

PHP 1.2 - Release Notes

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Although this extension is officially supported by CAST, please note that it has been developed within the technical constraints of the CAST Universal Analyzer technology and to some extent adapted to meet specific customer needs. Therefore the extension may not address all of the coding techniques and patterns that exist for the target technology and may not produce the same level of analysis and precision regarding e.g. quality measurement and/or function point counts that are typically produced by other CAST AIP analyzers.

What's new?

PHP 1.2.0

Quality Rules

- A new PHP specific Quality Rule (**Avoid artifacts having recursive calls (PHP) - 1007242**) has been added. This Quality Rule is specific to the PHP extension and replaces the core CAST AIP Quality Rule (**Avoid artifacts having recursive calls - 7388**) which was used in previous releases of the extension, but caused false positive violations when a call to a parent function was detected as a recursive call. This core CAST AIP Quality Rule (7388) is still triggered during an analysis using the extension, so please ensure that you consult the results of 1007242 instead.

Improved Java pre-processor

This extension now uses a Java pre-processor replacing the existing Perl pre-processor. The new Preprocessor will be available under C:\ProgramData\CAST\CAST\Extensions\com.castsoftware.php.<version>-buildXXX\Configuration\Languages\PHP\prepro

- The preprocessor requires a **JAVA_HOME system environment variable** to be present on the machine, and therefore also requires a **Java JRE 1.7** to be installed, see [Prerequisites](#) below.
- The log file name uses the format com.castsoftware.php_<YYYYMMddHHmmss>.log
- Only the latest 10 preprocessing log files will be retained
- The time is also added for each log entry

Bug Fixing

- See [PHP 1.2 - Bug Fix List](#)

Function Point, Quality and Sizing support

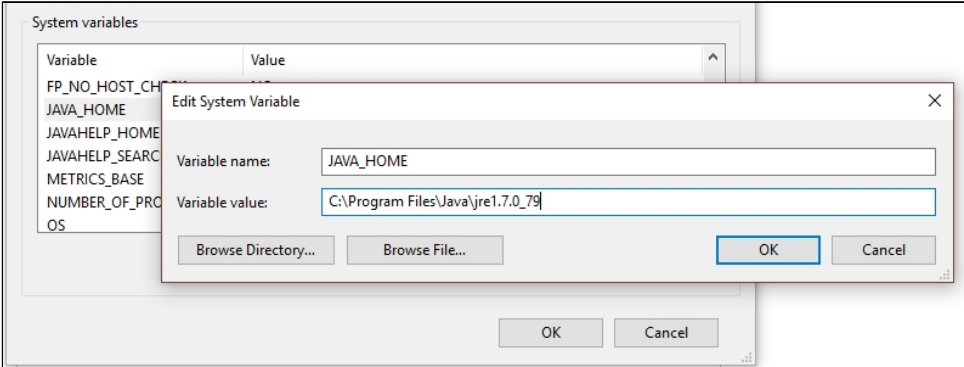
This extension provides the following support:

- **Function Points (transactions):** a green tick indicates that OMG Function Point counting and Transaction Risk Index are supported
- **Quality and Sizing:** a green tick indicates that CAST can measure size and that a minimum set of Quality Rules exist


Function Points (transactions)	Quality and Sizing
✓	✓

Prerequisites to using the extension

Prerequisites	Description
Java JRE	The extension requires a Java JRE to be installed on the machine: only Java JRE 1.7 is currently supported. This is used by the pre-pr PHP 1.2 - Analysis Configuration .

<p>JAVA_HOME environment variable</p>	<p>The extension requires that a JAVA_HOME system environment variable is also present on the machine, pointing to the Java JRE installation.</p> 
<p>PHP / PHP Code Sniffer / PHPMD</p>	<p>The extension requires the installation of three third party items:</p> <ul style="list-style-type: none"> • PHP • PHP Code Sniffer • PHPMD <p>These items are provided with the extension, however, they must be installed manually as described in PHP 1.2 - Analysis Configuration</p>

CAST AIP compatibility

 CAST recommends that you always install the latest release of an extension.

