# makeprojects Documentation

Release 0.13.1

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## (C) Makaprojecto for Python

The makeprojects module makes it easy to autogenerate project files for several popular Integrated Development Environments (IDEs)

- Documentation is found at https://makeprojects.readthedocs.io
- Doxygen generated documentation is found at https://makeprojects.readthedocs.io/en/latest/doxygen
- Python Packing Index (PyPI): https://pypi.python.org/pypi/makeprojects
- Source code and issue tracker: https://github.com/burgerbecky/makeprojects

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## ONE

## **COMPATIBILITY**

- Python 2.7.1 or higher
- Python 3.4 or higher

## TWO

## **INSTALLATION**

Type in pip install -U makeprojects. Some platforms may require the sudo prefix.

## **THREE**

## **BUGS**

If you find a bug, issue or have a feature request, please submit a bug report by emailing becky@burgerbecky.com and mention python version, integer size (32 bit or 64 bit) and what platform was used (Windows / Mac OSX / Linux).

8 Chapter 3. Bugs

**FOUR** 

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## 4.1 Buildme

buildme is a build system launcher that by using a single command, multiple build systems could be launched using a singluar command line. The tool has the ability to build all projects in a single directory, or even recursively through subdirectories with the -r parameter.

This is the launcher for the makeprojects project creation system and the build\_rules.py file.

The tool has the ability to parse all project files to determine which version of Visual Studio, XCode, etc. to invoke so there is no needed to determine what build system to use, since it has the ability to determine the proper IDE/build tool to invoke.

buildme also handles most video game console build systems automatically. If any of these are missing, the default behavior will be used.

## 4.1.1 build rules.py

A build\_rules.py file can control the behavior of buildme by listing dependencies and custom build rules.

Full documentation on the operation of build\_rules.py is here.

## **BUILDME\_DEPENDENCIES**

Set BUILDME\_DEPENDENCIES with either a single string of a folder or file that must be built first. Also, a list of files or folders can be set and they will be built in the order of their position in the list. The default is no dependencies.

#### BUILDME\_NO\_RECURSE

Set BUILDME\_NO\_RECURSE to True if all subdirectories below this folder are not to be processed due to them not having any build project files. This defaults to False, but set this to True to prevent parsing folders that don't need processing.

#### prebuild(working\_directory, configuration)

If this function exists, it will be called **FIRST** with the directory that the build\_rules.py file exists in and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules.

#### build(working directory, configuration)

If this function exists, it will be called with the directory that the build\_rules.py file exists in and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules.

#### postbuild(working directory, configuration)

If this function exists, it will be called **LAST** with the directory that the build\_rules.py file exists in and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules.

## 4.1.2 Usage

Navigate to a directory of interest or use a full directory path and run buildme. By default, it check the folder for a build\_rules.py file for override rules, and it will either use the rules found to build the projects in the directory, and then it will scan the directory for known project files and invoke the appropriate build system to build the project. If a configuration is passed a parameter, only that configuration will be built in all projects being compiled.

"buildme Release", build only the "Release" configuration of all project files.

"buildme", build all configurations of the project files.

"buildme helloworld.sln", build all configurations in helloworld.sln.

#### 4.1.3 Visual Studio

If the project file ends with .sln, it's assumed to be a Visual Studio project file.

If the host is Windows, MSYS2, Cygwin, or Windows Subsystem for Linux, it will build Visual Studio projects if the appropriate version of Visual Studio was installed.

These are the supported versions of Visual Studio:

- Visual Studio 2003 .NET
- · Visual Studio 2005
- Visual Studio 2008
- · Visual Studio 2010
- Visual Studio 2012
- Visual Studio 2013
- Visual Studio 2015
- Visual Studio 2017
- Visual Studio 2019

• Visual Studio 2022

These are the supported Visual Studio plug ins.

- Win32 (Windows 32 bit x86)
- x64 (Windows 64 bit x64)
- ARM (Windows 32 bit ARM)
- ARM64 (Windows 64 bit ARM)
- Xbox (Xbox classic)
- Xbox 360
- Durango (Xbox ONE)
- PS3
- PS4
- PSVita
- NX32 (Switch 32 bit)
- NX64 (Switch 64 bit)
- Tegra-Android (nVidia Shield)

#### 4.1.4 XCode

If the folder ends with .xcodeproj and contains the file project.pbxproj, it's assumed to be Apple XCode. This type of project can only be built on macOS hosts.

