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# **cdrouter.py Documentation**

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**QA Cafe**

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# CHAPTER 1

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## Introduction

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cdrouter is a simple Python wrapper for the CDRouter Web API. <https://support.qacafe.com/cdrouter-web-api/>  
For more information on CDRouter, please visit <http://www.qacafe.com/>.

## Download & Install

cdrouter is available on PyPI.

```
$ pip install -U cdrouter
```

## Usage

First create a *CDRouter* object, passing it the URL of your CDRouter system, for example `http://localhost`, `https://cdrouter.example.com` or `http://172.20.0.1:8015`. If your CDRouter system uses a self-signed certificate for HTTPS connections (the default), you will need to pass in `insecure=True` to disable certificate validation. If Automatic Login is not enabled on your CDRouter system, you will need to provide authentication credentials by passing in an API token via the `token` parameter or a username and password via the `username` and `password` parameters. If `token` is not specified, it will default to the value of the `CDROUTER_API_TOKEN` environment variable. *CDRouter* will prompt for a username and password as necessary if Automatic Login is not enabled and an API token is not provided.

```
import time

from cdrouter import CDRouter
from cdrouter.cdrouter import CDRouterError
from cdrouter.filters import Field as field
from cdrouter.jobs import Job

c = CDRouter('http://localhost:8015', token='deadbeef')
```

```
for p in c.packages.iter_list(filter=field('tags').contains('noretry')):
    print('Launching package ' + p.name)

    try:
        j = c.jobs.launch(Job(package_id=p.id, extra_cli_args='-testvar myvar=example
↵'))
    except CDRouterError as ce:
        print('Error launching job: {}'.format(ce))

    while j.result_id == None:
        time.sleep(1)
        j = c.jobs.get(j.id)

    print('    Result-ID: ' + j.result_id)

print('done.')
```

More examples of using cdroouter can be found [here](#). Please see the *Reference* page for more information on available fields and methods for each class.

Python client for the CDRouter Web API.

## CDRouter

### CDRouter

**class** `cdrouter.CDRouter` (*base*, *token=None*, *username=None*, *password=None*, *\_getuser=<function \_getuser\_default>*, *\_getpass=<function \_getpass\_default>*, *insecure=False*)  
Service for accessing the CDRouter Web API.

#### Parameters

- **base** – Base HTTP or HTTPS URL for CDRouter system as a string, optionally including a port. For example `http://localhost`, `http://cdrouter.lan:8015` or `https://127.0.0.1`.
- **token** – (optional) CDRouter API token as a string. Not required if Automatic Login is enabled. If omitted, value will be taken from `CDROUTER_API_TOKEN` environment variable.
- **username** – (optional) Username as string. Can be omitted if `token` is specified or Automatic Login is enabled. If omitted, `_getuser` will be called when a username is required.
- **password** – (optional) Password as string. Can be omitted if `token` is specified or Automatic Login is enabled. If omitted, `_getpass` will be called when a password is required.
- **\_getuser** – (optional) If `username` is `None`, function to be called as `_getuser(base)` which returns a username as a string. If `_getuser` is `None`, `cdrouter` will print a prompt to stdout and read the username from stdin.
- **\_getpass** – (optional) If `password` is `None`, a function to be called as `_getpass(base, username)` which returns user's password as a string. If `_getpass` is `None`, `cdrouter` will print a password prompt to stdout and read the password from stdin.

- **insecure** – (optional) If bool *True* and *base* is an HTTPS URL, skip certificate verification and allow insecure connections to the CDRouter system.

**annotations = None**

*annotations.AnnotationsService* object

**attachments = None**

*attachments.AttachmentsService* object

**authenticate** (*retries=3*)

Set API token by authenticating via username/password.

**Parameters** **retries** – Number of authentication attempts to make before giving up as an int.

**Returns** Learned API token

**Return type** string

**captures = None**

*captures.CapturesService* object

**configs = None**

*configs.ConfigsService* object

**devices = None**

*devices.DevicesService* object

**exports = None**

*exports.ExportsService* object

**highlights = None**

*highlights.HighlightsService* object

**history = None**

*history.HistoryService* object

**imports = None**

*imports.ImportsService* object

**jobs = None**

*jobs.JobsService* object

**packages = None**

*packages.PackagesService* object

**results = None**

*results.ResultsService* object

**system = None**

*system.SystemService* object

**tags = None**

*tags.TagsService* object

**tests = None**

*testresults.TestResultsService* object

**testsuites = None**

*testsuites.TestsuitesService* object

**users = None**

*users.UsersService* object

## CDRouterError

**class** `cdrouter.cdrouter.CDRouterError` (\*args, \*\*kwargs)  
Class for representing CDRouter Web API errors.

## Links

**class** `cdrouter.cdrouter.Links` (\*\*kwargs)  
Class representing paging information returned by `list` calls to the CDRouter Web API.

### Parameters

- **first** – (optional) First page number as an int.
- **last** – (optional) Last page number as an int.
- **current** – (optional) Current page number as an int.
- **total** – (optional) Total element count across all pages as an int.
- **limit** – (optional) Resources per page limit as an int.
- **next** – (optional) Next page number as an int.
- **prev** – (optional) Previous page number as an int.

## Share

**class** `cdrouter.cdrouter.Share` (\*\*kwargs)  
Model for CDRouter Shares.

### Parameters

- **user\_id** – (optional) User ID as an int.
- **read** – (optional) Bool *True* if reading is allowed.
- **write** – (optional) Bool *True* if writing is allowed.
- **execute** – (optional) Bool *True* if executing is allowed.

## Filters

### Field

**class** `cdrouter.filters.Field` (\*args)  
Class for constructing CDRouter Web API filters. Field objects can be passed to `filter` parameters to make constructing filters easier.

The `value` parameter passed to Field methods is converted to a string using the builtin `str` function. Bool values are additionally lowercased such that bool `True` becomes string `'true'` and `False` becomes string `'false'`. The Field methods `contains`, `contained_by` and `overlaps` accept a variable number of values which are converted into a list in accordance with the API's syntax. For example, the int values `1, 2, 3` is converted to the string `'{1, 2, 3}'` and the string values `'one', 'two', 'three'` is converted to the string `'{one, two, three}'`.

Usage:

```
from cdrouter.filters import Field as field
# each pair of filters below are equivalent
c.packages.list(filter=[
    field('id').eq(123),
    'id=123',
    #
    field('use_as_testlist').ne(True),
    'use_as_testlist!=true',
    #
    field('name').not_().match('^(foo|bar)$', ignorecase=True),
    'name!~*^(foo|bar)$',
    #
    field('tags').contains('foo', 'bar', 'baz'),
    'tags@>{foo,bar,baz}',
])
```

See [this page](#) for more details on CDRouter Web API filters.

#### **contained\_by** (\*args)

Construct an array contained by (<@) filter.

**Parameters** *args* – Filter values

**Returns** *filters.Field* object

**Return type** *filters.Field*

#### **contains** (\*args)

Construct an array contains (@>) filter.

**Parameters** *args* – Filter values

**Returns** *filters.Field* object

**Return type** *filters.Field*

#### **eq** (value)

Construct an equal to (=) filter.

**Parameters** *value* – Filter value

**Returns** *filters.Field* object

**Return type** *filters.Field*

#### **ge** (value)

Construct a greater than or equal to (>=) filter.

**Parameters** *value* – Filter value

**Returns** *filters.Field* object

**Return type** *filters.Field*

#### **gt** (value)

Construct a greater than (>) filter.

**Parameters** *value* – Filter value

**Returns** *filters.Field* object

**Return type** *filters.Field*

#### **le** (value)

Construct a less than or equal to (<=) filter.

**Parameters** `value` – Filter value

**Returns** `filters.Field` object

**Return type** `filters.Field`

**lt** (`value`)

Construct a less than (<) filter.

**Parameters** `value` – Filter value

**Returns** `filters.Field` object

**Return type** `filters.Field`

**match** (`value`, `ignorecase=False`)

Construct a regexp match (~) filter. Combine with `not_` method to construct a negative regexp match (!~) filter.

**Parameters**

- `value` – Filter value
- `ignorecase` – If bool `True`, make match case insensitive (~\*, !~\*)

**Returns** `filters.Field` object

**Return type** `filters.Field`

**ne** (`value`)

Construct a not equal to (!=) filter.

**Parameters** `value` – Filter value

**Returns** `filters.Field` object

**Return type** `filters.Field`

**not\_** ()

Negate the filter. Not supported by `contains`, `contained_by` or `overlaps` methods.

**Returns** `filters.Field` object

**Return type** `filters.Field`

**overlaps** (`*args`)

Construct an array overlaps (&&) filter.

**Parameters** `args` – Filter values

**Returns** `filters.Field` object

**Return type** `filters.Field`

## Configs

### ConfigsService

**class** `cdrouter.configs.ConfigsService` (`service`)

Service for accessing CDRouter Configs.

**bulk\_copy** (`ids`)

Bulk copy a set of configs.

**Parameters** `ids` – Int list of config IDs.

**Returns** `configs.Config` list

**bulk\_delete** (`ids=None, filter=None, type=None, all=False`)

Bulk delete a set of configs.

**Parameters**

- `ids` – (optional) Int list of config IDs.
- `filter` – (optional) String list of filters.
- `type` – (optional) `union` or `inter` as string.
- `all` – (optional) Apply to all if bool `True`.

**bulk\_edit** (`_fields, ids=None, filter=None, type=None, all=False, testvars=None`)

Bulk edit a set of configs.

**Parameters**

- `_fields` – `configs.Config` object
- `ids` – (optional) Int list of config IDs.
- `filter` – (optional) String list of filters.
- `type` – (optional) `union` or `inter` as string.
- `all` – (optional) Apply to all if bool `True`.
- `testvars` – (optional) `configs.ConfigTestvars` list

**bulk\_edit\_testvars** (`id, testvars`)

Bulk edit a config's testvars.

**Parameters**

- `id` – Config ID as an int.
- `testvars` – `configs.Testvar` list

**Returns** `configs.Testvar` list

**bulk\_export** (`ids`)

Bulk export a set of configs.

**Parameters** `ids` – Int list of config IDs.

**Return type** tuple (`io.BytesIO, 'filename'`)

**check\_config** (`contents`)

Process config contents with `cdrouter-cli -check-config`.

**Parameters** `contents` – Config contents as string.

**Returns** `configs.CheckConfig` object

**Return type** `configs.CheckConfig`

**create** (`resource`)

Create a new config.

**Parameters** `resource` – `configs.Config` object

**Returns** `configs.Config` object

**Return type** `configs.Config`

**delete** (*id*)

Delete a config.

