS Platform.

Section 2 shortly describes associated tools, mainly a visualization tool allowing to display the results of assessments stored in a QualOSS database.

Section 3 gives information about the specific platform installation on the CETIC's cluster.


This document does not however explain how to collect measurements and how to compute risk indicators found in the measure and indicator spreadsheets. That information was covered in tasks 4.2 and 4.5 and described in their respective deliverable D4.2 (v1.0) and D4.5 (v1.1 of the Standard QualOSS Assessment Method ).

Furthermore, the detailed User Guide of the QualOSS version 1.1 is described in deliverable 2.4. The Specifications and Requirements of the QualOSS Platform are described in the Deliverable 2.1. Deliverable 2.3 is related to the Verification and Validation activities performed on the QualOSS Platform (version 1.0).

	<p>Summary description of the QualOSS platform</p> <p>Deliverable ID: D2.2</p>	<p>Page : 3 of 12</p> <hr/> <p>Version: 1.0 Date: Dec 10, 09</p> <hr/> <p>Status : Final Confid : Public</p>
---	--	--

## TABLE OF CONTENTS

1. <a href="#">The QualOSS platform</a> .....	4
2. <a href="#">Related tools</a> .....	6
2.1 <a href="#">Visualization tool</a> .....	6
2.2 <a href="#">Spreadsheets and specific tools</a> .....	9
2.3 <a href="#">Analysis tools</a> .....	10
3. <a href="#">Installation on the CETIC's cluster and assessment data</a> .....	10
4. <a href="#">Appendix : How to use the QualOSS platform on the CETIC's cluster</a> .....	11

	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 4 of 12
		Version: 1.0
		Date: Dec 10, 09
		Status : Final Confid : Public

## 1. THE QUALOSS PLATFORM

The purpose of this document is to provide a short description of the QualOSS platform and related tools.

QualOSS is a tool methodology in the sense that this methodology needs a platform to store in a structured way the information gathered during an analysis but also to perform automatic analysis when applicable.

The QualOSS platform supports 2 use cases :

Use case 1 : import assessment results from separate spreadsheets

The measurements needed for the analysis are performed independently from the QualOSS platform and collected in separate spreadsheets (one per characteristic). The advantage of this approach (in comparison with a full automated process) is that the analysis process can be better controlled and that some specific aspects of the artifacts can be taken into account. Moreover, the analysis process can be performed in a decentralized way without direct access to the centralized QualOSS platform. Tools are available to ease and automate as far as possible the measurement process. The spreadsheets also contain formulas that allow to compute automatically the value and the colors of the indicators on the basis of the measurement values. The spreadsheets can then easily be converted in simple Comma Separated Values (CSV) files that can in turn be used for introducing ("importing") the results of the analysis in the QualOSS database.

The following figure 1 gives an overview of the QualOSS platform for the use case of "Importing".

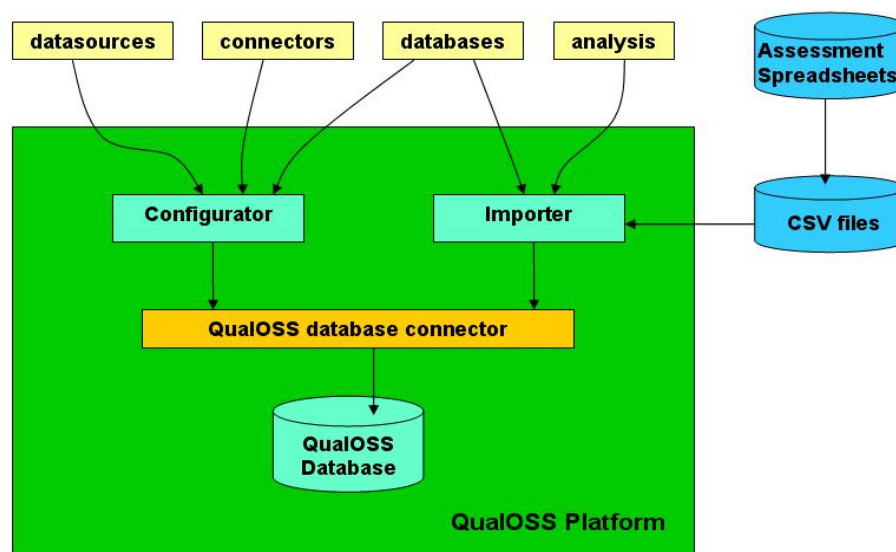



Figure 1: QualOSS platform : Importing Use Case

	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 5 of 12
		Version: 1.0
		Date: Dec 10, 09
		Status : Final Confid : Public

The yellow boxes stand for configuration files that are used for configuring the platform and/or for importing the assessment results.

