
gl_runner_api Documentation

gl_runner_api developers

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Contents:

1	Registering a Runner	3
2	Getting jobs	5
3	Executing jobs	7
4	Persisting jobs	9
5	Reference documentation	11
5.1	Runner	11
5.2	Job	13
	Index	15

An unofficial Python implementation of the API for creating customised GitLab CI runners.

This package provides the basic functionality for registering a [Runner](#). This object can then be used to request a [Job](#) and communicate the log, status and artifacts back to GitLab. No functionality is provided to execute the payloads defined in the `.gitlab-ci.yml`.

This package was originally developed to support [LHCb's Analysis Productions](#) by providing a CI runner that could submit jobs to LHCbDIRAC. More details can be found in TODO.

CHAPTER 1

Registering a Runner

The simplest way to register a new [Runner](#) is with the included command line tool:

For example

```
$ register-runner "https://gitlab.cern.ch/" "MY_REGISTRATION_TOKEN" "my-runner-data.  
↪ json " --locked  
INFO:gitlab_runner_api:gitlab.cern.ch: Successfully registered runner 6602_  
↪ (abcdefghij)  
INFO:gitlab_runner_api:gitlab.cern.ch: Successfully initialised runner 6602
```

where arguments can be found by navigating to the “CI/CD” page of the desired repository’s settings.

CHAPTER 2

Getting jobs

After a runner has been registered it can be loaded from the `.json` file and used to request jobs:

```
from gitlab_runner_api import Runner
runner = Runner.load("my-runner-data.json")
runner.check_auth()
if job := runner.request_job():
    print("Received a new job, starting executor")
    my_job_executor(job)
else:
    print("No jobs are currently available")
```


CHAPTER 3

Executing jobs

A minimal CI executor might run as follows:

```
from gitlab_runner_api import failure_reasons

job.log += f"Starting job with id {job.id} for branch {job.ref}\n"
do_clone_and_checkout(job.repo_url, job.commit_sha)
success = run_tests(job)
if success:
    job.log += "All tests ran successfully\n"
    job.set_success()
else:
    # ANSI formatting codes can be used to enhance the CI logs
    job.log += "\u001b[31mJob failed!!!\u001b[0m\n"
    job.set_failed(failure_reasons.ScriptFailure())
```

See the reference [Job](#) documentation for the full list of available properties.

CHAPTER 4

Persisting jobs

For long running jobs it may be desirable to persist the job object between calls. This can be done using a similar interface to the `pickle` module in the Python standard library:

```
job_data = job.dumps()

from gitlab_runner_api import Job
job = Job.loads(job_data)
```

Note: The job log is included in the persisted data therefore the `Job` object cannot be persisted once and loaded multiple times without losing the log messages.

5.1 Runner

TODO

5.1.1 Runner API

class `gitlab_runner_api.Runner`

classmethod register (*api_url*, *token*, *description=None*, *active=None*, *locked=None*, *run_untagged=None*, *tags=None*, *maximum_timeout=None*, *name=None*, *version=None*, *revision=None*, *platform=None*, *architecture=None*, *executor=None*, *access_level=None*)

Register a new runner in GitLab.

api_url [`str`] URL for accessing the GitLab API

token [`str`] Registration token

description [`str`, optional] Runner's description

active [`str`, optional] Should Runner be active

locked [`bool`, optional] Should Runner be locked for current project

run_untagged [`bool`, optional] Should Runner handle untagged jobs

tags [`list` of `str`, optional] List of Runner's tags

maximum_timeout [`int`, optional] Maximum timeout set when this Runner will handle the job (in seconds)

name [`str`, optional] The runner's name

version [`str`, optional] The runner's version

revision [`str`, optional] The runner's revision

platform [`str`, optional] The runner's platform
architecture [`str`, optional] The runner's architecture
executor [`str`, optional] The runner's executor
access_level [`str`, optional] Limit the jobs which will be sent to the runner (for security)

Runner

classmethod load (*filename*)
Serialise this runner as a file which can be loaded with *Runner.load*.
filename [`str`] Path to file that represents the runner to initialise.

