Docs » API reference

# **API** reference

See examples at Using Python-Jenkins

exception jenkins.JenkinsException

General exception type for jenkins-API-related failures.

exception jenkins.NotFoundException

A special exception to call out the case of receiving a 404.

exception jenkins.EmptyResponseException

A special exception to call out the case receiving an empty response.

exception jenkins.BadHTTPException

A special exception to call out the case of a broken HTTP response.

exception jenkins. Timeout Exception

A special exception to call out in the case of a socket timeout.

class jenkins.WrappedSession

A wrapper for requests. Session to override 'verify' property, ignoring REQUESTS\_CA\_BUNDLE environment variable.

This is a workaround for https://github.com/kennethreitz/requests/issues/3829 (will be fixed in requests 3.0.0)

merge environment settings(url, proxies, stream, verify, \*args, \*\*kwargs)

Check the environment and merge it with some settings.

**Return type:** dict

class jenkins.Jenkins(url, username=None, password=None, timeout=<object object>, resolve=True)

Create handle to Jenkins instance.

```
    url – URL of Jenkins server, str

 Parameters:
                  • username – Server username, str

    password – Server password, str

                  • timeout - Server connection timeout in secs (default: not set), int
                  • resolve - Attempts to resolve and auto-correct API redirection. default: True
                      bool
maybe_add_crumb(req)
get_job_info(name, depth=0, fetch_all_builds=False)
  Get job information dictionary.
     Parameters:
                      • name – Job name, str

    depth – JSON depth, int

                      • fetch_all_builds - If true, all builds will be retrieved from Jenkins.
                         Otherwise, Jenkins will only return the most recent 100 builds. This comes
                         at the expense of an additional API call which may return significant
                         amounts of data. bool
                     dictionary of job information
     Returns:
get job info regex(pattern, depth=0, folder_depth=0)
   Get a list of jobs information that contain names which match the
      regex pattern.
     Parameters:
                      • pattern – regex pattern, str

    depth – JSON depth, int

    folder_depth - folder level depth to search int

                     List of jobs info, list
```

# get\_job\_name(name)

**Returns:** 

Return the name of a job using the API.

That is roughly an identity method which can be used to quickly verify a job exists or is accessible without causing too much stress on the server side.

Parameters: name – Job name, str

**Returns:** Name of job or None

### debug\_job\_info(job\_name)

Print out job info in more readable format.

jenkins\_open(req, add\_crumb=True, resolve\_auth=True)

Return the HTTP response body from a requests. Request.

Returns: str

jenkins\_request(req, add\_crumb=True, resolve\_auth=True)

Utility routine for opening an HTTP request to a Jenkins server.

Parameters: • req - A requests.Request to submit.

• add\_crumb - If True, try to add a crumb header to this req before submitting. Defaults to True.

• resolve\_auth - If True, maybe add authentication. Defaults to True.

Returns: A requests.Response object.

## get\_queue\_item(number, depth=0)

Get information about a queued item (to-be-created job).

The returned dict will have a "why" key if the queued item is still waiting for an executor.

The returned dict will have an "executable" key if the queued item is running on an executor, or has completed running. Use this to determine the job number / URL.

Parameters: name – queue number, int

**Returns:** dictionary of queued information, dict

get build info(name, number, depth=0)

Get build information dictionary.