**Parameters** **id** – Config ID as an int.

**delete\_testvar** (*id, name, group=None*)

Delete a testvar in a config. Deleting a testvar unsets any explicitly configured value for it in the config.

**Parameters**

- **id** – Config ID as an int.
- **name** – Testvar name as string.
- **group** – (optional) Testvar group as string.

**edit** (*resource*)

Edit a config.

**Parameters** **resource** – *configs.Config* object

**Returns** *configs.Config* object

**Return type** *configs.Config*

**edit\_shares** (*id, user\_ids*)

Edit shares for a config.

**Parameters**

- **id** – Config ID as an int.
- **user\_ids** – User IDs as int list.

**Returns** *cdrouter.Share* list

**edit\_testvar** (*id, resource*)

Edit a testvar in a config.

**Parameters**

- **id** – Config ID as an int.
- **resource** – *configs.Testvar* object.

**Returns** *configs.Testvar* object

**Return type** *configs.Testvar*

**export** (*id*)

Export a config.

**Parameters** **id** – Config ID as an int.

**Return type** tuple (*io.BytesIO*, *'filename'*)

**get** (*id*)

Get a config.

**Parameters** **id** – Config ID as an int.

**Returns** *configs.Config* object

**Return type** *configs.Config*

**get\_by\_name** (*name*)

Get a config by name.

**Parameters** **name** – Config name as string.

**Returns** *configs.Config* object

**Return type** *configs.Config*

**get\_networks** (*contents*)

Process config contents with `cdrouter-cli -print-networks-json`.

**Parameters** **contents** – Config contents as string.

**Returns** *configs.Networks* object

**Return type** *configs.Networks*

**get\_new** ()

Get output of `cdrouter-cli -new-config`.

**Return type** string

**get\_plaintext** (*id*)

Get a config as plaintext.

**Parameters** **id** – Config ID as an int.

**Return type** string

**get\_shares** (*id*)

Get shares for a config.

**Parameters** **id** – Config ID as an int.

**Returns** *cdrouter.Share* list

**get\_testvar** (*id, name, group=None*)

Get a testvar from a config.

**Parameters**

- **id** – Config ID as an int.
- **name** – Testvar name as string.
- **group** – (optional) Testvar group as string.

**Returns** *configs.Testvar* object

**Return type** *configs.Testvar*

**iter\_list** (*\*args, \*\*kwargs*)

Get a list of configs. Whereas `list` fetches a single page of configs according to its `limit` and `page` arguments, `iter_list` returns all configs by internally making successive calls to `list`.

**Parameters**

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** *configs.Config* list

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of configs.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** *configs.Page* object

**list\_testvars** (*id*)

Get a list of a config's testvars.

**Parameters** **id** – Config ID as an int.

**Returns** *configs.Testvar* list

**upgrade\_config** (*contents*)

Process config contents with cdrouter-cli -upgrade-config.

**Parameters** **contents** – Config contents as string.

**Returns** *configs.UpgradeConfig* object

**Return type** *configs.UpgradeConfig*

## Config

**class** `cdrouter.configs.Config` (\*\*kwargs)

Model for CDRouter Configs.

### Parameters

- **id** – (optional) Config ID as an int.
- **name** – (optional) Config name as string.
- **description** – (optional) Config description as string.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **contents** – (optional) Config contents as string.
- **user\_id** – (optional) User ID as an int.
- **result\_id** – (optional) Result ID as an int (if a config snapshot).
- **tags** – (optional) Tags as string list.
- **note** – (optional) Note as string.

## Page

**class** `cdrouter.configs.Page`

Named tuple for a page of list response data.

### Parameters

- **data** – *configs.Config* list
- **links** – *cdrouter.Links* object

## ConfigError

**class** `cdrouter.configs.ConfigError` (\*\*kwargs)  
Model for CDRouter Check Config Error.

### Parameters

- **lines** – (optional) Line numbers as string list.
- **error** – (optional) Error message as string.

## CheckConfig

**class** `cdrouter.configs.CheckConfig` (\*\*kwargs)  
Model for CDRouter Check Config.

**Parameters** **errors** – (optional) `configs.ConfigError` list

## UpgradeConfig

**class** `cdrouter.configs.UpgradeConfig` (\*\*kwargs)  
Model for CDRouter Config Upgrades.

### Parameters

- **success** – (optional) Bool *True* if successful.
- **output** – (optional) Output as string.

## Networks

**class** `cdrouter.configs.Networks` (\*\*kwargs)  
Model for CDRouter Config Networks.

### Parameters

- **name** – (optional) Network name as string.
- **type** – (optional) Network type as string.
- **side** – (optional) Network side as string.
- **title** – (optional) Network title as string.
- **children** – (optional) `configs.Networks` list.

## Testvar

**class** `cdrouter.configs.Testvar` (\*\*kwargs)  
Model for CDRouter Config Testvars.

### Parameters

- **group** – (optional) Testvar group name as string.
- **name** – (optional) Testvar name as string.
- **value** – (optional) Testvar value as string.

- **default** – (optional) Testvar default value as string.
- **isdefault** – (optional) Bool *True* if testvar is set to default value.
- **line** – (optional) Config file line number as int.

## Devices

### DevicesService

**class** `cdrouter.devices.DevicesService` (*service*)  
Service for accessing CDRouter Devices.

**bulk\_copy** (*ids*)  
Bulk copy a set of devices.

**Parameters** **ids** – Int list of device IDs.

**Returns** `devices.Device` list

**bulk\_delete** (*ids=None, filter=None, type=None, all=False*)  
Bulk delete a set of devices.

**Parameters**

- **ids** – (optional) Int list of device IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_edit** (*\_fields, ids=None, filter=None, type=None, all=False*)  
Bulk edit a set of devices.

**Parameters**

- **\_fields** – `devices.Device` object
- **ids** – (optional) Int list of device IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_export** (*ids*)  
Bulk export a set of devices.

**Parameters** **ids** – Int list of device IDs.

**Return type** tuple (*io.BytesIO, 'filename'*)

**connect** (*id*)  
Open proxy connection to a device's management interface.

**Parameters** **id** – Device ID as an int.

**Returns** `devices.Connection` object

**Return type** `devices.Connection`

**create** (*resource*)

Create a new device.

**Parameters** **resource** – *devices.Device* object

**Returns** *devices.Device* object

**Return type** *devices.Device*

**delete** (*id*)

Delete a device.

**Parameters** **id** – Device ID as an int.

**disconnect** (*id*)

Close proxy connection to a device's management interface.

**Parameters** **id** – Device ID as an int.

**edit** (*resource*)

Edit a device.

**Parameters** **resource** – *devices.Device* object

**Returns** *devices.Device* object

**Return type** *devices.Device*

**edit\_shares** (*id, user\_ids*)

Edit shares for a device.

**Parameters**

- **id** – Device ID as an int.
- **user\_ids** – User IDs as int list.

**Returns** *cdrouter.Share* list

**export** (*id*)

Export a device.

**Parameters** **id** – Device ID as an int.

**Return type** tuple (*io.BytesIO*, 'filename')

**get** (*id*)

Get a device.

**Parameters** **id** – Device ID as an int.

**Returns** *devices.Device* object

**Return type** *devices.Device*

**get\_by\_name** (*name*)

Get a device by name.

**Parameters** **name** – Device name as string.

**Returns** *devices.Device* object

**Return type** *devices.Device*

**get\_connection** (*id*)

Get information on proxy connection to a device's management interface.

**Parameters** **id** – Device ID as an int.

**Returns** *devices.Connection* object

**Return type** *devices.Connection*

**get\_shares** (*id*)

Get shares for a device.

**Parameters** *id* – Device ID as an int.

**Returns** *cdrouter.Share* list

**iter\_list** (\**args*, \*\**kwargs*)

Get a list of devices. Whereas `list` fetches a single page of devices according to its `limit` and `page` arguments, `iter_list` returns all devices by internally making successive calls to `list`.

**Parameters**

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** *devices.Device* list

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of devices.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** *devices.Page* object

**power\_off** (*id*)

Power off a device using it's power off command.

**Parameters** *id* – Device ID as an int.

**Returns** *devices.PowerCmd* object

**Return type** *devices.PowerCmd*

**power\_on** (*id*)

Power on a device using it's power on command.

**Parameters** *id* – Device ID as an int.

**Returns** *devices.PowerCmd* object

**Return type** *devices.PowerCmd*

## Device

**class** `cdrouter.devices.Device` (\*\**kwargs*)

Model for CDRouter Devices.

**Parameters**

- **id** – (optional) Device ID as an int.

- **name** – (optional) Name as string.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **user\_id** – (optional) User ID as an int.
- **result\_id** – (optional) Result ID as an int (if a device snapshot).
- **attachments\_dir** – (optional) Filepath for attachments as string.
- **picture\_id** – (optional) Attachment ID for used for device picture as an int.
- **tags** – (optional) Tags as string list.
- **default\_ip** – (optional) Default IP as a string
- **default\_login** – (optional) Default login as a string
- **default\_password** – (optional) Default password as a string
- **location** – (optional) Location as a string
- **device\_category** – (optional) Device category as a string
- **manufacturer** – (optional) Manufacturer as a string
- **manufacturer\_oui** – (optional) Manufacturer OUI as a string
- **model\_name** – (optional) Model name as a string
- **model\_number** – (optional) Model number as a string
- **description** – (optional) Description as a string
- **product\_class** – (optional) Product class as a string
- **serial\_number** – (optional) Serial number as a string
- **hardware\_version** – (optional) Hardware version as a string
- **software\_version** – (optional) Software version as a string
- **provisioning\_code** – (optional) Provisioning code as a string
- **note** – (optional) Note as a string
- **insecure\_mgmt\_url** – (optional) *True* if insecure HTTPS management URLs are allowed
- **mgmt\_url** – (optional) Management URL as a string
- **add\_mgmt\_addr** – (optional) *True* if address should be configured when opening proxy connection
- **mgmt\_interface** – (optional) Interface on which to configure address as string
- **mgmt\_addr** – (optional) Address to configure as string
- **power\_on\_cmd** – (optional) Command to run to power on device as string
- **power\_off\_cmd** – (optional) Command to run to power off device as string

## Page

**class** `cdrouter.devices.Page`  
 Named tuple for a page of list response data.

**Parameters**

- **data** – `devices.Device` list
- **links** – `cdrouter.Links` object

## PowerCmd

**class** `cdrouter.devices.PowerCmd` (*\*\*kwargs*)  
 Model for CDRouter Device Power command result.

**Parameters** **output** – (optional) Output from power on/off command as string.

## Connection

**class** `cdrouter.devices.Connection` (*\*\*kwargs*)  
 Model for CDRouter Device Connections.

**Parameters**

- **proxy\_port** – (optional) HTTP proxy port as an int.
- **proxy\_https** – (optional) HTTPS proxy port as an int.