Use case 2 : automatic analysis by launching appropriate tools

During the analysis, the needed measures are automatically collected by the appropriate tools that are launched by the platform using the appropriate connectors. As an additional functionality, the reporter allows to output the values of the measures and of the indicators based on a quality model file.

The following figure 2 gives an overview of the QualOSS Platform for the automatic analysis use case.

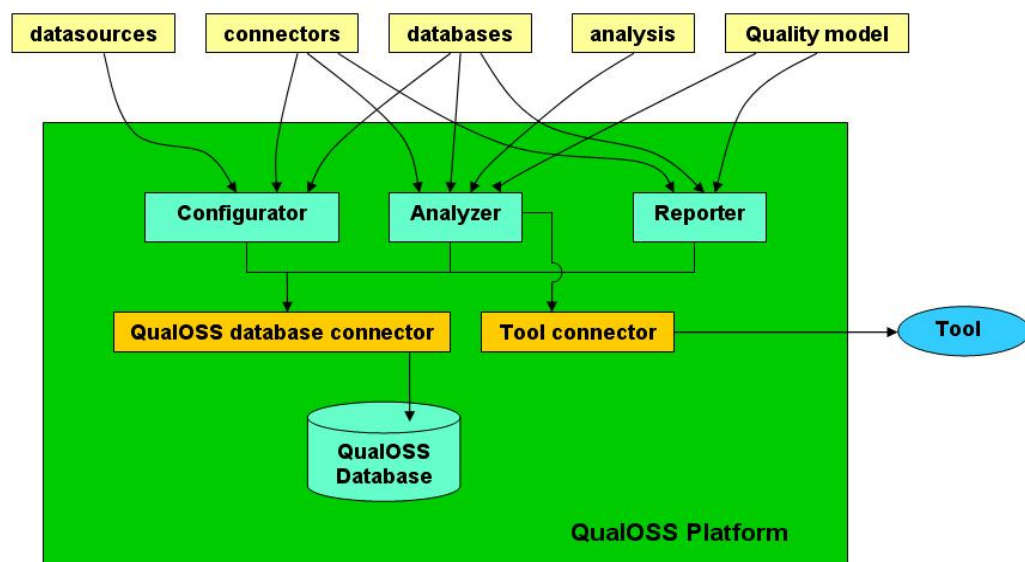



Figure 2: QualOSS platform : Automatic Analysis Use Case

The QualOSS platform can be downloaded from <https://forge.pallavi.be/projects/show/qualoss-platform>


	<p>Summary description of the QualOSS platform</p> <p>Deliverable ID: D2.2</p>	<p>Page : 6 of 12</p> <hr/> <p>Version: 1.0 Date: Dec 10, 09</p> <hr/> <p>Status : Final Confid : Public</p>
---	--	--

## 2. RELATED TOOLS

### 2.1 VISUALIZATION TOOL

Once a QualOSS database is available, the result of the assessment can be displayed thanks to a web-based visualization tool.

The “home page” of the tool allows to select an endeavor. Once an endeavor is selected, a summary of the assessment results is displayed as shown by the following figure 3.

	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 7 of 12
		Version: 1.0 Date: Dec 10, 09
		Status : Final Confid : Public