name – Job name, str
number – Build number, int
depth – JSON depth, int

Returns: dictionary of build information, dict

#### Example:

```
>>> next build number = server.get job info('build name')['nextBuildNumber']
>>> output = server.build job('build name')
>>> from time import sleep; sleep(10)
>>> build info = server.get build info('build name', next build number)
>>> print(build info)
{u'building': False, u'changeSet': {u'items': [{u'date': u'2011-12-19T18:01:52.540557Z',
u'msg': u'test', u'revision': 66, u'user': u'unknown', u'paths': [{u'editType': u'edit',
u'file': u'/branches/demo/index.html'}]}], u'kind': u'svn', u'revisions': [{u'module':
u'http://eaas-svn01.i3.level3.com/eaas', u'revision': 66}]}, u'builtOn': u'
u'description': None, u'artifacts': [{u'relativePath': u'dist/eaas-87-2011-12-19 18-01-
57.war', u'displayPath': u'eaas-87-2011-12-19 18-01-57.war', u'fileName': u'eaas-87-2011-
12-19 18-01-57.war'}, {u'relativePath': u'dist/eaas-87-2011-12-19 18-01-57.war.zip',
u'displayPath': u'eaas-87-2011-12-19 18-01-57.war.zip', u'fileName': u'eaas-87-2011-12-
19 18-01-57.war.zip'}], u'timestamp': 1324317717000, u'number': 87, u'actions':
[{u'parameters': [{u'name': u'SERVICE NAME', u'value': u'eaas'}, {u'name': u'PROJECT NAME',
u'value': u'demo'}]}, {u'causes': [{u'userName': u'anonymous', u'shortDescription':
u'Started by user anonymous'}]}, {}, {}, {}], u'id': u'2011-12-19_18-01-57', u'keepLog':
False, u'url': u'http://eaas-jenkins01.i3.level3.com:9080/job/build_war/87/', u'culprits':
[{u'absoluteUrl': u'http://eaas-jenkins01.i3.level3.com:9080/user/unknown', u'fullName':
u'unknown'}], u'result': u'SUCCESS', u'duration': 8826, u'fullDisplayName': u'build_war
#87'}
```

### get\_build\_env\_vars(name, number, depth=0)

Get build environment variables.

Parameters: • name – Job name, str

• number - Build number, int

• depth - JSON depth, int

Returns: dictionary of build env vars, dict or None for workflow jobs, or if

InjectEnvVars plugin not installed

# ${\tt get\_build\_test\_report} (name, number, depth = 0)$

Get test results report.

Parameters: • name – Job name, str

• **number** – Build number, int

Returns: dictionary of test report results, dict or None if there is no Test

Report

## get\_queue\_info()

**Returns:** list of job dictionaries, [dict]

### Example::

```
>>> queue_info = server.get_queue_info()
>>> print(queue_info[0])
{u'task': {u'url': u'http://your_url/job/my_job/', u'color': u'aborted_anime', u'name':
u'my_job'}, u'stuck': False, u'actions': [{u'causes': [{u'shortDescription': u'Started}
by timer'}]}], u'buildable': False, u'params': u'', u'buildableStartMilliseconds':
1315087293316, u'why': u'Build #2,532 is already in progress (ETA:10 min)', u'blocked':
True}
```

### cancel queue(id)

Cancel a queued build.

Parameters: id – Jenkins job id number for the build, int

```
get_info(item=", query=None)
```

Get information on this Master or item on Master.

This information includes job list and view information and can be used to retreive information on items such as job folders.

Parameters:

- item item to get information about on this Master
- query xpath to extract information about on this Master

Returns: dictionary of information about Master or item, dict

#### Example:

```
>>> info = server.get_info()
>>> jobs = info['jobs']
>>> print(jobs[0])
{u'url': u'http://your_url_here/job/my_job/', u'color': u'blue',
u'name': u'my_job'}
```

Get information about the user account that authenticated to Jenkins. This is a simple way to verify that your credentials are correct.

**Returns:** Information about the current user dict

### Example:

```
>>> me = server.get_whoami()
>>> print me['fullName']
>>> 'John'
```

### get\_version()

Get the version of this Master.

**Returns:** This master's version number str

## Example:

```
>>> info = server.get_version()
>>> print info
>>> 1.541
```

### get\_plugins\_info(depth=2)

Get all installed plugins information on this Master.

This method retrieves information about each plugin that is installed on master returning the raw plugin data in a JSON format.

Deprecated since version 0.4.9: Use get\_plugins() instead.

Parameters: depth - JSON depth, int

Returns: info on all plugins [dict]

#### Example:

```
>>> info = server.get_plugins_info()
>>> print(info)
[{u'backupVersion': None, u'version': u'0.0.4', u'deleted': False,
u'supportsDynamicLoad': u'MAYBE', u'hasUpdate': True,
u'enabled': True, u'pinned': False, u'downgradable': False,
u'dependencies': [], u'url':
u'http://wiki.jenkins-ci.org/display/JENKINS/Gearman+Plugin',
u'longName': u'Gearman Plugin', u'active': True, u'shortName':
u'gearman-plugin', u'bundled': False}, ..]
```

```
get_plugin_info(name, depth=2)
```

Get an installed plugin information on this Master.