## Attachments

### AttachmentsService

**class** `cdrouter.attachments.AttachmentsService` (*service*)

**create** (*id, fd, filename='attachment-name'*)  
 Add an attachment to a device.

**Parameters**

- **id** – Device ID as an int.
- **fd** – File-like object to upload.
- **filename** – (optional) Name to use for new attachment as a string.

**Returns** `attachments.Attachment` object

**Return type** `attachments.Attachment`

**delete** (*id, attid*)  
 Delete a device's attachment.

**Parameters**

- **id** – Device ID as an int.

- **attid** – Attachment ID as an int.

**download** (*id*, *attid*)

Download a device's attachment.

**Parameters**

- **id** – Device ID as an int.
- **attid** – Attachment ID as an int.

**Return type** tuple (*io.BytesIO*, 'filename')

**edit** (*resource*)

Edit a device's attachment.

**Parameters** **resource** – *attachments.Attachment* object

**Returns** *attachments.Attachment* object

**Return type** *attachments.Attachment*

**get** (*id*, *attid*)

Get a device's attachment.

**Parameters**

- **id** – Device ID as an int.
- **attid** – Attachment ID as an int.

**Returns** *attachments.Attachment* object

**Return type** *attachments.Attachment*

**iter\_list** (*id*, *\*args*, *\*\*kwargs*)

Get a list of attachments. Whereas `list` fetches a single page of attachments according to its `limit` and `page` arguments, `iter_list` returns all attachments by internally making successive calls to `list`.

**Parameters**

- **id** – Device ID as an int.
- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** *attachments.Attachment* list

**list** (*id*, *filter=None*, *type=None*, *sort=None*, *limit=None*, *page=None*)

Get a list of a device's attachments.

**Parameters**

- **id** – Device ID as an int.
- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** *attachments.Page* object

**thumbnail** (*id, attid, size=None*)

Download thumbnail of a device's attachment. Attachment must be a GIF, JPEG or PNG image.

**Parameters**

- **id** – Device ID as an int.
- **attid** – Attachment ID as an int.
- **size** – (optional) Height in pixels of generated thumbnail.

**Return type** tuple (*io.BytesIO, 'filename'*)

## Attachment

**class** `cdrouter.attachments.Attachment` (*\*\*kwargs*)

Model for CDRouter Attachments.

**Parameters**

- **id** – (optional) Attachment ID as an int.
- **name** – (optional) Name as string.
- **description** – (optional) Description as string.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **size** – (optional) Attachment size as an int.
- **path** – (optional) Filepath to attachment as string.
- **device\_id** – (optional) Device ID as an int.

## Page

**class** `cdrouter.attachments.Page`

Named tuple for a page of list response data.

**Parameters**

- **data** – *attachments.Attachment* list
- **links** – *cdrouter.Links* object

## Jobs

### JobsService

**class** `cdrouter.jobs.JobsService` (*service*)

Service for accessing CDRouter Jobs.

**bulk\_delete** (*ids=None, filter=None, type=None, all=False*)

Bulk delete a set of jobs.

**Parameters**

- **ids** – (optional) Int list of job IDs.

- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_launch** (*jobs=None, filter=None, all=False*)

Bulk launch a set of jobs.

**Parameters**

- **jobs** – *jobs.Job* list
- **filter** – (optional) Filters to apply as a string list.
- **all** – (optional) Apply to all if bool *True*.

**delete** (*id*)

Delete a job.

**Parameters** **id** – Job ID as an int.

**edit** (*resource*)

Edit a job.

**Parameters** **resource** – *jobs.Job* object

**Returns** *jobs.Job* object

**Return type** *jobs.Job*

**get** (*id*)

Get a job.

**Parameters** **id** – Job ID as an int.

**Returns** *jobs.Job* object

**Return type** *jobs.Job*

**iter\_list** (*\*args, \*\*kwargs*)

Get a list of jobs. Whereas `list` fetches a single page of jobs according to its `limit` and `page` arguments, `iter_list` returns all jobs by internally making successive calls to `list`.

**Parameters**

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** *jobs.Job* list

**launch** (*resource*)

Launch a new job.

**Parameters** **resource** – *jobs.Job* object

**Returns** *jobs.Job* object

**Return type** *jobs.Job*

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of jobs.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.

- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** `jobs.Page` object

## Job

**class** `cdrouter.jobs.Job` (\*\*kwargs)  
Model for CDRouter Jobs.

### Parameters

- **id** – (optional) Job ID as an int.
- **status** – (optional) Bool *True* if user is an administrator.
- **options** – (optional) `jobs.Options` object
- **package\_id** – (optional) Package ID as an int.
- **package\_name** – (optional) Package name as string.
- **device\_id** – (optional) Device ID as an int.
- **device\_name** – (optional) Device name as string.
- **result\_id** – (optional) Result ID as an int.
- **user\_id** – (optional) User ID as an int.
- **created** – (optional) Job creation time as *DateTime*.
- **updated** – (optional) Job last-updated time as *DateTime*.

## Options

**class** `cdrouter.jobs.Options` (\*\*kwargs)  
Model for CDRouter Job Options.

### Parameters

- **tags** – (optional) Tags as string list.
- **skip\_tests** – (optional) Tests to skip as string list.
- **begin\_at** – (optional) Test name to begin testing at as string.
- **end\_at** – (optional) Test name to end testing at as string.
- **extra\_cli\_args** – (optional) Extra *cdrouter-cli* arguments as string.

## Page

**class** `cdrouter.jobs.Page`  
Named tuple for a page of list response data.

### Parameters

- **data** – `jobs.Job` list

- **links** – *cdrouter.Links* object

## Packages

### PackagesService

**class** `cdrouter.packages.PackagesService` (*service*)  
Service for accessing CDRouter Packages.

**analyze** (*id*)

Get a list of tests that will be skipped for a package.

**Parameters** **id** – Package ID as an int.

**Returns** *packages.Analysis* object

**Return type** *packages.Analysis*

**bulk\_copy** (*ids*)

Bulk copy a set of packages.

**Parameters** **ids** – Int list of package IDs.

**Returns** *packages.Package* list

**bulk\_delete** (*ids=None, filter=None, type=None, all=False*)

Bulk delete a set of packages.

**Parameters**

- **ids** – (optional) Int list of package IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_edit** (*\_fields, ids=None, filter=None, type=None, all=False*)

Bulk edit a set of packages.

**Parameters**

- **\_fields** – *packages.Package* object
- **ids** – (optional) Int list of package IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_export** (*ids*)

Bulk export a set of packages.

**Parameters** **ids** – Int list of package IDs.

**Return type** tuple (*io.BytesIO, 'filename'*)

**create** (*resource*)

Create a new package.

**Parameters** **resource** – *packages.Package* object

**Returns** *packages.Package* object

**Return type** *packages.Package*

**delete** (*id*)

Delete a package.

**Parameters** **id** – Package ID as an int.

**edit** (*resource*)

Edit a package.

**Parameters** **resource** – *packages.Package* object

**Returns** *packages.Package* object

**Return type** *packages.Package*

**edit\_shares** (*id, user\_ids*)

Edit shares for a package.

**Parameters**

- **id** – Package ID as an int.
- **user\_ids** – User IDs as int list.

**Returns** *cdrouter.Share* list

**export** (*id*)

Export a package.

**Parameters** **id** – Package ID as an int.

**Return type** tuple (*io.BytesIO, 'filename'*)

**get** (*id*)

Get a package.

**Parameters** **id** – Package ID as an int.

**Returns** *packages.Package* object

**Return type** *packages.Package*

**get\_by\_name** (*name*)

Get a package by name.

**Parameters** **name** – Package name as string.

**Returns** *packages.Package* object

**Return type** *packages.Package*

**get\_shares** (*id*)

Get shares for a package.

**Parameters** **id** – Package ID as an int.

**Returns** *cdrouter.Share* list

**iter\_list** (*\*args, \*\*kwargs*)

Get a list of packages. Whereas *list* fetches a single page of packages according to its *limit* and *page* arguments, *iter\_list* returns all packages by internally making successive calls to *list*.

**Parameters**

- **args** – Arguments that *list* takes.

- **kwargs** – Optional arguments that `list` takes.

Returns `packages.Package` list

`list` (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of packages.

#### Parameters

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

Returns `packages.Page` object

## Package

`class` `cdrouter.packages.Package` (\*\*kwargs)

Model for CDRouter Packages.

#### Parameters

- **id** – (optional) Package ID as an int.
- **name** – (optional) Name as a string.
- **description** – (optional) Description as a string.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **test\_count** – (optional) Test count as an int.
- **testlist** – (optional) Testlist as a string list.
- **extra\_cli\_args** – (optional) Extra CLI args as a string.
- **user\_id** – (optional) User ID as an int.
- **agent\_id** – (optional) Agent ID as an int.
- **config\_id** – (optional) Config ID as an int.
- **result\_id** – (optional) Result ID as an int (if a package snapshot).
- **device\_id** – (optional) Device ID as an int.
- **options** – (optional) `packages.Options` object
- **tags** – (optional) Tags as a string list.
- **use\_as\_testlist** – (optional) Bool *True* if package is used as a testlist.
- **note** – (optional) Note as a string.

## Options

**class** `cdrouter.packages.Options` (\*\*kwargs)  
Model for CDRouter Package Options.

### Parameters

- **forever** – (optional) Bool *True* if package looped forever.
- **loop** – (optional) Loop count as an int.
- **repeat** – (optional) Repeat count as an int.
- **maxfail** – (optional) Max fail count as an int.
- **duration** – (optional) Max testing time duration as an int.
- **wait** – (optional) Wait between tests duration as an int.
- **pause** – (optional) Bool *True* is pausing between tests.
- **shuffle** – (optional) Bool *True* if testlist is shuffled.
- **seed** – (optional) Shuffle seed as an int.
- **retry** – (optional) Retry count as an int.
- **rdelay** – (optional) Retry delay as an int.

## Page

**class** `cdrouter.packages.Page`  
Named tuple for a page of list response data.

### Parameters

- **data** – *packages.Package* list
- **links** – *cdrouter.Links* object

## Analysis

**class** `cdrouter.packages.Analysis` (\*\*kwargs)  
Model for CDRouter Package Analysis.

### Parameters

- **total\_count** – (optional) Total count as an int.
- **run\_count** – (optional) Run count as an int.
- **skipped\_count** – (optional) Skipped test count as an int.
- **skipped\_tests** – (optional) Skipped tests as a string list.