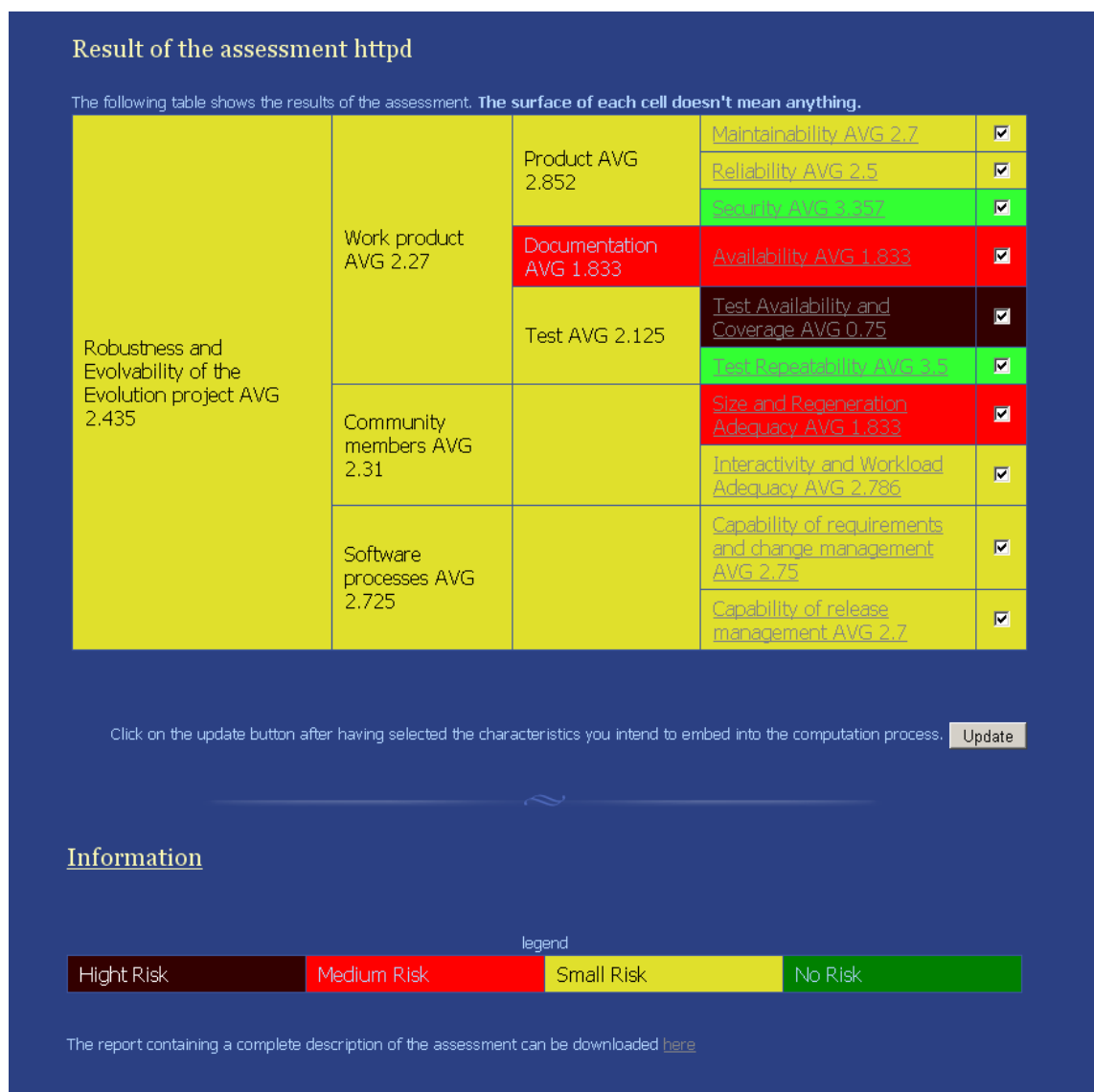



Figure 3: Summary of an assessment result

The colors of the characteristics are computed thanks to the color of the related indicators. A link to the assessment report is provided. A possibility is given to “remove” some characteristics and to check its influence on the assessment.

By clicking on a characteristic it is possible to see the color of all relevant indicators and the questions they have to answer as shown by the following figures 4 and 5 :

	<p>Summary description of the QualOSS platform</p> <p>Deliverable ID: D2.2</p>	Page : 8 of 12
		Version: 1.0 Date: Dec 10, 09
		Status : Final Confid : Public

Detail of the Maintainability characteristic		
<b>Product Manager</b> <i>Measurement Questions:</i>		
WP-Ma-1: What is the percentages of enhancements proposal that get accepted?	percentage of accepted enhancement proposals	1
WP-Ma-2: What is the rapidity with which accepted enhancements are implemented?	rapidity of implementation of enhancement proposals	1
WP-Ma-3: What is the percentage of changes in the code between major releases?	evolution of change in code between major releases	1
WP-Ma-4: What is the percentage of changes to public interfaces in the code (external API) between major releases?	evolution of change to public interfaces between major releases	1
WP-Ma-5: What is the evolution in code volumetry between various releases of the code over time (in chronological order)?	evolution of number of lines of code between successive releases	1
<b>Project Manager</b> <i>Measurement Questions:</i>		
WP-Ma-6: What is the percentage of bugs reported and not assigned (or whose resolution status is also not assigned)?	percentage of unassigned issues	1
WP-Ma-7: What is the rapidity with which bugs are corrected?	rapidity of issue resolution	1
WP-Ma-8: What is the percentage of changes in the code between minor releases?	evolution of change in code between minor releases	1
WP-Ma-9: How many patches have been submitted for the actual version of the FLOSS component considered for integration?	average number of patch per issue	1
WP-Ma-10: What is the percentage of changes to public interfaces in the code (external API) between minor releases?	evolution of change to public interfaces between minor releases	1

Figure 4: Summary of an assessment result (part 1)




	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 9 of 12
		Version: 1.0
		Date: Dec 10, 09
		Status : Final Confid : Public



Figure 5: Summary of an assessment result (part 2)


A link to the spreadsheet is also provided in order to consult details about collected measures and indicators.