This method retrieves information about a specific plugin and returns the raw plugin data in a JSON format. The passed in plugin name (short or long) must be an exact match.

#### Note

Calling this method will query Jenkins fresh for the information for all plugins on each call. If you need to retrieve information for multiple plugins it's recommended to use <code>get\_plugins()</code> instead, which will return a multi key dictionary that can be accessed via either the short or long name of the plugin.

```
    Parameters:

            name – Name (short or long) of plugin, str
            depth – JSON depth, int

    Returns:

            a specific plugin dict
```

### Example:

```
>>> info = server.get_plugin_info("Gearman Plugin")
>>> print(info)
{u'backupVersion': None, u'version': u'0.0.4', u'deleted': False,
u'supportsDynamicLoad': u'MAYBE', u'hasUpdate': True,
u'enabled': True, u'pinned': False, u'downgradable': False,
u'dependencies': [], u'url':
u'http://wiki.jenkins-ci.org/display/JENKINS/Gearman+Plugin',
u'longName': u'Gearman Plugin', u'active': True, u'shortName':
u'gearman-plugin', u'bundled': False}
```

#### get plugins(depth=2)

Return plugins info using helper class for version comparison

This method retrieves information about all the installed plugins and uses a Plugin helper class to simplify version comparison. Also uses a multi key dict to allow retrieval via either short or long names.

When printing/dumping the data, the version will transparently return a unicode string, which is exactly what was previously returned by the API.

```
Parameters: depth – JSON depth, int

Returns: info on all plugins [dict]
```

### Example:

```
>>> j = Jenkins()
>>> info = j.get_plugins()
>>> print(info)
{('gearman-plugin', 'Gearman Plugin'):
    {u'backupVersion': None, u'version': u'0.0.4',
        u'deleted': False, u'supportsDynamicLoad': u'MAYBE',
        u'hasUpdate': True, u'enabled': True, u'pinned': False,
        u'downgradable': False, u'dependencies': [], u'url':
        u'http://wiki.jenkins-ci.org/display/JENKINS/Gearman+Plugin',
        u'longName': u'Gearman Plugin', u'active': True, u'shortName':
        u'gearman-plugin', u'bundled': False}, ...}
```

### get\_jobs(folder\_depth=0, view\_name=None)

Get list of jobs.

Each job is a dictionary with 'name', 'url', 'color' and 'fullname' keys.

If the view\_name parameter is present, the list of jobs will be limited to only those configured in the specified view. In this case, the job dictionary 'fullname' key would be equal to the job name.

Parameters:

- folder\_depth Number of levels to search, int. By default 0, which will limit search to toplevel. None disables the limit.
- view\_name Name of a Jenkins view for which to retrieve jobs, str. By default, the job list is not limited to a specific view.

Returns: list of jobs, [{str: str, str: str, str: str}]

#### Example:

```
>>> jobs = server.get_jobs()
>>> print(jobs)
[{
    u'name': u'all_tests',
    u'url': u'http://your_url.here/job/all_tests/',
    u'color': u'blue',
    u'fullname': u'all_tests'
}]
```

### get\_all\_jobs(folder\_depth=None)

Get list of all jobs recursively to the given folder depth.

Each job is a dictionary with 'name', 'url', 'color' and 'fullname' keys.

Parameters: folder\_depth - Number of levels to search, int . By default None, which will

search all levels. O limits to toplevel.

Returns: list of jobs, [ { str: str} ]

#### Note

On instances with many folders it may be more efficient to use the run\_script method to retrieve all jobs instead.

### Example:

```
server.run_script("""
    import groovy.json.JsonBuilder;
   // get all projects excluding matrix configuration
    // as they are simply part of a matrix project.
    // there may be better ways to get just jobs
    items = Jenkins.instance.getAllItems(AbstractProject);
    items.removeAll {
      it instanceof hudson.matrix.MatrixConfiguration
    };
    def ison = new JsonBuilder()
    def root = ison {
      jobs items.collect {
          name: it.name,
          url: Jenkins.instance.getRootUrl() + it.getUrl(),
          color: it.getIconColor().toString(),
          fullname: it.getFullName()
        1
      }
    // use json.toPrettyString() if viewing
    println json.toString()
```

# copy\_job(from\_name, to\_name)

Copy a Jenkins job.