#### 4.1.5 Watcom

If the file ends with .wmk, it's assumed to be a Watcom WMAKE file. It can be built on Linux and Windows hosts.

#### 4.1.6 Codeblocks

If the file ends with .cdp, it's assumed to be a CodeBlocks project file. It's invoked on Windows and Linux hosts.

## 4.1.7 CodeWarrior

If the file ends with .mcp, it's assumed to be a Metrowerks / NXP CodeWarrior file. It's invoked on a Windows or macOS hosts.

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#### 4.1.8 Linux Make

If the file is makefile, it's assumed to be a Linux make file and is invoked only on Linux hosts.

## 4.1.9 Ninja

If the file ends with .ninja, it's assumed to be a ninja file and is invoked on all hosts.

#### 4.1.10 Credits

buildme is the insane creation of Rebecca Ann Heineman.

If bugs are found, please send all information on how to recreate the bug to becky@burgerbecky.com

### 4.2 Cleanme

cleanme is a tool to quickly and easily remove all temporary and generated files to force a full rebuild of a project on the next time a build is invoked. The tool has the ability to clean all projects in a single directory, or recursively through subdirectories with the -r parameter.

The tool has the ability to parse all project files to determine which version of Visual Studio, XCode, etc. to invoke so there is no needed to determine what build system to use, since it has the ability to determine the proper IDE/build tool to invoke. Custom clean rules are defined in the file build\_rules.py <see below>

## 4.2.1 Usage

Navigate to a directory of interest or use a full directory path and run cleanme. By default, it checks the folder for a build\_rules.py file for override rules, and it will either use the rules found to clean the projects in the directory, and then it will scan the directory for known project files and invoke the appropriate clean system to remove the files. If a configuration is passed a parameter, only that configuration will be cleaned.

"cleanme Release", clean only the "Release" configuration of all project files.

"cleanme", clean all configurations of the project files.

"cleanme helloworld.sln", clean all configurations in helloworld.sln.

## 4.2.2 Directory traversal

When the command line option -r is used, cleanme will traverse all folders recursively and process all folders found. Due to the nature of cleaning, for performance reasons, the directories will be processed under the current directory first, and then it will process all child directories secondly. This is the reverse order of buildme because in most cases, directories will be deleted when being cleaned, which will not exist when the directory is scanned for subdirectories to prevent processing directories that were removed.

#### Example:

If build\_rules.py deletes temp, then if cleanme is executed at the root with -r, build\_rules.py will be executed at the root which will remove the folder temp, and then it will process the remaining folders source and data, skipping over temp because it doesn't exist.

In this example, the folders ., data, and source will be processed but temp will not because it and its contents are removed.

```
cleanme_dir.png
```

```
.
+-- .gitignore
+-- build_rules.py
+-- data
| +--- build_rules.py
| +--- foo.png
+-- temp
| +--- foo.obj
+-- source
| +--- foo.cpp
```

## 4.2.3 build\_rules.py

A build\_rules file contains both static variables and a function to process a folder for cleaning. The static variables are checked first to guide the behavior of the cleanme tool, and if present, the function clean(working\_directory) is called for custom clean rules. The function can return an error code which is returned to the command shell that invoked cleanme. Returning None acts if no error occured.

Full documentation on the operation of build\_rules.py is here.

#### 4.2.4 Visual Studio

If the project file ends with .sln, it's assumed to be a Visual Studio project file.

If the host is Windows, MSYS2, Cygwin, or Windows Subsystem for Linux, it will clean Visual Studio projects if the appropriate version of Visual Studio was installed.

These are the supported versions of Visual Studio:

- Visual Studio 2003 .NET
- Visual Studio 2005
- · Visual Studio 2008
- Visual Studio 2010
- Visual Studio 2012
- · Visual Studio 2013
- Visual Studio 2015
- · Visual Studio 2017
- Visual Studio 2019
- Visual Studio 2022

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## 4.2.5 XCode

If the folder ends with .xcodeproj and contains the file project.pbxproj, it's assumed to be Apple XCode. This type of project can only be built on macOS hosts.

#### 4.2.6 Watcom

If the file ends with .wmk, it's assumed to be a Watcom WMAKE file. It can be built on Linux and Windows hosts. It will invoke the "clean" target.

#### 4.2.7 Codeblocks

If the file ends with .cdp, it's assumed to be a CodeBlocks project file. It's invoked on Windows and Linux hosts.