7.3.x	8.0.x	8.1.x	8.2.x
			

Supported DBMS servers

DBMS	Supported?
CSS	✓
Oracle	✓
Microsoft SQL Server	✗

Supported Versions of PHP

This version of the PHP extension provides partial support for the following PHP versions:

- 5.x

Licence Agreements

In order to provide a better solution and therefore increase the number of quality rules, the PHP configuration uses other external tools, such as:

PHP_CodeSniffer

More information about this tool is available here: http://pear.php.net/package/PHP_CodeSniffer

Version

CAST ships version **2.5.0** of the PHP_CodeSniffer.

License

The licence agreement for the PHP_CodeSniffer tool is available here:

- <https://opensource.org/licenses/BSD-2-Clause>

and is detailed below:

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Quality Rules calculated by the PHP Code Sniffer tool

1007022	Avoid FOR loops which can be simplified to a WHILE loop (PHP)
1007024	Avoid incrementer jumbling in loops (PHP)
1007026	Avoid using identical type operators rather than EQUAL operators (PHP)
1007028	Avoid using increment/decrement operator (PHP)
1007030	Avoid using empty statement (PHP)

1007032	Avoid empty class definition (PHP)
1007034	Avoid empty style definition (PHP)
1007036	Avoid classes having too many children (PHP)
1007038	Avoid classes having too many dependencies (PHP)
1007040	Avoid classes having too many parents (PHP)
1007046	Avoid Classes and Interfaces with a High Depth of Inheritance Tree (PHP)
1007056	Avoid unnecessary final modifiers inside final Classes (PHP)
1007058	Avoid unused Function parameters (PHP)
1007080	Avoid Classes not having the same name as the file (PHP)
1007084	Avoid uppercase keywords for control structures in Sections(PHP)
1007086	Avoid uppercase keywords for control structures in Functions and Methods(PHP)
1007088	Avoid having variable with a too short name (PHP)
1007090	Avoid having variable with a too long name (PHP)
1007096	Avoid ELSEIF statements. ELSE and IF should be separate (PHP)
1007116	Avoid Methods with Object Instantiation in loops (PHP)
1007124	Avoid empty catch blocks (PHP)
1007126	Avoid Functions throwing exceptions and not having a @Throws tag (PHP)
1007128	Avoid classes exceeding maximum length (PHP)
1007130	Avoid methods having too many parameters (PHP)
1007132	Avoid methods having length exceeding the maximum (PHP)
1007134	Avoid classes with too many fields (PHP)
1007136	Avoid classes with too many methods (PHP)
1007138	Avoid classes having a number of public methods and attributes exceeds maximum (PHP)
1007140	Avoid having unused variables (PHP)
1007142	Avoid unused private fields (PHP)
1007144	Avoid unused private methods (PHP)
1007146	Avoid classes exceeding number of weighted methods (PHP)
1007148	Avoid unconditional IF and ELSEIF statements (PHP)
1007150	Avoid useless overriding Methods (PHP)
1007152	Avoid unassigned default values in Functions (PHP)
1007156	Avoid using a goto statements (PHP)
1007158	Avoid using eval expressions (PHP)
1007160	Avoid using exit expressions (PHP)
1007212	Avoid having variables without naming conventions (PHP)
1007226	Avoid having For-loops that use a function call in the test expression (PHP)
1007228	Avoid having control structures without proper spacing in the open and close brace - PSR2 (PHP)
1007230	Avoid Having control structures without proper switch case declarations (PSR2) (PHP)
1007232	Avoid having variables passed by reference when calling a function (PHP)
1007234	Avoid having inline control statements (PHP)
1007236	Avoid having multiple classes defined in a single file - Symfony STD (PHP)
1007238	Avoid having class methods without scope modifiers - Symfony STD (PHP)

1007240	Avoid having object not instantiated using parenthesis - Symfony STD (PHP)
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PHPMD

More information about this tool is available here: <http://phpmd.org/>

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PHP Depend

More information about this tool is available here: <http://pdepend.org/>

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Documentation of PHP Quality Rules and Metrics

Documentation of all CAST Metrics and Quality Rules specific to the PHP extension is delivered via a compiled **HTML Help file (CHM)**. Please ensure that once the CHM has been downloaded you right-click on the CHM file in Windows Explorer and choose **Properties > Unblock**. This will ensure that the CHM is readable on your own PC:

Version	CHM
1.2.x	metrics_PHP_1-2-0.chm