Will raise an exception whenever the source and destination folder for this jobs won't be the same.

```
    • from_name - Name of Jenkins job to copy from, str
    • to_name - Name of Jenkins job to copy to, str
```

Throws: JenkinsException whenever the source and destination folder are not the same

rename\_job(from\_name, to\_name)

Rename an existing Jenkins job

Will raise an exception whenever the source and destination folder for this jobs won't be the same.

Parameters: • from\_name - Name of Jenkins job to rename, str

• to\_name - New Jenkins job name, str

Throws: JenkinsException whenever the source and destination folder are not

the same

# delete\_job(name)

Delete Jenkins job permanently.

Parameters: name - Name of Jenkins job, str

### enable\_job(name)

Enable Jenkins job.

Parameters: name – Name of Jenkins job, str

# disable\_job(name)

Disable Jenkins job.

To re-enable, call Jenkins.enable\_job().

Parameters: name - Name of Jenkins job, str

## set\_next\_build\_number(name, number)

Set a job's next build number.

The current next build number is contained within the job information retrieved using <code>Jenkins.get\_job\_info()</code>. If the specified next build number is less than the last build number, Jenkins will ignore the request.

Note that the Next Build Number Plugin must be installed to enable this functionality.

Parameters: • name - Name of Jenkins job, str

• number - Next build number to set, int

### Example:

```
>>> next_bn = server.get_job_info('job_name')['nextBuildNumber']
>>> server.set_next_build_number('job_name', next_bn + 50)
```

## job\_exists(name)

Check whether a job exists

Parameters: name - Name of Jenkins job, str

**Returns:** True if Jenkins job exists

## jobs\_count()

Get the number of jobs on the Jenkins server

**Returns:** Total number of jobs, int

### Note

On instances with many folders it may be more efficient to use the run\_script method to retrieve the total number of jobs instead.

### Example:

 ${\tt assert\_job\_exists} (name, \, exception\_message='job[\%s] \, does \, not \, exist')$ 

Raise an exception if a job does not exist

```
Parameters: • name - Name of Jenkins job, str
```

• exception\_message – Message to use for the exception. Formatted with

name

Throws: JenkinsException | whenever the job does not exist

```
Create a new Jenkins job
    Parameters:

    name – Name of Jenkins job, str

    config_xml - config file text, str

get_job_config(name)
  Get configuration of existing Jenkins job.
                    name - Name of Jenkins job, str
    Parameters:
                    job configuration (XML format)
    Returns:
reconfig_job(name, config_xml)
  Change configuration of existing Jenkins job.
  To create a new job, see Jenkins.create_job().
    Parameters:

    name – Name of Jenkins job, str

    config_xml - New XML configuration, str

build_job_url(name, parameters=None, token=None)
  Get URL to trigger build job.
  Authenticated setups may require configuring a token on the server side.
  Use list of two membered tuples to supply parameters with multi select options.
    Parameters:
                     • name – Name of Jenkins job, str
                     • parameters – parameters for job, or None., dict or
                        list of two membered tuples
                     • token – (optional) token for building job, str
                    URL for building job
    Returns:
build_job(name, parameters=None, token=None)
```

create\_job(name, config\_xml)

Trigger build job.

This method returns a queue item number that you can pass to <code>Jenkins.get\_queue\_item()</code>. Note that this queue number is only valid for about five minutes after the job completes, so you should get/poll the queue information as soon as possible to determine the job's URL.

Parameters: • name – name of job

• parameters – parameters for job, or None , dict

• token - Jenkins API token

Returns: int queue item

### run\_script(script, node=None)

Execute a groovy script on the jenkins master or on a node if specified...

Parameters: • script - The groovy script, string

• node - Node to run the script on, defaults to None (master).

