Quality Guard User Guide
Analysis Tool of MEASURE Platform
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The Quality Guard Analysis overview

The Quality Guard analysis tool is an external extension which is integrated as a component to the Measure Platform through Rest APIs. It provides mechanisms for the advance data analysis functionalities apply to data produced by the continuous measurement applied by the platform.

The Quality Guard Analysis tool provides services for analysing the big data produced by the continuous measurement to enable continuous improvements of software engineering activities and artefacts. In this context, both the QA engineers and the project managers are involved in the quality assurance process of the entire software development activities and artefacts.

The QA engineers would like to define set of constraints and conditions based on measure thresholds to evaluate the data produced by the continuous measurement to ensure an overall product quality. On the other hand, the project manager hopes to be notified when a specific event is occurring on platform side, either by getting the incidents history of all constraints defined by the Quality Guard tool or by monitoring the state of each constraint periodically.

The Quality Guard Analysis features

In this section, we will discuss the main features provided by the Quality Guard tool.

Configuring a quality guard rule

First of all, the Quality Gate tool should be registered into the Measure platform in order to manage and configure the quality guard rules (*more details*).

The Project Quality Guard Configuration provides services to manage and configure the quality guard rules set on measures project by allowing the following sub-features:

- Adding new quality guard

A quality guard is an expression with a regular syntax define on measures project to check that a numeric measure stays on delimited range.

Each quality guard can be composed of either one or more guard conditions. By the way, this last constitute of different elements including:

- Measure instance type: which includes a measure instance and its corresponding measure field.
- Guard operators: which include comparison operators like "SUPERIOR" and "INFERIOR" allowing the evaluation of each constraints according to the certain thresholds.
- Thresholds value: which include a warning value field and an error value field.
- Interval aggregation: defined a period used to detect a violation. The value used in guard condition is the average value of all measure value collected during the period.
- Combination mode: which includes logic operators like "AND", "OR" to support conditions and constraints based on cross measures expressions.

Once the numeric measure evaluated on the guard condition is not on delimited range, which means that the quality guard is not respected. Consequently, a new violation is opened related to this constraint. A Condition violation is the value on one of guard conditions during an incident.

- *Scheduling a registered quality guard*

The scheduling mechanism is a way used by activate and deactivate the evaluation of a quality guard rule in order to detect a violation.

Visualizing Quality Guards

The main view provided by the Quality Guard Analysis tool allow to visualise the state of each constraints defined by the tool. For each constraint, a history of the last incidents can be visualizing.
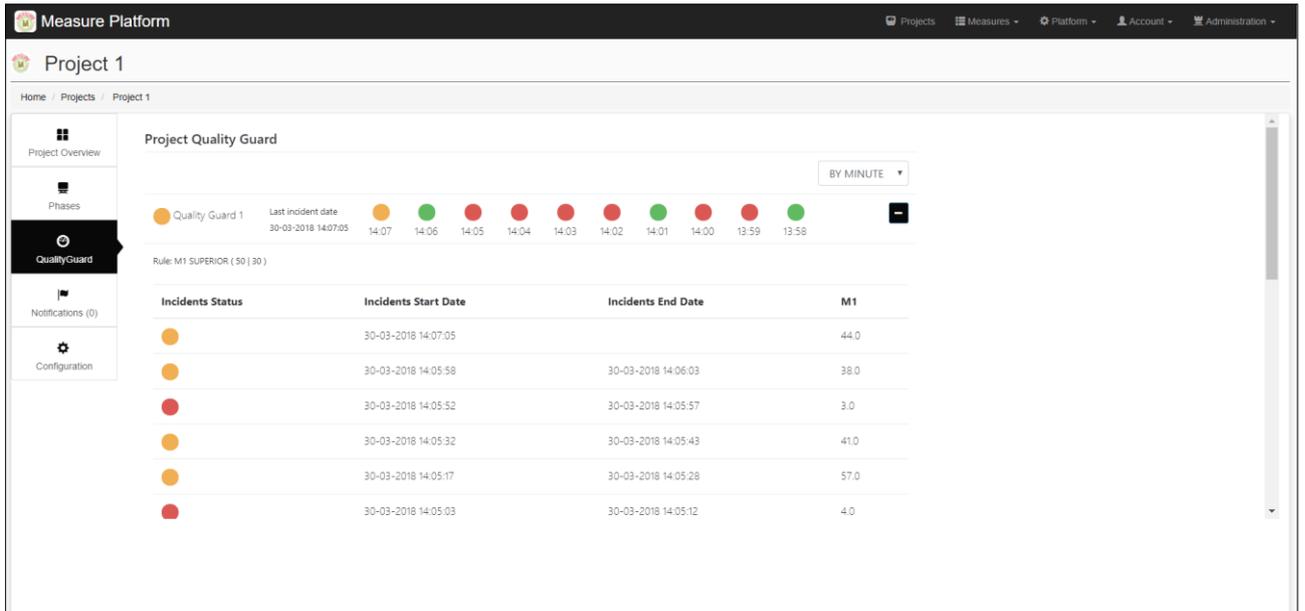
Visualizing Dashboard Cards

The dashboard cards provided by the Quality Guard Analysis tool allow getting an overview of the state of either the quality guards or the constraints violations occurred in each project. It composes of the following parts:

- Quality Guard dashboard

The dashboard card presents an overview of the Quality Guards defined in the project.
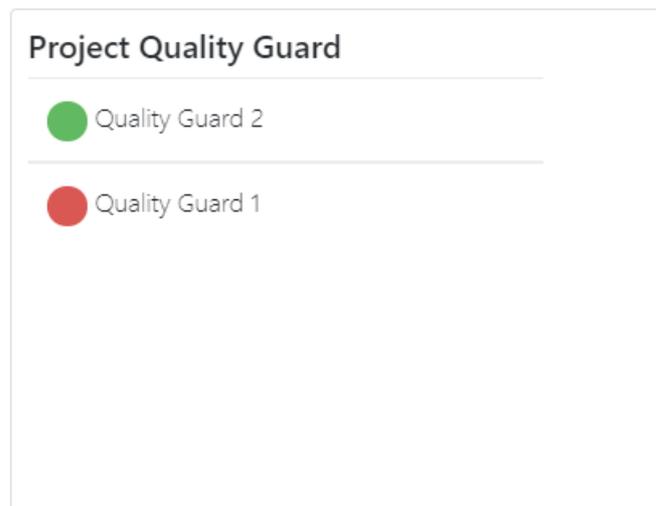
- Incident history dashboard

The dashboard card exposes the last constraints violations which occurred in the project.

Project Quality Issues

🔴 2018-03-30 15:43:26	Quality Guard 1	M1	0.0
🔴 2018-03-30 15:42:51	Quality Guard 1	M1	0.0
🔴 2018-03-30 15:41:51	Quality Guard 1	M1	0.0
🔴 2018-03-30 15:40:51	Quality Guard 1	M1	0.0
🔴 2018-03-30 15:39:56	Quality Guard 1	M1	0.0