Pyblish Documentation

Release 1.2.3

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January 21, 2016

Contents

API documentation for Pyblish v1.2.3.

Central objects used throughout Pyblish.

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Plugin	Base-class for plugins
Selector	alias of `Collector`
Validator	Validate/check/test individual instance for correctness.
Extractor	Physically separate Instance from Host into corresponding resources
Conformer	alias of `Integrator`

CHAPTER 1

Functions

Helper utilities.

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registered_paths	Return paths added via registration
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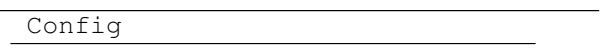
CHAPTER 2

Configuration



CHAPTER 3

Library

log	Decorator for attaching a logger to the class *cls*
format_filename	Convert arbitrary string to valid filename, django-style.

CHAPTER 4

Exceptions

Exceptions raised that are specific to Pyblish.

PyblishError	Baseclass for all Pyblish exceptions
SelectionError	Baseclass for selection errors
ValidationError	Baseclass for validation errors
ExtractionError	Baseclass for extraction errors
ConformError	Baseclass for conforming errors

4.1 AbstractEntity

Superclass to Context and Instance, providing the data plug-in to plug-in API via the data member.

class pyblish.plugin.**AbstractEntity**
Superclass for Context and Instance

add(**args*, ***kwargs*)
DEPRECATED - USE .append

Add member to self

This is to mimic the interface of set()

has_data(*key*)
DEPRECATED - USE .data DICTIONARY DIRECTLY

Check if entity has key

Parameters **key** (*str*) – Key to check

Returns True if it exists, False otherwise

remove(**args*, ***kwargs*)
DEPRECATED - USE .pop

Remove member from self

This is to mimic the interface of set()

remove_data(*key*)
DEPRECATED - USE .data DICTIONARY DIRECTLY

Remove data from entity

Arguments; key (str): Name of data to remove

set_data(*key*, *value*)
DEPRECATED - USE .data DICTIONARY DIRECTLY

Modify/insert data into entity

Parameters

- **key** (*str*) – Name of data to add
- **value** (*object*) – Value of data to add

4.2 Context

The context is a container of one or more objects of type *Instance* along with metadata to describe them all; such as the current working directory or logged on user.

class pyblish.plugin.**Context**
Maintain a collection of Instances

__contains__(*key*)
Support both Instance objects and *id* strings

Example

```
>>> context = Context()
>>> instance = context.create_instance("MyInstance")
>>> "MyInstance" in context
True
>>> instance in context
True
>>> "NotExists" in context
False
```

__getitem__(*item*)
Enable support for dict-like getting of children by id

Example

```
>>> context = Context()
>>> instance = context.create_instance("MyInstance")
>>> assert context["MyInstance"].name == "MyInstance"
>>> assert context[0].name == "MyInstance"
>>> assert context.get("MyInstance").name == "MyInstance"
```

add(**args*, ***kwargs*)

create_asset(**args*, ***kwargs*)

create_instance(*name*, ***kwargs*)
Convenience method of the following.

```
>>> ctx = Context()
>>> inst = Instance("name", parent=ctx)
```

Example

```
>>> ctx = Context()
>>> inst = ctx.create_instance(name="Name")
```

get(*key*, *default=None*)

id

4.3 Instance

An instance describes one or more items in a working scene; you can think of it as the counter-part of a file on disk - once the file has been loaded, it's an *instance*.

class pyblish.plugin.**Instance**(*name*, *parent=None*)

An in-memory representation of one or more files

Examples include rigs, models.

Parameters

- **name** (*str*) – Name of instance, typically used during extraction as name of resulting files.
- **parent** (AbstractEntity) – Optional parent. This is supplied automatically when creating instances with *Context.create_instance()*.

id

str

Unique identifier of instance

name

str

Name of instance

parent

AbstractEntity

Optional parent of instance

context

Return top-level parent; the context

id

log = <logging.Logger object>

4.4 Plugin

As a plug-in driven framework, any action is implemented as a plug-in and this is the superclass from which all plug-ins are derived. The superclass defines behaviour common across all plug-ins, such as its internally executed method *Plugin.process()* or it's virtual members Plugin.process_instance() and Plugin.process_context().

Each plug-in MAY define one or more of the following attributes prior to being useful to Pyblish.

- *Plugin.hosts*

- *Plugin.optional*
- *Plugin.version*

Some of which are MANDATORY, others which are OPTIONAL. See each corresponding subclass for details.

- *Selector*
- *Validator*
- *Extractor*
- *Conformer*

class pyblish.plugin.**Plugin**
Base-class for plugins

hosts
Optionally limit a plug-in to one or more hosts

families
Optionally limit a plug-in to one or more families

label
Printed name of plug-in

active
Whether or not to use plug-in during processing

version
Optional version for forwards-compatibility. Pyblish is (currently not) using the version to allow for plug-ins incompatible with a particular running instance of Pyblish to co-exist alongside compatible versions.

order
Order in which this plug-in is processed. This is used internally to control which plug-ins are processed before another so as to allow plug-ins to communicate with each other. E.g. one plug-in may provide critical information to another and so must be allowed to be processed first.

optional
Whether or not plug-in can be skipped by the user.

requires
Which version of Pyblish is required by this plug-in. Plug-ins requiring a version newer than the current version will not be loaded. 1.0.8 was when *Plugin.requires* was first introduced.

actions
Actions associated to this plug-in

actions = []

active = True

families = ['*']

hosts = ['*']

id = 'Plugin'

label = None

log = <logging.Logger object>

optional = False

order = -1

process()
Primary processing method

This method is called whenever your plug-in is invoked and is injected with object relative to it's signature.