**Returns:** The result of the script run.

### Example::

```
>>> info = server.run_script("println(Jenkins.instance.pluginManager.plugins)")
>>> print(info)
u'[Plugin:windows-slaves, Plugin:ssh-slaves, Plugin:translation,
Plugin:cvs, Plugin:nodelabelparameter, Plugin:external-monitor-job,
Plugin:mailer, Plugin:jquery, Plugin:antisamy-markup-formatter,
Plugin:maven-plugin, Plugin:pam-auth]'
```

#### install plugin(name, include\_dependencies=True)

Install a plugin and its dependencies from the Jenkins public repository at http://repo.jenkins-ci.org/repo/org/jenkins-ci/plugins

**Parameters:** • name – The plugin short name, string

• include\_dependencies - Install the plugin's dependencies, bool

Returns: Whether a Jenkins restart is required, bool

#### Example::

```
>>> info = server.install_plugin("jabber")
>>> print(info)
True
```

```
stop_build(name, number)
```

Stop a running Jenkins build.

Parameters:

- name Name of Jenkins job, str
- number Jenkins build number for the job, int

### delete\_build(name, number)

Delete a Jenkins build.

Parameters:

- name Name of Jenkins job, str
- number Jenkins build number for the job, int

### wipeout\_job\_workspace(name)

Wipe out workspace for given Jenkins job.

Parameters: name - Name of Jenkins job, str

### get\_running\_builds()

Return list of running builds.

Each build is a dict with keys 'name', 'number', 'url', 'node', and 'executor'.

```
Returns: List of builds, [ { str: str, str: int, str:str, str: str, str: int} ]
```

#### Example::

```
>>> builds = server.get_running_builds()
>>> print(builds)
[{'node': 'foo-slave', 'url': 'https://localhost/job/test/15/',
  'executor': 0, 'name': 'test', 'number': 15}]
```

### get\_nodes(depth=0)

Get a list of nodes connected to the Master

Each node is a dict with keys 'name' and 'offline'

Returns: List of nodes, [ { str: str, str: bool} ]

# get\_node\_info(name, depth=0)

Get node information dictionary

```
    depth – JSON depth, int

                   Dictionary of node info, dict
    Returns:
node_exists(name)
  Check whether a node exists
    Parameters:
                   name - Name of Jenkins node, str
    Returns:
                    True if Jenkins node exists
assert_node_exists(name, exception_message='node[%s] does not exist')
  Raise an exception if a node does not exist
    Parameters:
                    • name - Name of Jenkins node, str
                    • exception_message - Message to use for the exception. Formatted with
                       name
                    JenkinsException whenever the node does not exist
    Throws:
delete_node(name)
  Delete Jenkins node permanently.
                   name - Name of Jenkins node, str
    Parameters:
disable_node(name, msg=")
  Disable a node
    Parameters:
                    • name – Jenkins node name, str

    msg – Offline message, str

enable_node(name)
  Enable a node
                   name – Jenkins node name, str
    Parameters:
```

Parameters:

• name - Node name, str

 $\label{lem:create_node} \textbf{create\_node} (name, numExecutors=2, nodeDescription=None, remoteFS='/var/lib/jenkins', labels=None, exclusive=False, launcher='hudson.slaves.CommandLauncher', launcher\_params={})$ 

#### Create a node

```
Parameters:
                     • name – name of node to create, str
                     • numExecutors - number of executors for node, int

    nodeDescription - Description of node, str

                     • remoteFS - Remote filesystem location to use, str
                       labels - Labels to associate with node, str
                     • exclusive – Use this node for tied jobs only, bool
                     • launcher - The launch method for the slave, jenkins.LAUNCHER_COMMAND
                        jenkins.LAUNCHER_SSH , jenkins.LAUNCHER_JNLP ,
                        jenkins.LAUNCHER_WINDOWS_SERVICE
                     • launcher_params - Additional parameters for the launcher, dict
get node config(name)
  Get the configuration for a node.
    Parameters:
                   name – Jenkins node name, str
reconfig node(name, config_xml)
  Change the configuration for an existing node.
    Parameters:
                     • name – Jenkins node name, str

    config_xml - New XML configuration, str

get_build_console_output(name, number)
  Get build console text.
                     • name – Job name, str
    Parameters:
                     • number - Build number, int
                    Build console output, str
    Returns:
```

Return the name of a view using the API.

get view name(name)

That is roughly an identity method which can be used to quickly verify a view exists or is accessible without causing too much stress on the server side.

Parameters: name – View name, str

**Returns:** Name of view or None

assert\_view\_exists(name, exception\_message='view[%s] does not exist')

Raise an exception if a view does not exist

Parameters: • name - Name of Jenkins view, str

• exception\_message - Message to use for the exception. Formatted with

name

Throws: JenkinsException whenever the view does not exist

### view\_exists(name)

Check whether a view exists

Parameters: name - Name of Jenkins view, str

**Returns:** True if Jenkins view exists

### get\_views()

Get list of views running.