## Results

### ResultsService

**class** `cdrouter.results.ResultsService` (*service*)  
Service for accessing CDRouter Results.

**all\_stats** ()  
Compute stats for all results.  
**Returns** `results.AllStats` object  
**Return type** `results.AllStats`

**bulk\_copy** (*ids*)  
Bulk copy a set of results.  
**Parameters** **ids** – Int list of result IDs.  
**Returns** `results.Result` list

**bulk\_delete** (*ids=None, filter=None, type=None, all=False*)  
Bulk delete a set of results.  
**Parameters**

- **ids** – (optional) Int list of result IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_edit** (*\_fields, ids=None, filter=None, type=None, all=False*)  
Bulk edit a set of results.  
**Parameters**

- **\_fields** – `results.Result` object
- **ids** – (optional) Int list of result IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_export** (*ids, exclude\_captures=False*)  
Bulk export a set of results.  
**Parameters** **ids** – Int list of result IDs.  
**Return type** tuple (*io.BytesIO, 'filename'*)

**delete** (*id*)  
Delete a result.  
**Parameters** **id** – Result ID as an int.

**download\_logdir\_archive** (*id, format='zip', exclude\_captures=False*)  
Download logdir archive in tgz or zip format.  
**Parameters**

- **id** – Result ID as an int.
- **format** – (optional) Format to download, must be string *zip* or *tgz*.
- **exclude\_captures** – If bool *True*, don't include capture files

**Return type** tuple (*io.BytesIO*, *'filename'*)

**edit** (*resource*)

Edit a result.

**Parameters** **resource** – *results.Result* object

**Returns** *results.Result* object

**Return type** *results.Result*

**edit\_shares** (*id*, *user\_ids*)

Edit shares for a result.

**Parameters**

- **id** – Result ID as an int.
- **user\_ids** – User IDs as int list.

**Returns** *cdrouter.Share* list

**export** (*id*, *exclude\_captures=False*)

Export a result.

**Parameters**

- **id** – Result ID as an int.
- **exclude\_captures** – If bool *True*, don't export capture files

**Return type** tuple (*io.BytesIO*, *'filename'*)

**get** (*id*)

Get a result.

**Parameters** **id** – Result ID as an int.

**Returns** *results.Result* object

**Return type** *results.Result*

**get\_logdir\_file** (*id*, *filename*)

Download a logdir file.

**Parameters**

- **id** – Result ID as an int.
- **filename** – Logdir filename as string.

**Return type** tuple (*io.BytesIO*, *'filename'*)

**get\_shares** (*id*)

Get shares for a result.

**Parameters** **id** – Result ID as an int.

**Returns** *cdrouter.Share* list

**get\_test\_metric** (*id*, *name*, *metric*)

Get a test metric.

**Parameters**

- **id** – Result ID as an int.
- **name** – Test name as string.
- **metric** – Metric name as string.

**Returns** *results.Metric* object

**Return type** *results.Metric*

**get\_test\_metric\_csv** (*id, name, metric*)

Get a test metric as CSV.

**Parameters**

- **id** – Result ID as an int.
- **name** – Test name as string.
- **id** – Metric name as string.

**Return type** string

**iter\_list** (*\*args, \*\*kwargs*)

Get a list of results. Whereas `list` fetches a single page of results according to its `limit` and `page` arguments, `iter_list` returns all results by internally making successive calls to `list`.

**Parameters**

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** *results.Result* list

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of results.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** *results.Page* object

**list\_csv** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of results as CSV.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Return type** string

**list\_logdir** (*id*, *filter=None*, *sort=None*)

Get a list of logdir files.

**Parameters**

- **id** – Result ID as an int.
- **filter** – Filter to apply as string.
- **sort** – Sort field to apply as string.

**Returns** *results.LogDirFile* list

**pause** (*id*, *when=None*)

Pause a running result.

**Parameters**

- **id** – Result ID as an int.
- **when** – Must be string *end-of-test* or *end-of-loop*.

**pause\_end\_of\_loop** (*id*)

Pause a running result at the end of the current loop.

**Parameters** **id** – Result ID as an int.

**pause\_end\_of\_test** (*id*)

Pause a running result at the end of the current test.

**Parameters** **id** – Result ID as an int.

**progress\_stats** (*id*)

Compute progress stats for a result.

**Parameters** **id** – Result ID as an int.

**Returns** *results.Progress* object

**Return type** *results.Progress*

**set\_stats** (*ids*)

Compute stats for a set of results.

**Parameters** **id** – Result IDs as int list.

**Returns** *results.SetStats* object

**Return type** *results.SetStats*

**single\_stats** (*id*)

Compute stats for a result.

**Parameters** **id** – Result ID as an int.

**Returns** *results.SingleStats* object

**Return type** *results.SingleStats*

**stop** (*id*, *when=None*)

Stop a running result.

**Parameters**

- **id** – Result ID as an int.
- **when** – Must be string *end-of-test* or *end-of-loop*.

**stop\_end\_of\_loop** (*id*)

Stop a running result at the end of the current loop.

**Parameters** **id** – Result ID as an int.

**stop\_end\_of\_test** (*id*)

Stop a running result at the end of the current test.

**Parameters** **id** – Result ID as an int.

**summary\_stats** (*id*)

Compute summary stats for a result.

**Parameters** **id** – Result ID as an int.

**Returns** *results.SummaryStats* object

**Return type** *results.SummaryStats*

**unpause** (*id*)

Unpause a running result.

**Parameters** **id** – Result ID as an int.

**updates** (*id, update\_id=None*)

Get updates of a running result via long-polling. If no updates are available, CDRouter waits up to 10 seconds before sending an empty response.

**Parameters**

- **id** – Result ID as an int.
- **update\_id** – (optional) Update ID as an int.

**Returns** *results.Update* object

**Return type** *results.Update*

## Result

**class** `cdrouter.results.Result` (\*\*kwargs)

Model for CDRouter Results.

**Parameters**

- **id** – (optional) Result ID as an int.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **result** – (optional) Result as a string.
- **status** – (optional) Status as a string.
- **loops** – (optional) Loop count as an int.
- **tests** – (optional) Test count as an int.
- **passed** – (optional) Passed count as an int.
- **fail** – (optional) Failed count as an int.
- **duration** – (optional) Duration in seconds as an int.
- **size\_on\_disk** – (optional) Size on disk in bytes as an int.

- **starred** – (optional) Bool *True* if result is starred.
- **archived** – (optional) Bool *True* if result is archived.
- **result\_dir** – (optional) Filepath to result directory as a string.
- **agent\_name** – (optional) Agent name as a string.
- **package\_name** – (optional) Package name as a string.
- **device\_name** – (optional) Device name as a string.
- **config\_name** – (optional) Config name as a string.
- **package\_id** – (optional) Package ID as an int.
- **device\_id** – (optional) Device ID as an int.
- **config\_id** – (optional) Config ID as an int.
- **user\_id** – (optional) User ID as an int.
- **note** – (optional) Note as a string.
- **pause\_message** – (optional) Pause message as a string (if currently paused).
- **build\_info** – (optional) Build info as a string.
- **tags** – (optional) Tags as a string list.
- **testcases** – (optional) Testcases as a string list.
- **options** – (optional) *results.Options* object

## Page

**class** `cdrouter.results.Page`

Named tuple for a page of list response data.

### Parameters

- **data** – *results.Result* list
- **links** – *cdrouter.Links* object

## TestCount

**class** `cdrouter.results.TestCount` (\*\*kwargs)

Model for CDRouter Test Counts.

### Parameters

- **name** – (optional) Name as a string.
- **count** – (optional) Count as an int.

## TestDuration

**class** `cdrouter.results.TestDuration` (\*\*kwargs)

Model for CDRouter Test Durations.

### Parameters

- **name** – (optional) Name as a string.
- **duration** – (optional) Duration as an int.

## ResultBreakdown

**class** `cdrouter.results.ResultBreakdown` (\*\*kwargs)  
Model for CDRouter Result Breakdowns.

### Parameters

- **passed** – (optional) Pass count as an int.
- **failed** – (optional) Fail count as an int.
- **skipped** – (optional) Skipped count as an int.

## TimeBreakdown

**class** `cdrouter.results.TimeBreakdown` (\*\*kwargs)  
Model for CDRouter Time Breakdowns.

### Parameters

- **passed** – (optional) Pass duration as an int.
- **failed** – (optional) Fail duration as an int.

## SetStats

**class** `cdrouter.results.SetStats` (\*\*kwargs)  
Model for CDRouter Result Set Stats.

### Parameters

- **frequent\_failures** – (optional) `results.TestCount` list
- **longest\_tests** – (optional) `results.TestDuration` list
- **result\_breakdown** – (optional) `results.ResultBreakdown` object
- **time\_breakdown** – (optional) `results.TimeBreakdown` object

## TestResultBreakdown

**class** `cdrouter.results.TestResultBreakdown` (\*\*kwargs)  
Model for CDRouter TestResult Breakdowns.

### Parameters

- **failed\_at\_least\_once** – (optional) `results.TestCount` list
- **passed\_every\_time** – (optional) `results.TestCount` list

## Progress

**class** `cdrouter.results.Progress` (\*\*kwargs)  
Model for CDRouter Result Progress.

### Parameters

- **finished** – (optional) Finished count as an int.
- **total** – (optional) Total count as an int.
- **progress** – (optional) Progress as an int.
- **unit** – (optional) Unit as a string.

## SingleStats

**class** `cdrouter.results.SingleStats` (\*\*kwargs)  
Model for CDRouter Single Results Stats.

### Parameters

- **result\_breakdown** – (optional) `results.ResultBreakdown` object
- **progress** – (optional) `results.Progress` object

## SummaryStats

**class** `cdrouter.results.SummaryStats` (\*\*kwargs)  
Model for CDRouter Summary Results Stats.

### Parameters

- **result\_breakdown** – (optional) `results.ResultBreakdown` object
- **test\_summaries** – (optional) `testresults.TestResult` list

## PackageCount

**class** `cdrouter.results.PackageCount` (\*\*kwargs)  
Model for CDRouter Package Counts.

### Parameters

- **package\_name** – (optional) Package name as a string.
- **count** – (optional) Count as an int.

## DeviceCount

**class** `cdrouter.results.DeviceCount` (\*\*kwargs)  
Model for CDRouter Device Counts.

### Parameters

- **device\_name** – (optional) Device name as a string.
- **count** – (optional) Count as an int.

