

# MINT User Guide

## Analysis Tool of MEASURE Platform

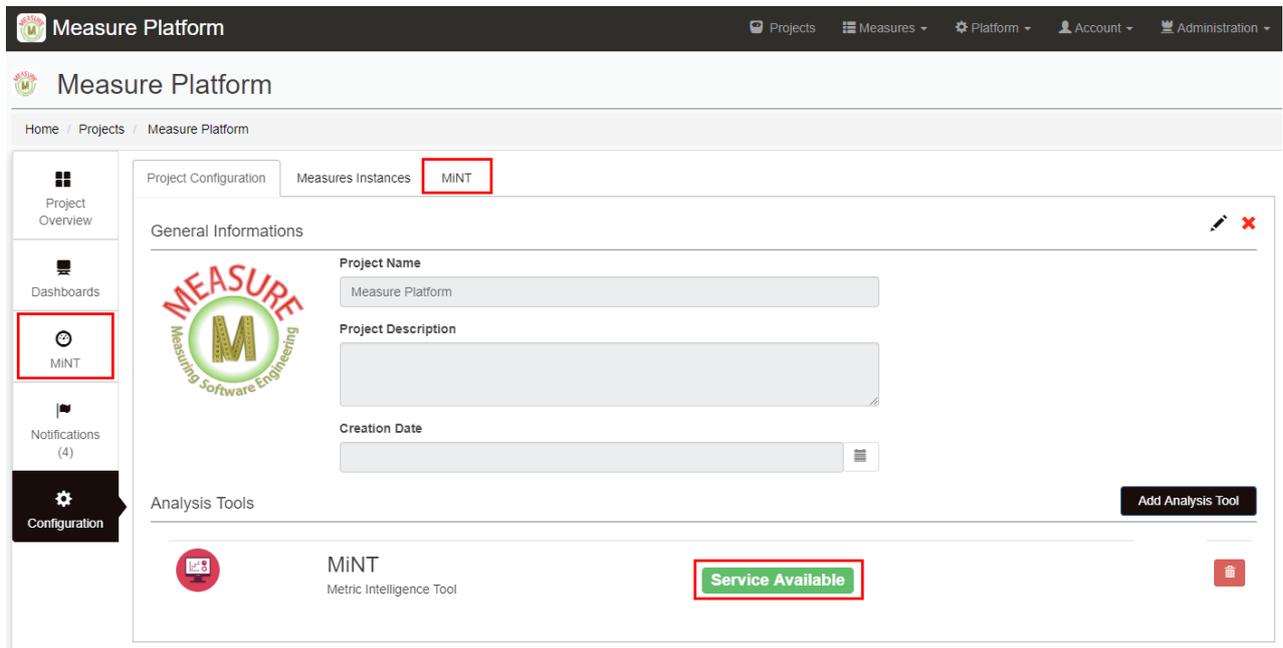


### Registration

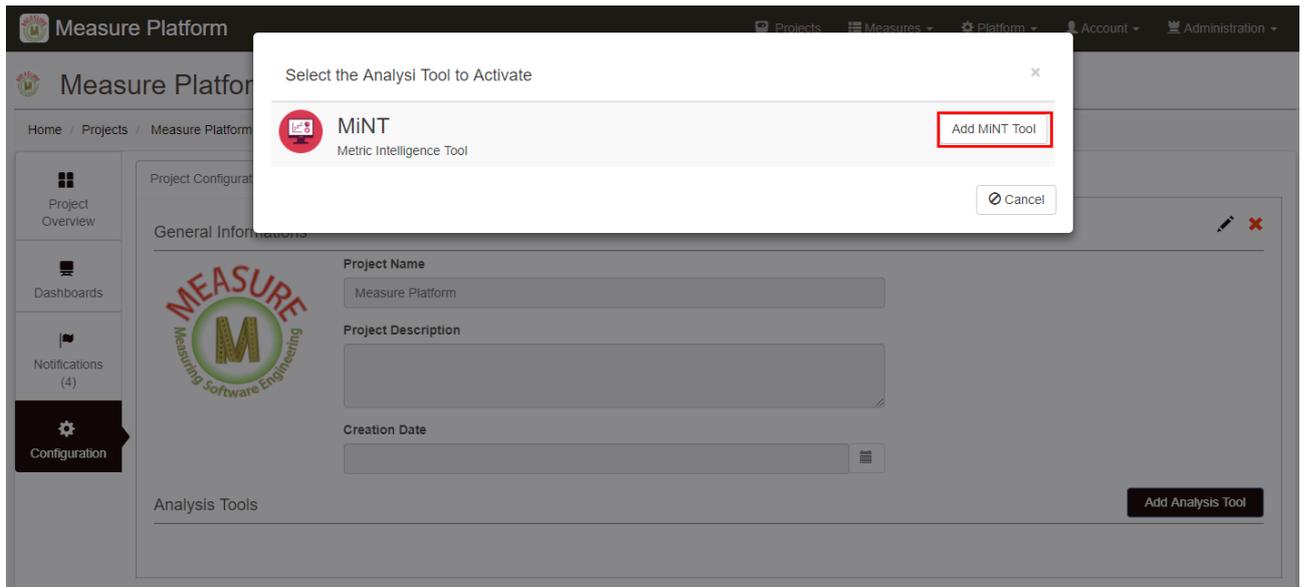
The first step to start using Mint is add it into the MEASURE web application, allowing the tool to run embedded into MEASURE and retrieve the measurements data for the analysis.