#### 4.2.8 CodeWarrior

If the file ends with .mcp, it's assumed to be a Metrowerks / NXP CodeWarrior file. It's invoked on a Windows or macOS hosts.

#### 4.2.9 Linux Make

If the file is makefile, it's assumed to be a Linux make file and is invoked only on Linux hosts. It will invoke the "clean" target.

## 4.2.10 Ninja

If the file ends with .ninja, it's assumed to be a ninja file and is invoked on all hosts. It will invoke the "clean" target.

#### **4.2.11 Credits**

cleanme is the insane creation of Rebecca Ann Heineman.

If bugs are found, please send all information on how to recreate the bug to becky@burgerbecky.com

## 4.3 Rebuildme

rebuildme is a build system launcher that by using a single command, multiple build systems could be launched using a singluar command line. The tool has the ability to build all projects in a single directory, or even recursively through subdirectories with the -r parameter.

This is the launcher for the makeprojects project creation system and the build\_rules.py file.

Full documentation on the operation of build\_rules.py is here.

The tool has the ability to parse all project files to determine which version of Visual Studio, XCode, etc. to invoke so there is no needed to determine what build system to use, since it has the ability to determine the proper IDE/build tool to invoke.

rebuildme also handles most video game console build systems automatically.

## 4.3.1 Usage

Navigate to a directory of interest or use a full directory path and run rebuildme. By default, it check the folder for a build\_rules.py file for override rules, and it will either use the rules found to build the projects in the directory, it will scan the directory for known project files and invoke the appropriate build system to build the project. If a configuration is passed a parameter, only that configuration will be built in all projects being compiled.

"rebuildme Release", build only the "Release" configuration of all project files.

## 4.3.2 Visual Studio

If the project file ends with .sln, it's assumed to be a Visual Studio project file.

If the host is Windows, MSYS2, Cygwin, or Windows Subsystem for Linux, it will build Visual Studio projects if the appropriate version of Visual Studio was installed.

These are the supported versions of Visual Studio:

- Visual Studio 2003 .NET
- · Visual Studio 2005
- · Visual Studio 2008
- · Visual Studio 2010
- · Visual Studio 2012
- Visual Studio 2013
- Visual Studio 2015
- · Visual Studio 2017
- Visual Studio 2019
- Visual Studio 2022

#### 4.3.3 XCode

If the folder ends with .xcodeproj and contains the file project.pbxproj, it's assumed to be Apple XCode. This type of project can only be built on macOS hosts.

### 4.3.4 Watcom

If the file ends with .wmk, it's assumed to be a Watcom WMAKE file. It can be built on Linux and Windows hosts.

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<sup>&</sup>quot;rebuildme", build all configurations of the project files.

<sup>&</sup>quot;rebuildme helloworld.sln", build all configurations in helloworld.sln.

#### 4.3.5 Codeblocks

If the file ends with .cdp, it's assumed to be a CodeBlocks project file. It's invoked on Windows and Linux hosts.

#### 4.3.6 CodeWarrior

If the file ends with .mcp, it's assumed to be a Metrowerks / NXP CodeWarrior file. It's invoked on a Windows or macOS hosts.

#### 4.3.7 Linux Make

If the file is makefile, it's assumed to be a Linux make file and is invoked only on Linux hosts.

## 4.3.8 Ninja

If the file ends with .ninja, it's assumed to be a ninja file and is invoked on all hosts.

#### 4.3.9 Credits

rebuildme is the insane creation of Rebecca Ann Heineman.

If bugs are found, please send all information on how to recreate the bug to becky@burgerbecky.com

## 4.4 Build Rules

Makeprojects is controlled by a configuration file called build\_rules.py. It's a python script with global variables and functions that will control how buildme, cleanme, rebuildme, and makeprojects behave. Since it's a python script, there is no limit to what the script can do to perform any build or clean operation for any project.

When a directory is checked for processing, a build\_rules.py file is checked. If it doesn't exist, the parent directory is checked until the root directory is found which stops the scanning. If the file is not found, processing will stop. If found, it will be checked if it is in the folder being processed and is used if so. If the file is in a parent folder, a GENERIC\_\* variable is checked to see if the build\_rules.py qualifies as a "catch all" file that handles rules for all child folders.

Below, are the functions and variables that the build\_rule.py may or may not contain to control the tool's behavior. If the value is it not found, the defaults are shown below.