## AllStats

**class** `cdrouter.results.AllStats` (\*\*kwargs)  
Model for CDRouter All Results Stats.

### Parameters

- **frequent\_packages** – (optional) `results.PackageCount` list
- **package\_names** – (optional) `results.PackageCount` list
- **frequent\_devices** – (optional) `results.DeviceCount` list
- **device\_names** – (optional) `results.DeviceCount` list

## Metric

**class** `cdrouter.results.Metric` (\*\*kwargs)  
Model for CDRouter Metrics.

### Parameters

- **log\_file** – (optional) Filepath to logfile as a string.
- **timestamp** – (optional) Timestamp for metric as a *DateTime*.
- **metric** – (optional) Metric name as a string.
- **value** – (optional) Metric value as a float.
- **units** – (optional) Metric units as a string.
- **result** – (optional) Metric result as a string.
- **interface\_1** – (optional) First interface as a string.
- **interface\_2** – (optional) Second interface as a string.
- **streams** – (optional) Stream count as an int.

## LogDirFile

**class** `cdrouter.results.LogDirFile` (\*\*kwargs)  
Model for CDRouter Logdir Files.

### Parameters

- **name** – (optional) Name as a string.
- **size** – (optional) Filesize as an int.
- **modified** – (optional) Last-updated time as a *DateTime*.

## Options

**class** `cdrouter.results.Options` (\*\*kwargs)  
Model for CDRouter Result Options.

### Parameters

- **tags** – (optional) Tags as string list.

- **skip\_tests** – (optional) Tests to skip as string list.
- **begin\_at** – (optional) Test name to begin testing at as string.
- **end\_at** – (optional) Test name to end testing at as string.
- **extra\_cli\_args** – (optional) Extra *cdrouter-cli* arguments as string.

## Update

**class** `cdrouter.results.Update` (\*\*kwargs)  
Model for CDRouter Result Update.

### Parameters

- **id** – (optional) Update ID as an int.
- **timestamp** – (optional) System time as *DateTime*.
- **progress** – (optional) *results.Progress* object
- **running** – (optional) *testresults.TestResult* object
- **updates** – (optional) *results.Result* and *testresults.TestResult* list

## Result

**class** `cdrouter.results.Result` (\*\*kwargs)  
Model for CDRouter Results.

### Parameters

- **id** – (optional) Result ID as an int.
- **created** – (optional) Creation time as *DateTime*.
- **updated** – (optional) Last-updated time as *DateTime*.
- **result** – (optional) Result as a string.
- **status** – (optional) Status as a string.
- **loops** – (optional) Loop count as an int.
- **tests** – (optional) Test count as an int.
- **passed** – (optional) Passed count as an int.
- **fail** – (optional) Failed count as an int.
- **duration** – (optional) Duration in seconds as an int.
- **size\_on\_disk** – (optional) Size on disk in bytes as an int.
- **starred** – (optional) Bool *True* if result is starred.
- **archived** – (optional) Bool *True* if result is archived.
- **result\_dir** – (optional) Filepath to result directory as a string.
- **agent\_name** – (optional) Agent name as a string.
- **package\_name** – (optional) Package name as a string.
- **device\_name** – (optional) Device name as a string.

- **config\_name** – (optional) Config name as a string.
- **package\_id** – (optional) Package ID as an int.
- **device\_id** – (optional) Device ID as an int.
- **config\_id** – (optional) Config ID as an int.
- **user\_id** – (optional) User ID as an int.
- **note** – (optional) Note as a string.
- **pause\_message** – (optional) Pause message as a string (if currently paused).
- **build\_info** – (optional) Build info as a string.
- **tags** – (optional) Tags as a string list.
- **testcases** – (optional) Testcases as a string list.
- **options** – (optional) *results.Options* object

## TestResults

### TestResultsService

**class** `cdrouter.testresults.TestResultsService` (*service*)

Service for accessing CDRouter TestResults.

**edit** (*resource*)

Edit a test result.

**Parameters** **resource** – *testresults.TestResult* object

**Returns** *testresults.TestResult* object

**Return type** *testresults.TestResult*

**get** (*id, seq*)

Get a test result.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

**Returns** *testresults.TestResult* object

**Return type** *testresults.TestResult*

**get\_log\_plaintext** (*id, seq*)

Get a test result's log as plaintext.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

**Return type** string

**iter\_list** (*id, \*args, \*\*kwargs*)

Get a list of test results. Whereas `list` fetches a single page of test results according to its `limit` and `page` arguments, `iter_list` returns all test results by internally making successive calls to `list`.

**Parameters**

- **id** – Result ID as an int.
- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** `testresults.TestResult` list

**iter\_list\_log** (*id, seq, \*args, \*\*kwargs*)

Get a test result's log. Whereas `list_log` fetches a single range of log lines according to its `limit` and `offset` arguments, `iter_list_log` returns all log lines by internally making successive calls to `list_log`.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **args** – Arguments that `list_log` takes.
- **kwargs** – Optional arguments that `list_log` takes.

**Returns** `testresults.Line` list

**list** (*id, filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of test results.

**Parameters**

- **id** – Result ID as an int.
- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** `testresults.Page` object

**list\_csv** (*id, filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of test results as CSV.

**Parameters**

- **id** – Result ID as an int.
- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Return type** string

**list\_log** (*id, seq, offset=None, limit=None, filter=None, packets=None, timestamp\_format=None*)

Get a test result's log.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **offset** – (optional) Offset within logfile to get.
- **limit** – (optional) Limit returned list length.
- **filter** – (optional) Filters to apply as a string list.
- **packets** – (optional) Set to bool *False* to omit packet logs.
- **timestamp\_format** – (optional) Timestamp format to use, must be string *long* or *short*.

Returns `testresults.Log` object

Return type `testresults.Log`

## TestResult

**class** `cdrouter.testresults.TestResult` (\*\*kwargs)  
Model for CDRouter TestResults.

### Parameters

- **id** – (optional) Result ID as an int.
- **seq** – (optional) TestResult sequence ID as an int.
- **loop** – (optional) Loop number as an int.
- **result** – (optional) Test result as string.
- **retries** – (optional) Retry count as int.
- **started** – (optional) Test start time as *DateTime*.
- **duration** – (optional) Test duration as int.
- **flagged** – (optional) *True* if test is flagged.
- **name** – (optional) Test name as string.
- **description** – (optional) Test description as string.
- **skip\_name** – (optional) Skip name for TestResult as string.
- **skip\_reason** – (optional) Skip reason for TestResult as string.
- **log** – (optional) Logfile path for TestResult as string.
- **note** – (optional) Note for TestResult as string.

## Page

**class** `cdrouter.testresults.Page`  
Named tuple for a page of list response data.

### Parameters

- **data** – `testresults.TestResult` list
- **links** – `cdrouter.Links` object

## Summary

**class** `cdrouter.testresults.Summary` (\*\*kwargs)  
Model for CDRouter Log Section Summaries.

### Parameters

- **errors** – (optional) Error log count as int.
- **fails** – (optional) Fail log count as int.
- **passes** – (optional) Pass log count as int.
- **warning** – (optional) Warning log count as int.

## Line

**class** `cdrouter.testresults.Line` (\*\*kwargs)  
Model for CDRouter Log Lines.

### Parameters

- **raw** – (optional) Raw log text as string.
- **line** – (optional) Line number as int.
- **header** – (optional) *True* if line is a header.
- **section** – (optional) *True* if line is a section.
- **prefix** – (optional) Log prefix as string.
- **name** – (optional) Log stack name as string.
- **timestamp** – (optional) Log timestamp as string.
- **message** – (optional) Log message as string.
- **interface** – (optional) Log interface as string (if packet log).
- **packet** – (optional) Log frame number as an int (if packet log).
- **src** – (optional) Log source address as string (if packet log).
- **dst** – (optional) Log destination address as string (if packet log).
- **proto** – (optional) Log protocol name as string (if packet log).
- **info** – (optional) Log protocol summary as string (if packet log).
- **summary** – (optional) `testresults.Summary` object (if section log)

## Log

**class** `cdrouter.testresults.Log` (\*\*kwargs)  
Model for CDRouter Log.

### Parameters

- **offset** – (optional) Zero-based offset in logfile as int.
- **limit** – (optional) Limit as int.
- **lines** – (optional) `testresults.Line` list

- **total** – (optional) Total line count as int.

## Annotations

### AnnotationsService

**class** `cdrouter.annotations.AnnotationsService` (*service*)  
Service for accessing CDRouter Annotations.

**create** (*id, seq, resource*)  
Create an annotation.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **resource** – `annotations.Annotation` object

**Returns** `annotations.Annotation` object

**Return type** `annotations.Annotation`

**create\_or\_edit** (*id, seq, resource*)  
Create or edit an annotation.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **resource** – `annotations.Annotation` object

**Returns** `annotations.Annotation` object

**Return type** `annotations.Annotation`

**delete** (*id, seq, line*)  
Delete an annotation.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **line** – Line number in TestResult's logfile as an int.

**edit** (*id, seq, resource*)  
Edit an annotation.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **resource** – `annotations.Annotation` object

**Returns** `annotations.Annotation` object

**Return type** `annotations.Annotation`

**get** (*id, seq, line*)

Get an annotation.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **line** – Line number in TestResult’s logfile as an int.

**Returns** `annotations.Annotation` object

**Return type** `annotations.Annotation`

**list** (*id, seq*)

Get a list of annotations.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

**Returns** `annotations.Annotation` list

## Annotation

**class** `cdrouter.annotations.Annotation` (*\*\*kwargs*)

Model for CDRouter Annotations.

**Parameters**

- **id** – (optional) Result ID as an int.
- **seq** – (optional) TestResult sequence ID as an int.
- **line** – (optional) Line number in TestResult’s logfile as an int.
- **comment** – (optional) Comment text as string.

## Captures

### CapturesService

**class** `cdrouter.captures.CapturesService` (*service*)

Service for accessing CDRouter Captures.

**ascii** (*id, seq, intf, filter=None, frame=None, inline=False*)

Get a capture’s ASCII (hex dump).

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.
- **filter** – (optional) PCAP filter to apply as string.
- **frame** – (optional) Frame number to decode.

- **inline** – (optional) Use inline version of capture file.

**Returns** `captures.ASCII` object

**Return type** `captures.ASCII`

**decode** (*id, seq, intf, filter=None, frame=None, inline=False*)

Get a capture's decode.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.
- **filter** – (optional) PCAP filter to apply as string.
- **frame** – (optional) Frame number to decode.
- **inline** – (optional) Use inline version of capture file.