E.g. process(self, context, instance) will have the current context and instance injected into it at run-time.

Available objects:

- context
- instance
- user
- time

Raises **Any error** –

repair()
DEPRECATED

requires = 'pyblish>=1'

version = (0, 0, 0)

4.5 Selector

A selector finds instances within a working file.

Note: The following attributes must be present when implementing this plug-in.

- `Selector.hosts`
- `Selector.version`

---

pyblish.plugin.**Selector**
alias of `Collector`

4.6 Validator

A validator validates selected instances.

Note: The following attributes must be present when implementing this plug-in.

- *Plugin.hosts*
- *Plugin.version*
- `Validator.families`

---

class pyblish.plugin.**Validator**
Validate/check/test individual instance for correctness.

log = <logging.Logger object>

order = 1

4.7 Extractor

Extractors are responsible for serialising selected data into a format suited for persistence on disk. Keep in mind that although an extractor does place file on disk, it isn't responsible for the final destination of files. See *Conformer* for more information.

Note: The following attributes must be present when implementing this plug-in.

- *Plugin.hosts*
- *Plugin.version*
- Extractor.families

---

class pyblish.plugin.**Extractor**
Physically separate Instance from Host into corresponding resources

log = <logging.Logger object>

order = 2

4.8 Conformer

The conformer, also known as *integrator*, integrates data produced by extraction.

Its responsibilities include:

1. Placing files into their final destination
2. To manage and increment versions, typically involving a third-party versioning library.
3. To notify artists of events
4. To provide hooks for out-of-band processes

Note: The following attributes must be present when implementing this plug-in.

- *Plugin.hosts*
- *Plugin.version*
- Conformer.families

---

pyblish.plugin.**Conformer**
alias of Integrator

4.9 discover

pyblish.plugin.**discover**(*type=None*, *regex=None*, *paths=None*)
Find and return available plug-ins

This function looks for files within paths registered via *register_plugin_path()* and those added to *PYBLISHPLUGINPATH*.

It determines *type* - *Selector*, *Validator*, *Extractor* or Conform - based on whether it matches it's corresponding regular expression; e.g. "$validator_*^" for plug-ins of type Validator.

Parameters

- **type** (*str, optional*) – !DEPRECATED! Only return plugins of specified type. E.g. validators, extractors. In None is specified, return all plugins. Available options are "selectors", validators", "extractors", "conformers", "collectors" and "integrators".
- **regex** (*str, optional*) – Limit results to those matching *regex*. Matching is done on classes, as opposed to filenames, due to a file possibly hosting multiple plugins.
- **paths** (*list, optional*) – Paths to discover plug-ins from. If no paths are provided, all paths are searched.

4.10 plugin_paths

pyblish.plugin.**plugin_paths**()
Collect paths from all sources.

This function looks at the three potential sources of paths and returns a list with all of them together.

The sources are:

•Registered paths using *register_plugin_path()*,

•Paths from the environment variable *PYBLISHPLUGINPATH*

•Paths from configuration

Returns list of paths in which plugins may be locat

4.11 registered_paths

pyblish.plugin.**registered_paths**()
Return paths added via registration

..note:: This returns a copy of the registered paths and can therefore not be modified directly.

4.12 configured_paths

pyblish.plugin.**configured_paths**()
Return paths added via configuration

4.13 environment_paths

pyblish.plugin.**environment_paths**()
Return paths added via environment variable

4.14 register_plugin_path

pyblish.plugin.**register_plugin_path**(*path*)
Plug-ins are looked up at run-time from directories registered here

To register a new directory, run this command along with the absolute path to where you"re plug-ins are located.

Example

```
>>> import os
>>> my_plugins = "/server/plugins"
>>> register_plugin_path(my_plugins)
'/server/plugins'
```

Returns Actual path added, including any post-processing

4.15 deregister_plugin_path

pyblish.plugin.**deregister_plugin_path**(*path*)

Remove a pyblish._registered_paths path

Raises **KeyError if 'path' isn't registered** –

4.16 deregister_all

4.17 plugins_by_family

4.18 plugins_by_host

4.19 instances_by_plugin

4.20 Config

4.21 log

pyblish.lib.**log**(*cls*)

Decorator for attaching a logger to the class *cls*

Loggers inherit the syntax {module}.{submodule}

Example

```
>>> @log
... class MyClass(object):
...     pass
>>>
>>> myclass = MyClass()
>>> myclass.log.info('Hello World')
```

4.22 format_filename

pyblish.lib.**format_filename**(*filename*)

Convert arbitrary string to valid filename, django-style.

Modified from django.utils.text.get_valid_filename()

Returns the given string converted to a string that can be used for a clean filename. Specifically, leading and trailing spaces are removed; other spaces are converted to underscores; and anything that is not a unicode alphanumeric, dash, underscore, or dot, is removed.

Usage:

```
>>> format_filename("john's portrait in 2004.jpg")
'johns_portrait_in_2004.jpg'
>>> format_filename("something^_SD.dda.//fd/ad.exe")
'something_SD.dda.fdad.exe'
>>> format_filename("Napoleon_:namespaces_GRP|group1_GRP")
'Napoleon_namespaces_GRPgroup1_GRP'
```

4.23 PyblishError

class pyblish.error.**PyblishError**

Baseclass for all Pyblish exceptions

4.24 SelectionError

class pyblish.error.**SelectionError**

Baseclass for selection errors

4.25 ValidationError

class pyblish.error.**ValidationError**

Baseclass for validation errors

4.26 ExtractionError

class pyblish.error.**ExtractionError**

Baseclass for extraction errors

4.27 ConformError

class pyblish.error.**ConformError**

Baseclass for conforming errors

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