*Note:* rebuildme performs a cleanme and then a buildme operation, so it processes both CLEANME\_\* and BUILDME\_\* parameters.

### 4.4.1 Cleanme rules

cleanme and rebuildme check for several global variables and the existence of a single function that will perform cleaning operations.

Full documentation on the operation of cleanme is here.

#### **CLEANME\_GENERIC**

```
# ``cleanme`` will process any child directory with the clean() function if
# True.
CLEANME_GENERIC = False
```

If set to True, cleanme and rebuildme will assume this build\_rules.py file is designed to be generic and if invoked from a child directory, it will be given the child's directory for processing. If False it will only be invoked with the directory that the build\_rules files resides in. This is needed to prevent a build\_rules.py file from processing directories that it was not meant to handle when parent directory traversal is active. If this does not exist, the default of False is used.

## **CLEANME\_CONTINUE**

```
# ``cleanme`` will process build_rules.py in the parent folder if True.
CLEANME_CONTINUE = False
```

If set to True, cleanme and rebuildme will process this file and then traverse the parent directory looking for another build\_rules.py file to continue the cleanme operation. This is useful when there's a generic clean operation in a root folder and this function performs custom operations unknown to the parent rules file. If this doesn't exist, the default of False is assumed.

#### **CLEANME DEPENDENCIES**

```
# ``cleanme`` will clean the listed folders using their rules before cleaning.
# this folder.
CLEANME_DEPENDENCIES = []
```

cleanme and rebuildme will clean the listed folders using their rules before cleaning this folder. Only folders are allowed, files generate an error. If this doesn't exist, the default of an empty list is assumed.

#### CLEANME\_NO\_RECURSE

```
# If set to True, ``cleanme -r``` will not parse directories in this folder. CLEANME_NO_RECURSE = False
```

If set to True, cleanme -r and rebuildme -r will not parse directories in this folder. If this does not exist, the default of False is used. The main purpose of this is to prevent scanning child folders when it is already known that there are no child folders that need processing or that CLEANME\_DEPENDENCIES lists every child folder of interest, so recursion is not necessary.

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#### CLEANME\_PROCESS\_PROJECT\_FILES

```
# ``cleanme`` will assume only the function ``clean()`` is used if True.
CLEANME_PROCESS_PROJECT_FILES = False
```

If set to False, cleanme will disable scanning for project files and assume that the function clean() in build\_rules.py performs all actions to clean the directory. If this doesn't exist, the default of False is assumed. Set this to True if the clean() function performs all of the operations needed to remove temporary files without the need to invoke any IDE.

#### clean(working\_directory)

```
def clean(working_directory):
    return None
```

This function should delete all temporary files that were created after a project is built. In most cases, IDEs will be able to handle this, but for some projects, there are other files such as headers or compiled shaders that the IDE is not aware of. This function will perform the deletion functions and return either 0 for no error, or non-zero for an error that will be reported once cleanme is finished processing.

If the variable CLEANME\_GENERIC is False, the working\_directory is guaranteed to only be the directory that the build\_rules.py resides in. If CLEANME\_GENERIC is False then the directory could be any of the child folders the build\_rules.py file resides in.

Returning None alerts cleanme and rebuildme that this function is not implemented and no action was performed.

#### 4.4.2 Buildme rules

buildme and rebuildme checks for several global variables and the existence of three functions that will perform building operations.

Full documentation on the operation of buildme is here.

## **BUILDME\_GENERIC**

```
# Process any child directory with the prebuild(), build(), and postbuild()
# functions if True.
BUILDME_GENERIC = False
```

If set to True, buildme will assume this build\_rules.py file is designed to be generic and if invoked from a child directory, it will be given the child's directory for processing. If False it will only be invoked with the directory that the build\_rules.py files resides in. This is needed to prevent a build\_rules.py file from processing directories that it was not meant to handle when parent directory traversal is active. If this does not exist, the default of False is used.

#### **BUILDME\_CONTINUE**

```
# ``buildme`` will process build_rules.py in the parent folder if True.
BUILDME_CONTINUE = False
```

If set to True, buildme and rebuildme will process this file and then traverse the parent directory looking for another build\_rules.py file to continue the buildme operation. This is useful when there's a generic build operation in a root folder and this function performs custom operations unknown to the parent rules file. If this doesn't exist, the default of False is assumed.