The result of the assessments performed in task 4.2 (Standard QualOSS assessments V1.0 and 1.1 can be visualized using [http://ingrid.cetic.be:33323/qualoss\\_assessment/](http://ingrid.cetic.be:33323/qualoss_assessment/)

The visualization tool can be downloaded from <https://forge.pallavi.be/projects/show/qualoss-platform>

## 2.2 SPREADSHEETS AND SPECIFIC TOOLS

How to perform the assessment of the different characteristics is documented in spreadsheets that are part of task 4.2. As mentioned before, tools are available to ease and automate as far as possible the

	Summary description of the QualOSS platform  Deliverable ID: D2.2	Page : 10 of 12
		Version: 1.0 Date: Dec 10, 09
		Status : Final Confid : Public

measurement process. The spreadsheets also contain formulas that allows to compute automatically the value and the colors of the indicators on the basis of the measurement values. Documentation and tools specific to each characteristic and scripts are also part of WP 4.

## 2.3 ANALYSIS TOOLS

For the automatic analysis use case, the QualOSS platform administrator has to install the needed analysis tool.


The QualOSS Platform v1.1 is delivered with examples of connectors for the following tools :

- Checkstyle v4.4 (<http://checkstyle.sourceforge.net/4.4/index.html>)
- sissy V0.45 ([http://sissy.fzi.de/SSISy/CMS/index\\_html](http://sissy.fzi.de/SSISy/CMS/index_html))
- cvsanaly V1.0.1 ( [https://forge.morfeo-project.org/frs/?group\\_id=33](https://forge.morfeo-project.org/frs/?group_id=33))
- filecounter V1.0 (included in the QualOSS platform)

## 3. INSTALLATION ON THE CETIC'S CLUSTER AND ASSESSMENT DATA

The QualOSS platform V1.1 has been installed on the CETIC's cluster as well as the visualization tool. Data collected by the assessment performed during task 3.2 have been imported in a dedicated database and are visible using the tool ([http://ingrid.cetic.be:33323/qualoss\\_assessment/](http://ingrid.cetic.be:33323/qualoss_assessment/)).

Detailed information about how to use the platform as installed on the CETIC's cluster is given in Appendix in section 4.

	<p>Summary description of the QualOSS platform</p> <p>Deliverable ID: D2.2</p>	Page : 11 of 12
		Version: 1.0 Date: Dec 10, 09
		Status : Final Confid : Public

#### 4. APPENDIX : HOW TO USE THE QUALOSS PLATFORM ON THE CETIC'S CLUSTER

The aim of this section is to give some specific hints about how to use the QualOSS platform as installed on the CETIC cluster. General information on the QualOSS platform user interface is described by the Reference Guide to the QualOSS platform (D2.4).

##### 1. Connection to gateway node of the cluster

URL : `ingrid.cetic.be`

use your login name and password

##### 2. Connect to node 23 using the command :

```
ssh cetic-node23
```

!!! don't forget this !!!

##### 3. Change to the directory of the QualOSS project using the command

```
cd /automount/scratch/qualoss/platform
```

in this directory :

a. the available version is installed in the directory "QUALOSS", you have to go to this directory to execute the platform scripts

b. directory «user» contains a directory for each platform user you have to create your configuration files and the csv files in **\*your\*** directory. The configuration file `database.ini` file must refer to **\*your\*** qualoss database and **\*your\*** password for database access.


Example of commands for importing "manually" measures and indicators :

##### 1. platform configuration :

```
python Configurator.py --init --debug
-c ../user/<username>/config/<projectname>/connectors.ini
-d ../user/<username>/config/<projectname>/databases.ini
-s ../user/<username>/config/<projectname>/datasources.ini
```

##### 2. import of measures and indicators :

```
python Importer.py --debug --force
-d ../user/<username>/config/<projectname>/databases.ini
-a ../user/<username>/config/<projectname>/analysis.ini
--measures=../user/<username>/config/<projectname>/Measures.csv
--indicators=../user/<username>/config/<projectname>/Indicators.csv
```

	<p>Summary description of the QualOSS platform</p> <p>Deliverable ID: D2.2</p>	Page : 12 of 12
		Version: 1.0
		Date: Dec 10, 09
		Status : Final Confid : Public

3. launch an automatic analysis :

```
python Analyzer.py --debug --force
-d ../user/<username>/config/<projectname>/databases.ini
-a ../user/<username>/config/<projectname>/analysis.ini
-c ../user/<username>/config/<projectname>/connectors.ini
--quality-model=../user/<username>/config/<projectname>/qualitymodel.yaml
```

4. get the results of an automatic analysis:

```
python Reporter.py
-d ../user/<username>/config/<projectname>/databases.ini
-a ../user/<username>/config/<projectname>/analysis.ini
--quality-model=../user/<username>/config/<projectname>/qualitymodel.yaml
--format=text
```

Note

To avoid long commands, you can also use a configuration file and refer it in the command e.g.

```
python Configurator.py --init --debug
--config=../user/<username>/config/<projectname>/config.ini
```