Once the tool is running it can be registered into the Measure platform.

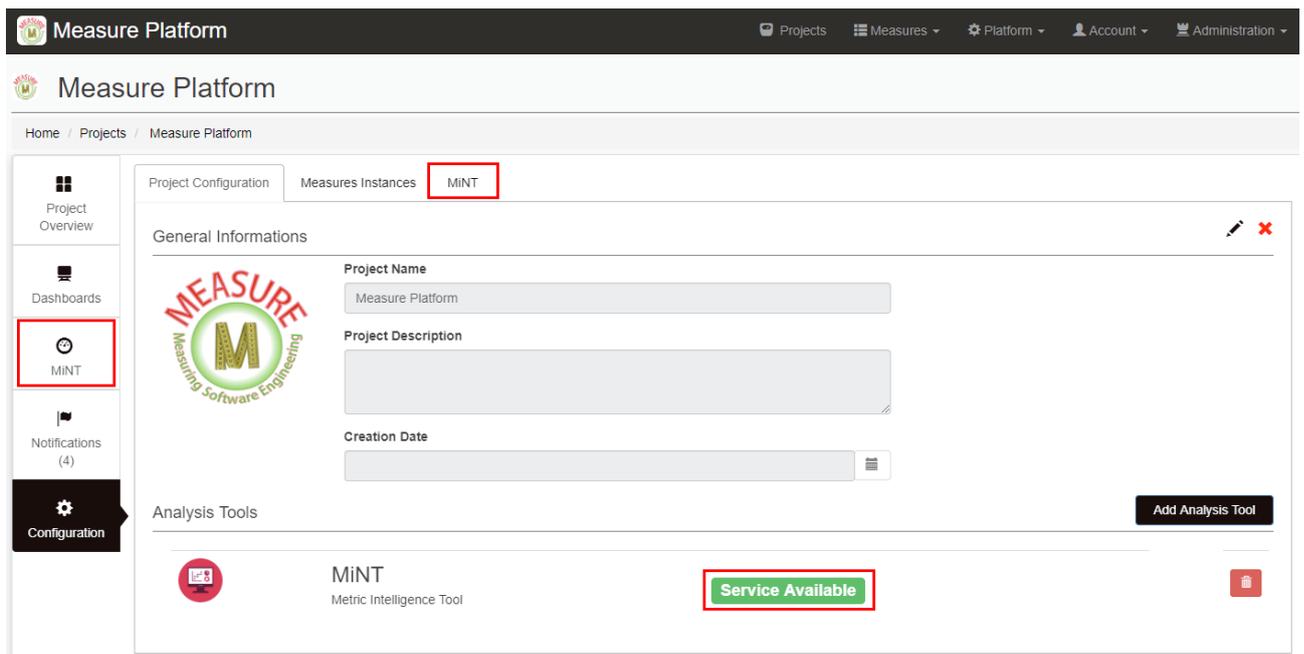
- Access to the project where you want to use Mint.
- Access to the configuration tab of the project page configuration and click on *Add Analysis tool*