**Returns** `captures.Decode` object

**Return type** `captures.Decode`

**download** (*id, seq, intf, inline=False*)

Download a capture as a PCAP file.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.
- **inline** – (optional) Use inline version of capture file.

**Return type** tuple (`io.BytesIO`, `'filename'`)

**get** (*id, seq, intf*)

Get a capture.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.

**Returns** `captures.Capture` object

**Return type** `captures.Capture`

**list** (*id, seq*)

Get a list of captures.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

**Returns** `captures.Capture` list

**send\_to\_cloudshark** (*id, seq, intf, inline=False*)

Send a capture to a CloudShark Appliance. Both `cloudshark_appliance_url` and `cloudshark_appliance_token` must be properly configured via system preferences.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.
- **inline** – (optional) Use inline version of capture file.

**Returns** `captures.CloudShark` object

**Return type** `captures.CloudShark`

**summary** (*id, seq, intf, filter=None, inline=False*)

Get a capture's summary.

**Parameters**

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **intf** – Interface name as string.
- **filter** – (optional) PCAP filter to apply as string.
- **inline** – (optional) Use inline version of capture file.

**Returns** `captures.Summary` object

**Return type** `captures.Summary`

## Capture

**class** `cdrouter.captures.Capture` (*\*\*kwargs*)

Model for CDRouter Captures.

**Parameters**

- **id** – (optional) Result ID as an int.
- **seq** – (optional) TestResult sequence ID as an int.
- **interface** – (optional) Interface name as string.
- **filename** – (optional) Path to capture file as string.

## Section

**class** `cdrouter.captures.Section` (*\*\*kwargs*)

Model for CDRouter Capture Sections.

**Parameters** **value** – (optional) Section value as a string.

## Structure

**class** `cdrouter.captures.Structure` (\*\*kwargs)  
Model for CDRouter Capture Structures.

**Parameters** `sections` – (optional) `captures.Section` list

## SummaryPacket

**class** `cdrouter.captures.SummaryPacket` (\*\*kwargs)  
Model for CDRouter Capture Summary Packets.

**Parameters** `sections` – (optional) `captures.Section` list

## Summary

**class** `cdrouter.captures.Summary` (\*\*kwargs)  
Model for CDRouter Capture Summaries.

### Parameters

- **structure** – (optional) `captures.Structure` object
- **summaries** – (optional) `captures.SummaryPacket` list

## Field

**class** `cdrouter.captures.Field` (\*\*kwargs)  
Model for CDRouter Capture Fields.

### Parameters

- **name** – (optional) Field name as string.
- **show\_name** – (optional) Either `true` or `false` as string.
- **hide** – (optional) Either `true` or `false` as string.
- **size** – (optional) Field size as string.
- **pos** – (optional) Field position as string.
- **show** – (optional) Either `true` or `false` as string.
- **fields** – (optional) `captures.Field` list
- **protos** – (optional) `captures.Proto` list

## Proto

**class** `cdrouter.captures.Proto` (\*\*kwargs)  
Model for CDRouter Capture Proto.

### Parameters

- **name** – (optional) Field name as string.
- **pos** – (optional) Field position as string.

- **show** – (optional) Either *true* or *false* as string.
- **show\_name** – (optional) Either *true* or *false* as string.
- **value** – (optional) Field value as string.
- **size** – (optional) Field size as string.
- **fields** – (optional) *captures.Field* list
- **protos** – (optional) *captures.Proto* list

## Packet

**class** `cdrouter.captures.Packet` (\*\*kwargs)  
Model for CDRouter Capture Packet.

**Parameters** **protos** – (optional) *captures.Proto* list

## Decode

**class** `cdrouter.captures.Decode` (\*\*kwargs)  
Model for CDRouter Capture Decode.

**Parameters** **packets** – (optional) *captures.Packet* list

## ASCIIByte

**class** `cdrouter.captures.ASCIIByte` (\*\*kwargs)  
Model for CDRouter Capture ASCII bytes.

**Parameters**

- **byte** – (optional) Byte value as string.
- **pos** – (optional) Byte position as int.

## ASCIILine

**class** `cdrouter.captures.ASCIILine` (\*\*kwargs)  
Model for CDRouter Capture ASCII lines.

**Parameters**

- **raw** – (optional) Raw line as string.
- **offset** – (optional) Line offset as string.
- **ascii** – (optional) *captures.ASCIIByte* list
- **hex** – (optional) *captures.ASCIIByte* list

## ASCIIFrame

**class** `cdrouter.captures.ASCIIFrame` (\*\*kwargs)  
Model for CDRouter Capture ASCII frame.

### Parameters

- **name** – (optional) Frame name as string.
- **lines** – (optional) `captures.ASCIILine` list

## ASCII

**class** `cdrouter.captures.ASCII` (\*\*kwargs)  
Model for CDRouter Capture ASCII.

### Parameters

- **frame** – (optional) `captures.ASCIIFrame` object
- **reassembled** – (optional) `captures.ASCIIFrame` object

## CloudShark

**class** `cdrouter.captures.CloudShark` (\*\*kwargs)  
Model for CDRouter CloudShark uploads.

**Parameters** **url** – (optional) CloudShark URL as a string.

## Highlights

### HighlightsService

**class** `cdrouter.highlights.HighlightsService` (*service*)  
Service for accessing CDRouter Highlights.

**create** (*id, seq, resource*)  
Create a highlight.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **resource** – `highlights.Highlight` object

**Returns** `highlights.Highlight` object

**Return type** `highlights.Highlight`

**create\_or\_edit** (*id, seq, resource*)  
Create or edit a highlight.

#### Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

- **resource** – *highlights.Highlight* object

Returns *highlights.Highlight* object

Return type *highlights.Highlight*

**delete** (*id, seq, line*)

Delete a highlight.

Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **line** – Line number in TestResult’s logfile as an int.

**edit** (*id, seq, resource*)

Edit a highlight.

Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **resource** – *highlights.Highlight* object

Returns *highlights.Highlight* object

Return type *highlights.Highlight*

**get** (*id, seq, line*)

Get a highlight.

Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.
- **line** – Line number in TestResult’s logfile as an int.

Returns *highlights.Highlight* object

**list** (*id, seq*)

Get a list of highlights.

Parameters

- **id** – Result ID as an int.
- **seq** – TestResult sequence ID as an int.

Returns *highlights.Highlight* list

## Highlight

**class** `cdrouter.highlights.Highlight` (\*\*kwargs)

Model for CDRouter Highlights.

Parameters

- **id** – (optional) Result ID as an int.
- **seq** – (optional) TestResult sequence ID as an int.
- **line** – (optional) Line number in TestResult’s logfile as an int.

- **color** – (optional) Highlight color as string.

## Imports

### ImportsService

**class** `cdrouter.imports.ImportsService` (*service*)  
Service for accessing CDRouter Imports.

**commit** (*id, impreq*)  
Commit a staged import.

**Parameters**

- **id** – Staged import ID as an int.
- **impreq** – `imports.Request` object

**Returns** `imports.Request` object

**Return type** `imports.Request`

**delete** (*id*)  
Delete a staged import.

**Parameters** **id** – Staged import ID as an int.

**get** (*id*)  
Get a staged import.

**Parameters** **id** – Staged import ID as an int.

**Returns** `imports.Import` object

**Return type** `imports.Import`

**get\_commit\_request** (*id*)  
Get a commit request for a staged import.

**Parameters** **id** – Staged import ID as an int.

**Returns** `imports.Request` object

**Return type** `imports.Request`

**list** ()  
Get a list of staged (in-progress) imports.

**Returns** `imports.Import` list

**stage\_import\_from\_file** (*fd, filename='upload.gz'*)  
Stage an import from a file upload.

**Parameters**

- **fd** – File-like object to upload.
- **filename** – (optional) Filename to use for import as string.

**Returns** `imports.Import` object

**stage\_import\_from\_filesystem** (*filepath*)  
Stage an import from a filesystem path.

**Parameters** `filepath` – Local filesystem path as string.

**Returns** `imports.Import` object

**stage\_import\_from\_url** (`url`, `token=None`, `insecure=False`)

Stage an import from a URL to another CDRouter system.

**Parameters**

- `url` – URL to import as string.
- `token` – (optional) API token to use as string (may be required if importing from a CDRouter 10+ system).
- `insecure` – (optional) Allow insecure HTTPS connections if bool *True*.

**Returns** `imports.Import` object

## Import

**class** `cdrouter.imports.Import` (\*\*kwargs)

Model for CDRouter Staged Imports.

**Parameters**

- `id` – (optional) Staged import ID as an int.
- `user_id` – (optional) User ID as an int.
- `created` – (optional) Creation time as *DateTime*.
- `updated` – (optional) Last-updated time as *DateTime*.
- `archive` – (optional) Path to archive as string.
- `path` – (optional) Local filepath as string.
- `url` – (optional) URL to fetch as string.
- `insecure` – (optional) Allow insecure HTTPS connections if bool *True*.
- `size` – (optional) Size of import as int.

## Response

**class** `cdrouter.imports.Response` (\*\*kwargs)

Model for CDRouter Import Responses.

**Parameters**

- `imported` – (optional) Bool *True* if resource imported successfully.
- `id` – (optional) Resource ID as an int.
- `name` – (optional) Resource name as string.
- `message` – (optional) Response message as string.

## Resource

**class** `cdrouter.imports.Resource` (\*\*kwargs)  
Model for CDRouter Import Resources.

### Parameters

- **name** – (optional) Set to string to rename resource, leave empty to keep original
- **should\_import** – (optional) Bool *True* if resource should be imported.
- **existing\_id** – (optional) Contains ID as an int of existing resource which will be overwritten if *should\_import* is *True*.
- **response** – (optional) `imports.Response` object

## Request

**class** `cdrouter.imports.Request` (\*\*kwargs)  
Model for CDRouter Import Requests.

### Parameters

- **replace\_existing** – (optional) Bool *True* if existing resources should be overwritten.
- **configs** – (optional) Dict of strings to `imports.Resource` objects.
- **devices** – (optional) Dict of strings to `imports.Resource` objects.
- **packages** – (optional) Dict of strings to `imports.Resource` objects.
- **results** – (optional) Dict of strings to `imports.Resource` objects.

## Exports

### ExportsService

**class** `cdrouter.exports.ExportsService` (service)  
Service for accessing CDRouter Exports.

**bulk\_export** (*config\_ids=None, device\_ids=None, package\_ids=None, result\_ids=None, exclude\_captures=False*)  
Bulk export a set of configs, devices, packages and results.

