

Python Plugin

<p>Your browser does not support iframes.</p>



Live example

If you want to see a live example of the capabilities of the Python plugin, you can have a look at the analysis of the [PyFFI project on Nemo](#).

Description / Features

This plugin enables the analysis of [Python](#).

Prerequisite

[Pylint](#) must be installed to check Pylint coding rules.

Installation

1. Install the plugin through the [Update Center](#) or download it into the `SONARQUBE_HOME/extensions/plugins` directory
2. Restart the SonarQube server

Usage

Run an Analysis with the SonarQube Runner (Recommended Method)

To run an analysis of your Python project, use the [SonarQube Runner](#).

A sample project is available on github that can be [browse](#)d or [download](#)ed: `/projects/languages/python/python-sonar-runner`.

Run an Analysis with the other Analyzers

[Maven](#) and [Ant](#) can also be used to launch analysis on Python projects.

Advanced Settings

Property	Scope	Example	Description
sonar.python.pylint	System-wide	/usr/local/bin/pylint	Path to the pylint executable to use in pylint analysis. Set to empty to use the default one. It has to be set on Windows, use either masked backslashes or slashes as path separators; examples: C:\\Python26\\Scripts\\pylint.bat or C:/Python/26/Scripts/pylint.bat
sonar.python.pylint_config	Project-wide	.pylintrc	Path to the pylint configuration file (relative to project root or absolute) to use in pylint analysis. Set to empty to use the default.
sonar.python.xunit.reportPath	Project-wide	nosetests.xml	Since version 1.1. Ant pattern describing the path to unit test execution reports, relative to projects root. Leave unset to use the default ("xunit-reports/xunit-result-*.xml"). The reports have to conform to the junitreport XML format.

sonar.python.coverage.reportPath	Project-wide	coverage.xml	Since version 1.1. Ant pattern describing the path to coverage reports, relative to projects root. Leave unset to use the default ("coverage-reports/coverage-*.xml"). The reports have to conform to the Cobertura XML format.
sonar.python.coverage.itReportPath	Project-wide	it-coverage.xml	Since version 1.1. Ant pattern describing the path to coverage reports for integration tests, relative to projects root. Leave unset to use the default ("coverage-reports/it-coverage-*.xml"). The reports have to conform to the Cobertura XML format.

Make sure to set up the environment properly (PYTHONPATH etc.) before running the analyzer, if your project requires it.

External report generation

Here is a quick guide how to generate the reports using external tools.

Test execution

```
nosetests --with-xunit [tests to execute]
```

To get a more accurate execution time statistics make sure to use nose 1.1.0 or newer.

Coverage

Use Ned Batchelders coverage package like this:

```
coverage erase
coverage run --branch --sources=<python packages> <program>
coverage xml -i
```

Make sure to put all packages to measure into the --source parameter. That ensures that coverage will report zero coverage on all untouched files, as you most probably want to. To make this work, make sure to meet two prerequisites:

- use coverage => 3.4
- the packages should be packages, i.e. every directory on the way to the sources should contain an __init__.py file.

Metrics

See [Metrics documentation page](#).

Extending Coding Rules using XPath

New coding rules can be added using XPath. See the related [documentation](#).

To navigate the AST, download the [SSLR Python Toolkit](#).

Change Log

Key	Summary	T	P
SONARPY-4	update issue management link in pom.xml		
SONARPY-27	Deprecate pylint: C0321 "More than one statement on a single line"		

SONARPY-9	Rule: Class names should comply with a naming convention
SONARPY-10	Rule: Files should not have too many lines
SONARPY-29	Rule: New-style classes should be used
SONARPY-25	Rule: Docstrings should be defined
SONARPY-20	Rule: Class names should comply with a naming convention
SONARPY-23	Rule: Function names should comply with a naming convention
SONARPY-24	Rule: Method names should comply with a naming convention
SONARPY-32	deprecate pylint:C0301
SONARPY-33	Pylint failure due to invalid "-i" argument in pylint 1.0.0 and 1.1.0
SONARPY-31	Add missing Pylint rules
SONARPY-34	Allow relative file names in coverage reports
SONARPY-14	Rule: Control flow statements ["if", "for", "while", "switch" and "try" "IF", "CASE", "DO", "LOOP", "SELECT", "WHILE" and "PROVIDE"] should not be nested too deeply
SONARPY-2	Do not embed Ant as a library for plugin
SONARPY-28	Rule: Parentheses should not be used after control flow statements
SONARPY-11	Rule: [Functions Methods Lambdas] should not have too many parameters
SONARPY-17	Rule: Collapsible "if" statements should be merged
SONARPY-19	Rule: "\" should only be used as an escape character outside of raw strings
SONARPY-12	Rule: Nested blocks of code should not be left empty
SONARPY-15	Rule: Comments should not be located at the end of lines of code
SONARPY-36	Update SQALE model for new rules
SONARPY-35	Parse error in list comprehension with literal list