- Mint should be visible in the list of analysis tools to activate. Click on Add Mint Tool.



- If Mint was added successfully you should see it in the list of available analysis tools with the status Service Available in green. A tab should also appear in the configuration menu and an option in the Project Menu with the name Mint.



Now the tools are ready to be configured and used.

## Configuration

Access to the Mint tab of the project page configuration.

There is a table with the available EFSMs (Extended Finite State Machines) displaying name, description, category, role to which the recommendation is guided, status of the machine (Active or Inactive) and options.

Measure Platform

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Project Configuration Measures Instances MINT

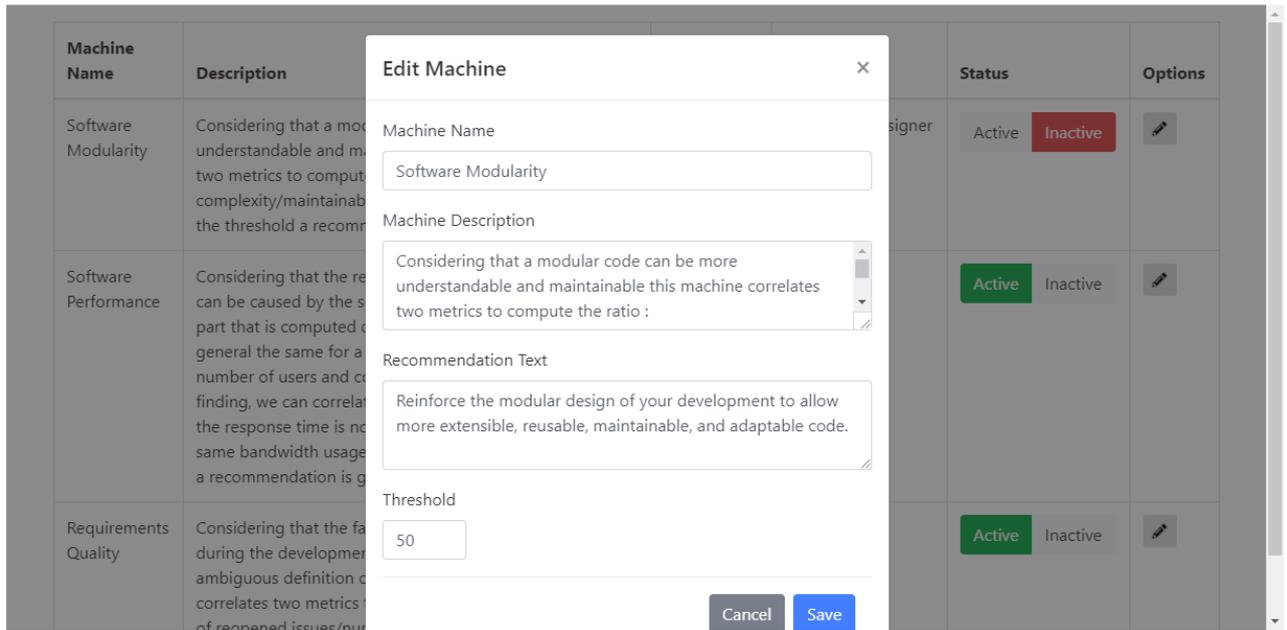
Machine Name	Description	Category	Role	Status	Options
Software Modularity	Considering that a modular code can be more understandable and maintainable this machine correlates two metrics to compute the ratio : $R = \text{class complexity/maintainability rating}$ If this ratio is more than the threshold a recommendation is given.	Code Quality	Developer/Designer	Active Inactive	
Software Performance	Considering that the response time denotes the delay that can be caused by the software, hardware or networking part that is computed during operation. This delay is in general the same for a constant bandwidth (an equivalent number of users and concurrent sessions). Based on this finding, we can correlate the two metrics and compute that the response time is not increasing for during time for the same bandwidth usage. If this response time is increasing, a recommendation is given.	Performance	Operator	Active Inactive	