#### **BUILDME DEPENDENCIES**

```
# Build the folders listed before processing this folder.
BUILDME_DEPENDENCIES = []
```

Set BUILDME\_DEPENDENCIES with a list of folders or project files that must be built first. They will be built in the order they appear in this list. The default is no dependencies.

#### **BUILDME NO RECURSE**

```
# Disable recursion in all directories found in this directory.
BUILDME_NO_RECURSE = True
```

Set BUILDME\_NO\_RECURSE to True if all subdirectories below this folder are not to be processed due to them not having any build project files. This defaults to False, but set this to True to prevent parsing folders that don't need processing.

#### BUILDME\_PROCESS\_PROJECT\_FILES

```
# ``buildme`` will assume only the three functions are used if True.
BUILDME_PROCESS_PROJECT_FILES = True
```

If set to False, buildme will disable scanning for project files and assume that the functions prebuild(), build(), and postbuild() in build\_rules.py perform all the actions to build the files in this directory. If this doesn't exist, the default of True is assumed.

#### prebuild(working directory, configuration)

```
def prebuild(working_directory, configuration)
    return None
```

If this optional function exists, it will be called **FIRST** with the directory requested to build and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules. If BUILDME\_GENERIC is False, only the directory that the build\_rules.py file resides in will be passed as the working\_directory.

This function will perform build functions and return either 0 for no error, or non-zero for an error that will be reported once buildme is finished processing. Return None if this function does no operation.

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#### build(working\_directory, configuration)

```
def build(working_directory, configuration)
    return None
```

If this optional function exists, it will be called after prebuild() is called but before any other the IDE project files are processed. It will passed the directory requested to build and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules. If BUILDME\_GENERIC is False, only the directory that the build\_rules.py file resides in will be passed as the working\_directory.

This function will perform build functions and return either 0 for no error, or non-zero for an error that will be reported once buildme is finished processing. Return None if this function does no operation.

#### postbuild(working directory, configuration)

```
def postbuild(working_directory, configuration)
   return None
```

If this optional function exists, it will be called **LAST** with the directory requested to build and the configuration requested to build. Normally the configuration is set to "all", but can be ignored if it isn't relevant to the custom build rules. If BUILDME\_GENERIC is False, only the directory that the build\_rules.py file resides in will be passed as the working\_directory.

This function will perform build functions and return either 0 for no error, or non-zero for an error that will be reported once buildme is finished processing. Return None if this function does no operation.

## 4.4.3 Makeprojects rules

#### **DEFAULT PROJECT NAME**

```
# Default project name to use instead of the name of the working directory
# DEFAULT_PROJECT_NAME = os.path.basename(working_directory)
```

When makeprojects is invoked, if a project name is not specified, this variable will declare the default project name. The default is the name of the folder that is being processed.

#### 4.4.4 Global rules

These rules act like the ones that are specific to each tool, except they affect all of the tools.

## **GENERIC**

```
# Process any child directory if True.
GENERIC = False
```

If set to True, all tools will assume this build\_rules.py file is designed to be generic and if invoked from a child directory, it will be given the child's directory for processing. If False it will only be invoked with the directory that the build\_rules files resides in. This is needed to prevent a build\_rules.py file from processing directories that it was not meant to handle when parent directory traversal is active. If this does not exist, the default of False is used.

#### **CONTINUE**

```
# Process ``build_rules.py`` in the parent folder if True.
CONTINUE = False
```

If set to True, all tools will process this file and then traverse the parent directory looking for another build\_rules.py file to continue the their operations. This is useful when there's a generic build\_rules.py file in a root folder and this function performs custom operations unknown to the parent rules file. If this doesn't exist, the default of False is assumed.

#### **DEPENDENCIES**

```
# Process listed folders using their rules before processing this folder.
DEPENDENCIES = []
```

Process the listed folders using their rules before this folder. Only folders are allowed, files generate an error. If this doesn't exist, the default of an empty list is assumed.

#### **NO RECURSE**

```
# If set to True, ``-r``` will not parse sub directories in this folder.
NO_RECURSE = False
```

If set to True, -r will not parse sub directories in this folder. If this does not exist, the default of False is used. The main purpose of this is to prevent scanning child folders when it is already known that there are no child folders that need processing or that DEPENDENCIES lists every child folder of interest, so recursion is not necessary.