23 issues

Version 1.2 (unreleased) (8 issues)

T	Key	Summary	P	Status
	SONARPLUGINS-2408	Remove dependencies on deprecated API extensions		Closed
	SONARPLUGINS-3479	Support of multi-language projects with SonarQube 4.2		Closed
	SONARPLUGINS-3128	Rename the "Sonar" Python rule engine into "SonarQube"		Closed
	SONARPLUGINS-3522	Add a "File suffixes" property that is visible in the UI		Closed
	SONARPLUGINS-3700	Upgrade to SSLR 1.20		Closed
	SONARPLUGINS-3708	Update CI Management field in pom.xml		Closed
	SONARPLUGINS-3707	Don't set coverage to anything when no report is available.		Closed
	SONARPLUGINS-2823	XPath rule should not lead to NPE, when parse error happens		Closed

8 issues

Version 1.1 (12 issues)

T	Key	Summary	P
	SONARPLUGINS-1691	Analysis is blocking sporadically	
	SONARPLUGINS-1637	Integration of unit tests	
	SONARPLUGINS-2083	Output of Pylint should be available as file after analysis	
	SONARPLUGINS-2154	Coverage metrics for Python code	
	SONARPLUGINS-2137	Failure to pass custom configuration file to pylint correctly	
	SONARPLUGINS-2122	Python plugin failes to parse a source file with a non-blank last line	
	SONARPLUGINS-2198	Remove metric comment_blank_lines	
	SONARPLUGINS-2184	Make the Python plugin support the Developer Cockpit plugin by providing the measures comments and loc by line	
	SONARPLUGINS-2248	Provide new version of sslr-python-toolkit instead of python-devkit	
	SONARPLUGINS-2212	Prevent conflicts in l10n of description for Python rules	
	SONARPLUGINS-2209	Embed the sonar-common-rules library	
	SONARPLUGINS-2042	Rule: Use of non-existent pre-increment or pre-decrement operator	

12 issues

Version 1.0 (26 issues)

T	Key	Summary	P
	SONARPLUGINS-1721	pygenie stops the code analyse if it tries to analyse a file not ending with a empty row	
	SONARPLUGINS-1722	Absolut paths in sonar.python.pylint_config are prefixed with the path of the project	
	SONARPLUGINS-2032	Rule: Always use upper case "L" for long integers	
	SONARPLUGINS-2031	Rule: Regular expression on comment	
	SONARPLUGINS-2030	Rule: Avoid deeply nested if statements	
	SONARPLUGINS-2024	Rule: Avoid usage of <> operator	
	SONARPLUGINS-2028	Rule: Avoid too complex function	
	SONARPLUGINS-2022	Rule: Avoid usage of exec statement	
	SONARPLUGINS-2021	Rule: When there is a parsing error, this error should be added like a violation on that Python file	
	SONARPLUGINS-2023	Rule: Avoid usage of `` (backtick) operator	
	SONARPLUGINS-2026	Rule: One statement per line	
	SONARPLUGINS-2018	Python Plugin not compatible with SCM Activity Plugin	
	SONARPLUGINS-2020	Replace ANTLR-based lexer by our own	
	SONARPLUGINS-2019	Rename default quality profile to "Sonar way" to be consistent with other plugins	
	SONARPLUGINS-2016	Metric: blank comments	
	SONARPLUGINS-2015	Metric: functions	
	SONARPLUGINS-2014	Rule: Generic Python rule to define some homemade checks with an XPath expression	

SONARPLUGINS-2013	Metric: statements
SONARPLUGINS-2012	Provide Python rule engine based on SSLR
SONARPLUGINS-2006	Provide a default SQALE mapping for the Python rules

Showing 20 out of 26 issues

Version 0.1 (5 issues)

T	Key	Summary	P
	SONARPLUGINS-1639	Support of code duplication detection	
	SONARPLUGINS-1634	Improve the pylint integration	
	SONARPLUGINS-1635	Rework the recognition of basic program entities	
	SONARPLUGINS-1547	Make the pylint integration configurable	
	SONARPLUGINS-1573	Add a colorizer for python code	

5 issues