### Parameters

- **config\_ids** – (optional) Int list of config IDs.
- **device\_ids** – (optional) Int list of device IDs.
- **package\_ids** – (optional) Int list of package IDs.
- **result\_ids** – (optional) Int list of result IDs.
- **exclude\_captures** – (optional) Exclude capture files if bool *True*.

**Return type** tuple (*io.BytesIO, 'filename'*)

## History

### HistoryService

**class** `cdrouter.history.HistoryService` (*service*)

Service for accessing CDRouter History.

**iter\_list** (\*args, \*\*kwargs)

Get a list of history entries. Whereas `list` fetches a single page of history entries according to its `limit` and `page` arguments, `iter_list` returns all history entries by internally making successive calls to `list`.

#### Parameters

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** `historys.History` list

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)

Get a list of history entries.

#### Parameters

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** `history.Page` object

## History

**class** `cdrouter.history.History` (\*\*kwargs)

Model for CDRouter History entries.

#### Parameters

- **user\_id** – (optional) User ID as an int.
- **created** – (optional) Entry creation time as *DateTime*.
- **resource** – (optional) Resource type as string.
- **id** – (optional) Resource ID as an int.
- **name** – (optional) Resource name as string.
- **action** – (optional) Action name as string.
- **description** – (optional) Resource description as string.

## Page

**class** `cdrouter.history.Page`  
Named tuple for a page of list response data.

### Parameters

- **data** – `history.History` list
- **links** – `cdrouter.Links` object

## System

### SystemService

**class** `cdrouter.system.SystemService` (*service*)  
Service for accessing CDRouter System.

**check\_for\_lounge\_upgrade** (*email, password*)  
Check the CDRouter Support Lounge for eligible upgrades using your Support Lounge email & password.

### Parameters

- **email** – CDRouter Support Lounge email as a string.
- **password** – CDRouter Support Lounge password as a string.

**Returns** `system.Release` object

**Return type** `system.Release`

**diagnostics** ()  
Get system diagnostics from `cdrouter-diag` output.

**Return type** string

**edit\_preferences** (*resource*)  
Edit preferences in `/usr/cdrouter-data/etc/config.yml`.

**Parameters** **resource** – `system.Preferences` object

**Returns** `system.Preferences` object

**Return type** `system.Preferences`

**get\_preferences** ()  
Get preferences from `/usr/cdrouter-data/etc/config.yml`.

**Returns** `system.Preferences` object

**Return type** `system.Preferences`

**hostname** ()  
Get system hostname.

**Return type** string

**info** ()  
Get system info from `cdrouter-cli -info` output.

**Return type** string

**interfaces** (*addresses=False*)

Get system interfaces.

**Parameters** **addresses** – (optional) If bool *True*, include interface addresses.

**Returns** *system.Interface* list

**latest\_lounge\_release** ()

Get the latest release of CDRouter from the CDRouter Support Lounge.

**Returns** *system.ReleaseLatest* object

**Return type** *system.ReleaseLatest*

**live** ()

Get CDRouter Live info from cdrouter-cli -live output.

**Return type** string

**lounge\_update\_license** ()

Download & install a license for your CDRouter system from the CDRouter Support Lounge.

**Returns** *system.Upgrade* object

**Return type** *system.Upgrade*

**lounge\_upgrade** (*email, password, release\_id*)

Download & install an upgrade from the CDRouter Support Lounge using your Support Lounge email & password. Please note that any running tests will be stopped.

**Parameters**

- **email** – CDRouter Support Lounge email as a string.
- **password** – CDRouter Support Lounge password as a string.
- **release\_id** – Release ID as an int.

**Returns** *system.Upgrade* object

**Return type** *system.Upgrade*

**manual\_update\_license** (*fd, filename='cdrouter.lic'*)

Update the license on your CDRouter system manually by uploading a .lic license from the CDRouter Support Lounge.

**Parameters**

- **fd** – File-like object to upload.
- **filename** – (optional) Filename to use for license as string.

**Returns** *system.Upgrade* object

**Return type** *system.Upgrade*

**manual\_upgrade** (*fd, filename='cdrouter.bin'*)

Upgrade CDRouter manually by uploading a .bin installer from the CDRouter Support Lounge. Please note that any running tests will be stopped.

**Parameters**

- **fd** – File-like object to upload.
- **filename** – (optional) Filename to use for installer as string.

**Returns** *system.Upgrade* object

**Return type** *system.Upgrade*

**restart ()**

Restart CDRouter web interface. Please note that any running tests will be stopped.

**space ()**

Get system disk space usage.

**Returns** *system.Space* object

**Return type** *system.Space*

**time ()**

Get system time.

**Return type** string

## Version

**class** `cdrouter.system.Version (**kwargs)`

Model for CDRouter Release Versions.

### Parameters

- **raw** – (optional) Raw version as string.
- **major** – (optional) Major version as int.
- **minor** – (optional) Minor version as int.
- **build** – (optional) Build version as int.

## ReleaseLatest

**class** `cdrouter.system.ReleaseLatest (**kwargs)`

Model for CDRouter Latest Releases.

### Parameters

- **latest** – (optional) *system.Version* object.
- **current** – (optional) *system.Version* object.
- **newer** – (optional) Bool *True* if newer release available.

## Testsuite

**class** `cdrouter.system.Testsuite (**kwargs)`

Model for CDRouter Testsuite names.

### Parameters

- **shortname** – (optional) Brief testsuite name as string.
- **name** – (optional) Full testsuite name as string.

## Release

**class** `cdrouter.system.Release` (\*\*kwargs)  
Model for CDRouter Releases.

### Parameters

- **build\_date** – (optional) Build date as string.
- **filename** – (optional) Installer filename as string.
- **version** – (optional) `system.Version` object
- **id** – (optional) Release ID as int.
- **article\_id** – (optional) Release article ID as int.
- **testsuite** – (optional) `system.Testsuite` object

## Upgrade

**class** `cdrouter.system.Upgrade` (\*\*kwargs)  
Model for CDRouter Upgrades.

### Parameters

- **success** – (optional) Bool *True* if successful.
- **installer** – (optional) Installer filename as string.
- **output** – (optional) Output as string.
- **error** – (optional) Error output as string.

## InterfaceFlags

**class** `cdrouter.system.InterfaceFlags` (\*\*kwargs)  
Model for CDRouter Interface Flags.

### Parameters

- **up** – (optional) Bool *True* if interface is up.
- **broadcast** – (optional) Bool *True* if interface is broadcasting.
- **loopback** – (optional) Bool *True* if interface is a loopback interface.
- **point\_to\_point** – (optional) Bool *True* if interface is a point-to-point interface.
- **multicast** – (optional) Bool *True* if interface is multicast.

## InterfaceAddr

**class** `cdrouter.system.InterfaceAddr` (\*\*kwargs)  
Model for CDRouter Interface Addresses.

### Parameters

- **network** – (optional) Interface network as a string.
- **address** – (optional) Interface address as a string.

## Interface

**class** `cdrouter.system.Interface` (\*\*kwargs)  
Model for CDRouter Interfaces.

### Parameters

- **index** – (optional) Interface index as an int.
- **mtu** – (optional) Interface MTU as an int.
- **name** – (optional) Interface name as a string.
- **hardware\_addr** – (optional) Interface hardware address as a string.
- **flags** – (optional) `system.InterfaceFlags` object
- **addresses** – (optional) `system.InterfaceAddr` list
- **multicast\_addresses** – (optional) `system.InterfaceAddr` list

## Preferences

**class** `cdrouter.system.Preferences` (\*\*kwargs)  
Model for CDRouter Preferences.

### Parameters

- **automatic\_logic** – (optional) Bool *True* if Automatic Login is enabled.
- **cloudshark\_appliance\_autotags** – (optional) CloudShark Appliance autotags as a string.
- **cloudshark\_appliance\_insecure** – (optional) String *yes* if insecure CloudShark Appliance URLs are allowed.
- **cloudshark\_appliance\_password** – (optional) CloudShark Appliance password as a string.
- **cloudshark\_appliance\_tags** – (optional) CloudShark Appliance tags as a string.
- **cloudshark\_appliance\_token** – (optional) CloudShark Appliance API token as a string.
- **cloudshark\_appliance\_url** – (optional) CloudShark Appliance URL as a string.
- **cloudshark\_appliance\_username** – (optional) CloudShark Appliance username as a string.
- **hostname** – (optional) CDRouter system's hostname as a string.
- **migrated** – (optional) Migrated resources as a string list.
- **port** – (optional) CDRouter's HTTP port as an int.
- **https** – (optional) CDRouter's HTTPS port as an int.
- **force\_https** – (optional) If string *yes*, redirect HTTP connections to CDRouter to HTTPS.
- **use\_cloudshark** – (optional) If string *yes*, use CloudShark Appliance for capture viewing.
- **log\_timestamp\_format** – (optional) Log timestamp format, must be string *short* or *long*.

- **editor\_keymap** – (optional) Config editor keymap, must be string *default*, *emacs* or *vim*.
- **lounge\_url** – (optional) CDRouter Support Lounge URL as a string.
- **lounge\_insecure** – (optional) If bool *True*, allow insecure HTTPS connections to the CDRouter Support Lounge.

## Space

**class** `cdrouter.system.Space` (\*\*kwargs)  
Model for CDRouter Disk Space Usage.

### Parameters

- **avail** – (optional) Available disk space as an int.
- **path** – (optional) Path to CDRouter’s data directory as a string.
- **pcent** – (optional) Percentage of disk space used as an int.
- **size** – (optional) Total disk space as an int.
- **unit** – (optional) Disk space units as a string, default is ‘bytes’.
- **used** – (optional) Used disk space as an int.

## Tags

### TagsService

**class** `cdrouter.tags.TagsService` (*service*)  
Service for accessing CDRouter Tags.

**delete** (*name*)  
Delete a tag.

**Parameters** **name** – Tag name as string.

**edit** (*resource*)  
Edit a tag.

**Parameters** **resource** – *tags.Tag* object

**Returns** *tags.Tag* object

**Return type** *tags.Tag*

**get** (*name*)  
Get a tag.

**Parameters** **name** – Tag name as string.

**Returns** *tags.Tag* object

**Return type** *tags.Tag*

**list** (*resource=None, sort=None*)  
Get a list of tags.

### Parameters

- **resource** – (optional) Restrict to given resource type as string.

- **sort** – (optional) Sort fields to apply as string list.