Runner

classmethod loads (*data*)
Serialise this runner as a file which can be loaded with *Runner.load*.
data [`str`] String representing the runner to initialise

Runner

dump (*filename*)
Serialise this runner as a file which can be loaded with *Runner.load*
filename [`str`] Registration token

dumps ()
Serialise this runner as a string which can be loaded with with *Runner.loads*.
str String representation of the job that can be loaded with *Runner.loads*

request_job ()
Request a new job to run.
Job or None

5.1.2 Runner properties

class gitlab_runner_api.**Runner**

active
api_url
architecture
check_auth ()
description
executor
id
locked
maximum_timeout
name
platform
revision


```
run_untagged
tags
token
version
```

5.2 Job

TODO

5.2.1 Job API

```
class gitlab_runner_api.Job
```

```
    classmethod load(filename)
        Serialise this job as a file which can be loaded with Job.load.

        filename [str] Path to file that represents the job to initialise.

        Job

    classmethod loads(data)
        Serialise this job as a file which can be loaded with Job.load.

        data [str] String representing the job to initialise

        Job

    dump(filename)
        Serialise this job as a file which can be loaded with Job.load.

        filename [str] Registration token

    dumps()
        Serialise this job as a string which can be loaded with with Job.loads.

        str String representation of the job that can be loaded with Job.loads

    set_success(artifacts=None)

    set_failed(failure_reason=None, artifacts=None)
```

5.2.2 Job properties

```
class gitlab_runner_api.Job
```

```
    after_script
    auth()
    commit_message
    commit_sha
    get_registry_credential(image_name)
    id
```

is_branch
job_url
log
name
pipeline_id
pipeline_url
project_name
project_path
project_url
ref
repo_url
script
stage
state
token
username
variables

A

`active` (*gitlab_runner_api.Runner attribute*), 12
`after_script` (*gitlab_runner_api.Job attribute*), 13
`api_url` (*gitlab_runner_api.Runner attribute*), 12
`architecture` (*gitlab_runner_api.Runner attribute*), 12
`auth()` (*gitlab_runner_api.Job method*), 13

C

`check_auth()` (*gitlab_runner_api.Runner method*), 12
`commit_message` (*gitlab_runner_api.Job attribute*), 13
`commit_sha` (*gitlab_runner_api.Job attribute*), 13

D

`description` (*gitlab_runner_api.Runner attribute*), 12
`dump()` (*gitlab_runner_api.Job method*), 13
`dump()` (*gitlab_runner_api.Runner method*), 12
`dumps()` (*gitlab_runner_api.Job method*), 13
`dumps()` (*gitlab_runner_api.Runner method*), 12

E

`executor` (*gitlab_runner_api.Runner attribute*), 12

G

`get_registry_credential()` (*gitlab_runner_api.Job method*), 13

I

`id` (*gitlab_runner_api.Job attribute*), 13
`id` (*gitlab_runner_api.Runner attribute*), 12
`is_branch` (*gitlab_runner_api.Job attribute*), 13

J

`Job` (*class in gitlab_runner_api*), 13
`job_url` (*gitlab_runner_api.Job attribute*), 14

L

`load()` (*gitlab_runner_api.Job class method*), 13
`load()` (*gitlab_runner_api.Runner class method*), 12
`loads()` (*gitlab_runner_api.Job class method*), 13
`loads()` (*gitlab_runner_api.Runner class method*), 12
`locked` (*gitlab_runner_api.Runner attribute*), 12
`log` (*gitlab_runner_api.Job attribute*), 14

M

`maximum_timeout` (*gitlab_runner_api.Runner attribute*), 12

N

`name` (*gitlab_runner_api.Job attribute*), 14
`name` (*gitlab_runner_api.Runner attribute*), 12

P

`pipeline_id` (*gitlab_runner_api.Job attribute*), 14
`pipeline_url` (*gitlab_runner_api.Job attribute*), 14
`platform` (*gitlab_runner_api.Runner attribute*), 12
`project_name` (*gitlab_runner_api.Job attribute*), 14
`project_path` (*gitlab_runner_api.Job attribute*), 14
`project_url` (*gitlab_runner_api.Job attribute*), 14

R

`ref` (*gitlab_runner_api.Job attribute*), 14
`register()` (*gitlab_runner_api.Runner class method*), 11
`repo_url` (*gitlab_runner_api.Job attribute*), 14
`request_job()` (*gitlab_runner_api.Runner method*), 12
`revision` (*gitlab_runner_api.Runner attribute*), 12
`run_untagged` (*gitlab_runner_api.Runner attribute*), 12
`Runner` (*class in gitlab_runner_api*), 11, 12

S

`script` (*gitlab_runner_api.Job attribute*), 14
`set_failed()` (*gitlab_runner_api.Job method*), 13

`set_success()` (*gitlab_runner_api.Job method*), 13
`stage` (*gitlab_runner_api.Job attribute*), 14
`state` (*gitlab_runner_api.Job attribute*), 14

T

`tags` (*gitlab_runner_api.Runner attribute*), 13
`token` (*gitlab_runner_api.Job attribute*), 14
`token` (*gitlab_runner_api.Runner attribute*), 13

U

`username` (*gitlab_runner_api.Job attribute*), 14

V

`variables` (*gitlab_runner_api.Job attribute*), 14
`version` (*gitlab_runner_api.Runner attribute*), 13