Each view is a dictionary with 'name' and 'url' keys.

Returns: list of views, [ { str: str} ]

### delete\_view(name)

Delete Jenkins view permanently.

Parameters: name - Name of Jenkins view, str

### create\_view(name, config\_xml)

Create a new Jenkins view

Parameters: • name - Name of Jenkins view, str

• config\_xml - config file text, str

### reconfig\_view(name, config\_xml)

Change configuration of existing Jenkins view.

To create a new view, see Jenkins.create\_view().

Parameters: • name – Name of Jenkins view, str

• config\_xml - New XML configuration, str

### get\_view\_config(name)

Get configuration of existing Jenkins view.

Parameters: name – Name of Jenkins view, str

**Returns:** view configuration (XML format)

### get\_promotion\_name(name, job\_name)

Return the name of a promotion using the API.

That is roughly an identity method which can be used to quickly verify a promotion exists for a job or is accessible without causing too much stress on the server side.

Parameters: • name – Promotion name, str

• **job\_name** – Job name, **str** 

Returns: Name of promotion or None

assert\_promotion\_exists(name, job\_name, exception\_message='promotion[%s] does not exist for
job[%s]')

Raise an exception if a job lacks a promotion

Parameters: • name – Name of Jenkins promotion, str

• **job\_name** – Job name, **str** 

• **exception\_message** – Message to use for the exception. Formatted with

name and job\_name

```
JenkinsException whenever the promotion does not exist on a job
    Throws:
promotion_exists(name, job_name)
  Check whether a job has a certain promotion
    Parameters:
                    • name – Name of Jenkins promotion, str
                    • job_name - Job name, str
                   True if Jenkins promotion exists
    Returns:
get_promotions_info(job_name, depth=0)
  Get promotion information dictionary of a job
    Parameters:
                    • job_name - job_name, str
                    • depth - JSON depth, int
                   Dictionary of promotion info, dict
    Returns:
get_promotions(job_name)
  Get list of promotions running.
```

Each promotion is a dictionary with 'name' and 'url' keys.

```
Parameters:
              job_name - Job name, str
```

**Returns:** list of promotions, [ { str: str} ]

```
delete promotion(name, job_name)
```

Delete Jenkins promotion permanently.

```
    name – Name of Jenkins promotion, str

Parameters:
```

• job\_name - Job name, str

```
create_promotion(name, job_name, config_xml)
```

Create a new Jenkins promotion

```
    name - Name of Jenkins promotion, str
    job_name - Job name, str
    config_xml - config file text, str
```

### reconfig\_promotion(name, job\_name, config\_xml)

Change configuration of existing Jenkins promotion.

To create a new promotion, see <code>Jenkins.create\_promotion()</code> .

Parameters: • name - Name of Jenkins promotion, str

• job\_name - Job name, str

• config\_xml - New XML configuration, str

## get\_promotion\_config(name, job\_name)

Get configuration of existing Jenkins promotion.

Parameters: • name – Name of Jenkins promotion, str

• **job\_name** – Job name, **str** 

**Returns:** promotion configuration (XML format)

# quiet\_down()

Prepare Jenkins for shutdown.

No new builds will be started allowing running builds to complete prior to shutdown of the server.

# wait\_for\_normal\_op(timeout)

Wait for jenkins to enter normal operation mode.

Parameters: timeout – number of seconds to wait, int Note this is not the same as the

connection timeout set via \_\_init\_\_ as that controls the socket timeout.

Instead this is how long to wait until the status returned.

**Returns:** True if Jenkins became ready in time, False otherwise.

Setting timeout to be less than the configured connection timeout may result in this waiting for at least the connection timeout length of time before returning. It is recommended that the timeout here should be at least as long as any set connection

timeout.

# class jenkins.plugins.Plugin(\*args, \*\*kwargs)

Dictionary object containing plugin metadata.

Populates dictionary using json object input.

accepts same arguments as python dict class.

# class jenkins.plugins.PluginVersion(version)

Class providing comparison capabilities for plugin versions.

Parse plugin version and store it for comparison.