#### 4.4.5 Main

```
# If called as a command line and not a class, perform the build
if __name__ == "__main__":
    sys.exit(build(os.path.dirname(os.path.abspath(__file__)), 'all'))
```

The build\_rules.py file can be run as a standalone script. If the line above exists in the script, it will call whatever function is declared and exit to the operating system. The example above will call the build() function with the current directory, however, it's up to the programmer to decide what is the default action and if parameters should be passed and what to do with them.

#### 4.5 Constants

#### 4.5.1 Setup strings

These strings are used for version control and setup.py for distribution.

4.5. Constants

## 4.5.2 Internal constants

Constants used internally by this package.

#### \_XCODEPROJ\_MATCH

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/v

## 4.5.3 Internal tables

#### enums.\_FILETYPES\_LOOKUP

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/v

### enums.\_FILETYPES\_READABLE

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

## enums.\_IDETYPES\_CODES

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/latest/doc

## enums.\_IDETYPES\_READABLE

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/view.

## enums.\_PLATFORMTYPES\_CODES

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

#### enums.\_PLATFORMTYPES\_EXPANDED

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

#### enums. PLATFORMTYPES READABLE

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/latest/doc

4.5. Constants

#### enums.\_PLATFORMTYPES\_VS

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/la

## enums.\_PROJECTTYPES\_READABLE

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

#### 4.5.4 Folder locations

## config.BUILD\_RULES\_PY

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/latest/do

## config.\_BUILD\_RULES\_VAR

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

### config.USER\_HOME

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### config.PROJECTS\_HOME

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/la

#### config.DEFAULT\_BUILD\_RULES

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/latest/doc

#### 4.5.5 Build Constants

#### buildme.BUILD\_LIST

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

#### buildme.CODEWARRIOR\_ERRORS

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/la

#### buildme.\_CW\_SUPPORTED\_LINKERS

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

## buildme.\_VS\_VERSION\_YEARS

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/latest/do

#### buildme.\_VS\_OLD\_VERSION\_YEARS

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/la

## buildme.\_VS\_SDK\_ENV\_VARIABLE

Warning: doxygenvariable: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/theckouts/lat

## 4.6 Classes

#### 4.6.1 Enumerations

#### enums.FileTypes

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### enums.IDETypes

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

### enums.PlatformTypes

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

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#### enums.ProjectTypes

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

## 4.6.2 Project Classes

#### core.Attributes

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### core.SourceFile

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### core.Configuration

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### core.Project

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### core.Solution

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### 4.6.3 Build Classes

#### core.BuildError

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

#### core.BuildObject

Warning: doxygenclass: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/tem

## 4.7 Functions

## 4.7.1 Dispatchers

#### makeprojects.build

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### makeprojects.clean

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## makeprojects.rebuild

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## 4.7.2 Generators

## makeprojects.new\_solution

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### makeprojects.new project

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### makeprojects.new\_configuration

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## 4.7.3 Configuration

#### config.save\_default

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

4.7. Functions 27

#### config.find\_default\_build\_rules

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### 4.7.4 Clean

#### cleanme.dispatch

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### cleanme.process

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### cleanme.main

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### 4.7.5 Build

#### buildme.build\_rez\_script

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.build\_slicer\_script

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.build\_doxygen

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.build\_watcom\_makefile

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.build makefile

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.parse\_sln\_file

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.build\_visual\_studio

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.parse\_mcp\_file

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.build\_codewarrior

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.parse\_xcodeproj\_file

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.build\_xcode

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.parse\_codeblocks\_file

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.build\_codeblocks

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

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## buildme.add build rules

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.add\_project

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## buildme.get\_projects

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.process

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### buildme.main

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## 4.7.6 Rebuild

#### rebuild.main

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### 4.7.7 Enums

#### enums.get\_installed\_visual\_studio

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### enums.get\_installed\_xcode

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### enums.platformtype\_short\_code

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### 4.7.8 Util

## util.validate\_enum\_type

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.regex\_dict

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.validate\_boolean

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

### util.validate\_string

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.source\_file\_filter

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.add\_build\_rules

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.get\_build\_rules

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

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## util.getattr build rules

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## util.remove\_ending\_os\_sep

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

#### util.was\_processed

Warning: doxygenfunction: Cannot find file: /home/docs/checkouts/readthedocs.org/user\_builds/makeprojects/checkouts/latest/docs/

## 4.8 License

#### 4.8.1 MIT License

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Please?

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