The state of each of the machines can be changed, this determines if the analysis is performed and the corresponding recommendations are received.

Machine Name	Description	Category	Role	Status	Options
Software Modularity	Considering that a modular code can be more understandable and maintainable this machine correlates two metrics to compute the ratio : $R = \text{class complexity/maintainability rating}$ If this ratio is more than the threshold a recommendation is given.	Code Quality	Developer/Designer	Active Inactive	
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The name, description and text of the recommendation can also be modified, as well as the threshold value (if applicable) as required.

These changes are only applied to the project where the modifications are being made and does not affect the rest.



## Visualization

The list of recommendations can be accessed from the Mint page within the project.

The recommendations are found in a table sorted by date, with the columns last updated, machine name, status of the recommendation (and number of recommendations made), category, role to which the recommendation is directed and recommendation text.

Last Updated	Machine	State	Category	Role	Recommendation
Wed May 23 2018 18:14:20	Software Modularity	Active <b>1</b>	Code Quality	Developer/Designer	Reinforce the modular design of your development to allow more extensible, reusable, maintainable, and adaptable code.
Wed May 23 2018 18:14:20	Software Performance	Active <b>18</b>	Performance	Operator	Check the last commit for problems in the code that generate a longer response time
Wed May 23 2018 18:14:20	Requirements Quality	Active <b>13</b>	Specification	Analyst	Refine requirements definitions or provide more details to avoid development rework
Wed May 23 2018 18:14:20	Code Reliability	Active <b>6</b>	Code Quality	Developer/Tester	There is unsolved major issues in the code, make a code review and look for untested scenarios
Wed May 23 2018 18:14:20	Software Security	Active <b>19</b>	Security	Security Expert	Check code for vulnerabilities like error handling or input validation

By clicking on any of the recommendations, a model is displayed with the details of each of the recommendations made: date and time, status and details.

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Show 10 entries

Search:

Last Updated	Machine
Wed May 23 2018 18:14:20	Software Modularity
Wed May 23 2018 18:14:20	Software Performance
Wed May 23 2018 18:14:20	Requirements Quality
Wed May 23 2018 18:14:20	Code Reliability
Wed May 23 2018 18:14:20	Software Security

Showing 1 to 5 of 5 entries

**Detail**

Check the last commit for problems in the code that generate a longer response time

Date	Status	Details
23/05/2018 16:14:20	Active	old response_time : 100 new response_time : 200 old bandwidth : 100 new bandwidth : 100
30/04/2018 09:45:01	Active	class_complexity : 100 maintainability_rating : 1 threshold : 50
23/03/2018 04:28:41	Active	class_complexity : 100 maintainability_rating : 1 threshold : 50
08/03/2018 13:08:11	Active	class_complexity : 100 maintainability_rating : 1 threshold : 50

The recommendations table can be ordered by any of its columns and the results can also be filtered by searching for some text.

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Show 10 entries

Search:

Last Updated	Machine	State	Category	Role	Recommendation
Wed May 23 2018 18:14:20	Software Modularity	Active <b>1</b>	Code Quality	Developer/Designer	Reinforce the modular design of your development to allow more extensible, reusable, maintainable, and adaptable code.
Wed May 23 2018 18:14:20	Code Reliability	Active <b>6</b>	Code Quality	Developer/Tester	There is unsolved major issues in the code, make a code review and look for untested scenarios

Showing 1 to 2 of 2 entries (filtered from 5 total entries)

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