**Returns** *tags.Tag* list

## Tag

**class** `cdrouter.tags.Tag` (\*\*kwargs)  
Model for CDRouter Tags.

### Parameters

- **resource** – (optional) Resource type as string.
- **id** – (optional) Resource ID as an int.
- **name** – (optional) Resource name as string.
- **count** – (optional) Resource tag count as an int.
- **tags** – (optional) Resource tags as a string list.
- **configs** – (optional) *tags.ResourceTags* list
- **devices** – (optional) *tags.ResourceTags* list
- **packages** – (optional) *tags.ResourceTags* list
- **results** – (optional) *tags.ResourceTags* list

## ResourceTags

**class** `cdrouter.tags.ResourceTags` (\*\*kwargs)  
Model for CDRouter Resource Tags.

### Parameters

- **id** – (optional) Resource ID as an int.
- **name** – (optional) Resource name as string.
- **tags** – (optional) Resource tags as a string list.

## Testsuites

### TestsuitesService

**class** `cdrouter.testsuites.TestsuitesService` (*service*)  
Service for accessing CDRouter Testsuites.

**get\_error** (*name*)  
Get an error.

**Parameters** **name** – Error name as string.

**Returns** *testsuites.Error* object

**Return type** *testsuites.Error*

**get\_group** (*name*)  
Get a group.

**Parameters** **name** – Group name as string.

**Returns** *testsuites.Group* object

**Return type** *testsuites.Group*

**get\_label** (*name*)

Get a label.

**Parameters** **name** – Label name as string.

**Returns** *testsuites.Label* object

**Return type** *testsuites.Label*

**get\_module** (*name*)

Get a module.

**Parameters** **name** – Module name as string.

**Returns** *testsuites.Module* object

**Return type** *testsuites.Module*

**get\_test** (*name*)

Get a test.

**Parameters** **name** – Test name as string.

**Returns** *testsuites.Test* object

**Return type** *testsuites.Test*

**get\_testvar** (*name*)

Get a testvar.

**Parameters** **name** – Testvar name as string.

**Returns** *testsuites.Testvar* object

**Return type** *testsuites.Testvar*

**info** ()

Get testsuite info.

**Returns** *testsuites.Info* object

**Return type** *testsuites.Info*

**list\_errors** (*filter=None, type=None, sort=None*)

Get a list of errors.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Error* list

**list\_groups** (*filter=None, type=None, sort=None*)

Get a list of groups.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.

- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Group* list

**list\_labels** (*filter=None, type=None, sort=None*)

Get a list of labels.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Label* list

**list\_modules** (*filter=None, type=None, sort=None*)

Get a list of modules.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Module* list

**list\_tests** (*filter=None, type=None, sort=None*)

Get a list of tests.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Test* list

**list\_testvars** (*filter=None, type=None, sort=None*)

Get a list of testvars.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.

**Returns** *testsuites.Testvar* list

**search** (*query*)

Perform full text search of testsuite.

**Parameters** **query** – Search query as a string.

**Returns** *testsuites.Search* object

**Return type** *testsuites.Search*

**update** ()

Update testsuite info.

## Info

**class** `cdrouter.testsuites.Info` (\*\*kwargs)  
Model for CDRouter Testsuite Info.

### Parameters

- **build\_info** – (optional) CDRouter build info as string.
- **copyright** – (optional) CDRouter copyright info as string.
- **customer** – (optional) Customer name from license as string.
- **lifetime** – (optional) License lifetime as string.
- **os** – (optional) OS name as string.
- **serial\_number** – (optional) NTA serial number as string.
- **system\_id** – (optional) CDRouter system ID as string.
- **testsuite** – (optional) CDRouter testsuite name as string.
- **release** – (optional) CDRouter release as string.
- **addons** – (optional) Enabled CDRouter addons as string list.
- **all\_addons** – (optional) All CDRouter addons as string list.

## Group

**class** `cdrouter.testsuites.Group` (\*\*kwargs)  
Model for CDRouter Groups.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as string.
- **index** – (optional) Index as int.
- **test\_count** – (optional) Test count as int.
- **modules** – (optional) Modules as string list.

## Module

**class** `cdrouter.testsuites.Module` (\*\*kwargs)  
Model for CDRouter Modules.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as string.
- **index** – (optional) Index as int.
- **group** – (optional) Group name as string.
- **description** – (optional) Module description as string.
- **test\_count** – (optional) Test count as int.

- **tests** – (optional) Tests as string list.
- **labels** – (optional) Labels as string list.
- **aliases** – (optional) Aliases as string list.

## Test

**class** `cdrouter.testsuites.Test` (\*\*kwargs)  
Model for CDRouter Tests.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as string.
- **index** – (optional) Index as int.
- **group** – (optional) Group name as string.
- **module** – (optional) Module name as string.
- **synopsis** – (optional) Test synopsis as string.
- **description** – (optional) Test description as string.
- **labels** – (optional) Labels as string list.
- **aliases** – (optional) Aliases as string list.
- **testvars** – (optional) Testvars as string list.
- **skip\_name** – (optional) Skip name as string.
- **skip\_reason** – (optional) Skip reason as string.

## Label

**class** `cdrouter.testsuites.Label` (\*\*kwargs)  
Model for CDRouter Skip Labels.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as string.
- **index** – (optional) Index as int.
- **reason** – (optional) Skip reason as string.
- **description** – (optional) Description as string.
- **modules** – (optional) Modules as string list.
- **tests** – (optional) Tests as string list.

## Error

`class` `cdrouter.testsuites.Error` (*\*\*kwargs*)  
Model for CDRouter Start Errors.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as string.
- **index** – (optional) Index as int.
- **description** – (optional) Description as string.

## Testvar

`class` `cdrouter.testsuites.Testvar` (*\*\*kwargs*)  
Model for CDRouter Start Errors.

### Parameters

- **id** – (optional) Testsuite ID as an int.
- **name** – (optional) Name as a string.
- **index** – (optional) Index as an int.
- **humanname** – (optional) Human-readable name as a string.
- **display** – (optional) Display name as a string.
- **dataclass** – (optional) Data-type as a string.
- **addedin** – (optional) Added-in info as a string.
- **deprecatedin** – (optional) Deprecated-in info as a string.
- **obsoletedin** – (optional) Obsoleted-in info as a string.
- **min** – (optional) Minimum value as a string.
- **max** – (optional) Maximum value as a string.
- **length** – (optional) Required length as a string.
- **description** – (optional) Description as a string.
- **default** – (optional) Default value as a string.
- **defaultdisabled** – (optional) Bool *True* if testvar has no default value.
- **dyndefault** – (optional) Bool *True* if testvar’s default value is dynamically calculated.
- **keywords** – (optional) Accepted values as a string list.
- **alsoaccept** – (optional) Also-accepted values as a string list.
- **wildcard** – (optional) Bool *True* if testvar is a wildcard testvar.
- **instances** – (optional) Number of allowed wildcard instances as an int.
- **parent** – (optional) Parent wildcard testvar name as a string.
- **children** – (optional) Child testvars as a string list.
- **tests** – (optional) Test names as a string list.

## Search

**class** `cdrouter.testsuites.Search` (*\*\*kwargs*)  
Model for CDRouter Testsuite Searches.

### Parameters

- **addons** – (optional) `testsuites.Group` list
- **modules** – (optional) `testsuites.Module` list
- **tests** – (optional) `testsuites.Test` list
- **reasons** – (optional) `testsuites.Label` list
- **errors** – (optional) `testsuites.Error` list
- **testvars** – (optional) `testsuites.Testvar` list

## Users

### UserService

**class** `cdrouter.users.UserService` (*service*)  
Service for accessing CDRouter Users.

**bulk\_copy** (*ids*)  
Bulk copy a set of users.

**Parameters** **ids** – Int list of user IDs.

**Returns** `users.User` list

**bulk\_delete** (*ids=None, filter=None, type=None, all=False*)  
Bulk delete a set of users.

### Parameters

- **ids** – (optional) Int list of user IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**bulk\_edit** (*\_fields, ids=None, filter=None, type=None, all=False*)  
Bulk edit a set of users.

### Parameters

- **\_fields** – `users.User` object
- **ids** – (optional) Int list of user IDs.
- **filter** – (optional) String list of filters.
- **type** – (optional) *union* or *inter* as string.
- **all** – (optional) Apply to all if bool *True*.

**change\_password** (*id, new, old=None, change\_token=True*)  
Change a user's password.

**Parameters**

- **id** – User ID as an int.
- **new** – New password as string.
- **old** – (optional) Old password as string (required if performing action as non-admin).
- **change\_token** – (optional) If bool *True*, also generate a new API token for user.

**Returns** *users.User* object

**Return type** *users.User*

**change\_token** (*id*)

Change a user's token.

**Parameters** **id** – User ID as an int.

**Returns** *users.User* object

**Return type** *users.User*

**create** (*resource*)

Create a new user.

**Parameters** **resource** – *users.User* object

**Returns** *users.User* object

**Return type** *users.User*

**delete** (*id*)

Delete a user.

**Parameters** **id** – User ID as an int.

**edit** (*resource*)

Edit a user.

**Parameters** **resource** – *users.User* object

**Returns** *users.User* object

**Return type** *users.User*

**get** (*id*)

Get a user.

**Parameters** **id** – User ID as an int.

**Returns** *users.User* object

**Return type** *users.User*

**get\_by\_name** (*name*)

Get a user by name.

**Parameters** **name** – User name as string.

**Returns** *users.User* object

**Return type** *users.User*

**iter\_list** (*\*args, \*\*kwargs*)

Get a list of users. Whereas *list* fetches a single page of users according to its *limit* and *page* arguments, *iter\_list* returns all users by internally making successive calls to *list*.

**Parameters**

- **args** – Arguments that `list` takes.
- **kwargs** – Optional arguments that `list` takes.

**Returns** `users.User` list

**list** (*filter=None, type=None, sort=None, limit=None, page=None*)  
Get a list of users.

**Parameters**

- **filter** – (optional) Filters to apply as a string list.
- **type** – (optional) *union* or *inter* as string.
- **sort** – (optional) Sort fields to apply as string list.
- **limit** – (optional) Limit returned list length.
- **page** – (optional) Page to return.

**Returns** `users.Page` object

## User

**class** `cdrouter.users.User` (\*\*kwargs)  
Model for CDRouter Users.

**Parameters**

- **id** – (optional) User ID as an int.
- **admin** – (optional) Bool *True* if user is an administrator.
- **disabled** – (optional) Bool *True* if user is disabled.
- **name** – (optional) User name as string.
- **description** – (optional) User description as string.
- **created** – (optional) User creation time as *DateTime*.
- **updated** – (optional) User last-updated time as *DateTime*.
- **token** – (optional) User's API token as string.

## Page

**class** `cdrouter.users.Page`  
Named tuple for a page of list response data.

**Parameters**

- **data** – `users.User` list
- **links** – `cdrouter.Links` object

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