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# **cdrouter.py Documentation**

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**QA Cafe**

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## Getting Started

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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/>.

### 1.1 Download & Install

cdrouter is available on PyPI.

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

### 1.2 Usage

First create a `CDRouter` object, passing it the URL of your CDRouter system, for example `http://localhost`, `https://cdrvouter.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
from cdrouter.jobs import Options
```

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```
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, Options(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 cdrouter can be found [here](#). Please see the *Reference* page for more information on available fields and methods for each class.

# CHAPTER 2

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## Reference

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Python client for the CDRouter Web API.

## 2.1 CDRouter

### 2.1.1 CDRouter

```
class cdrouter.CDRouter(base, token=None, username=None, password=None, _getuser=<function  
_getuser_default>, _getpass=<function _getpass_default>, retries=3, in-  
secure=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.

- **retries** – (optional) The number of times to authenticate with the CDRouter system before giving up as an int.
- **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
```

## 2.1.2 CDRouterError

```
class cdrouter.cdrouter.CDRouterError(*args, **kwargs)
```

Class for representing CDRouter Web API errors.

## 2.1.3 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.

## 2.1.4 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.

## 2.2 Filters

### 2.2.1 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`

## 2.3 Configs

### 2.3.1 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*

## 2.3.2 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.

## 2.3.3 Page

**class** cdrouter.configs.Page

Named tuple for a page of list response data.

**Parameters**

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

### 2.3.4 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.

### 2.3.5 CheckConfig

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

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

### 2.3.6 UpgradeConfig

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

#### Parameters

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

### 2.3.7 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.

### 2.3.8 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.

## 2.4 Devices

### 2.4.1 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

## 2.4.2 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

### 2.4.3 Page

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

    Parameters
        • data – devices.Device list
        • links – cdrouter.Links object
```

## 2.5 PowerCmd

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

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

## 2.6 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.
```

## 2.7 Attachments

### 2.7.1 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*')

## 2.7.2 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.

## 2.7.3 Page

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

Named tuple for a page of list response data.

**Parameters**

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

## 2.8 Jobs

### 2.8.1 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

## 2.8.2 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.
- **config\_id** – (optional) Config ID as an int.
- **config\_name** – (optional) Config 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*.
- **automatic** – (optional) Bool *True* if job scheduled automatically *DateTime*.
- **run\_at** – (optional) Job scheduled run-time *DateTime*.

## 2.8.3 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.

## 2.8.4 Page

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

### Parameters

- **data** – jobs.Job list
- **links** – cdrouter.Links object

## 2.9 Packages

### 2.9.1 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

**testlist\_expanded**(*id*)

Get a list of all tests in a package, with any addons, modules or testlists expanded.

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

**Return type** string list

## 2.9.2 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.
- **schedule** – (optional) packages.Schedule object

### 2.9.3 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.

### 2.9.4 Schedule

```
class cdrouter.packages.Schedule(**kwargs)
```

Model for CDRouter Package Schedule.

#### Parameters

- **enabled** – (optional) Bool *True* if schedule is enabled.
- **spec** – (optional) Cron spec schedule as a string.
- **options** – (optional) results.Options object

### 2.9.5 Page

```
class cdrouter.packages.Page
```

Named tuple for a page of list response data.

#### Parameters

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

## 2.9.6 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.

## 2.10 Results

### 2.10.1 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.

**diff\_stats** (*ids*)

Compute diff stats for a set of results.

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

**Returns** *results.DiffStats* object

**Return type** *results.DiffStats*

**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.
- **metric** – 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`

## 2.10.2 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

### 2.10.3 Page

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

#### Parameters

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

### 2.10.4 TestCount

```
class cdrouter.results.TestCount(**kwargs)  
    Model for CDRouter Test Counts.
```

#### Parameters

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

### 2.10.5 TestDuration

```
class cdrouter.results.TestDuration(**kwargs)  
    Model for CDRouter Test Durations.
```

#### Parameters

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

### 2.10.6 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.

### 2.10.7 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.

## 2.10.8 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

## 2.10.9 TestResultSummary

```
class cdrouter.results.TestResultSummary(**kwargs)
    Model for CDRouter TestResult summaries.
```

### Parameters

- **id** – (optional) Result ID as an int.
- **seq** – (optional) TestResult sequence ID as an int.
- **result** – (optional) Test result as string.
- **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.

## 2.10.10 TestResultDiff

```
class cdrouter.results.TestResultDiff(**kwargs)
    Model for CDRouter TestResult diffs.
```

### Parameters

- **name** – (optional) Test name as a string.
- **summaries** – (optional) results.TestResultSummary list

## 2.10.11 DiffStats

```
class cdrouter.results.DiffStats(**kwargs)
    Model for CDRouter Result Diff Stats.
```

**Parameters** **tests** – (optional) results.TestResultDiff list

## 2.10.12 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

## 2.10.13 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.

## 2.10.14 SingleStats

```
class cdrouter.results.SingleStats(**kwargs)
```

Model for CDRouter Single Results Stats.

### Parameters

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

## 2.10.15 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

## 2.10.16 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.

## 2.10.17 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.

## 2.10.18 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

## 2.10.19 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.

## 2.10.20 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*.

## 2.10.21 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.

## 2.11 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

## 2.11.1 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

## 2.12 TestResults

### 2.12.1 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.

**Returns** 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`

## 2.12.2 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.

### 2.12.3 Page

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

#### Parameters

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

### 2.12.4 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.

### 2.12.5 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)

## 2.12.6 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.

## 2.13 Annotations

### 2.13.1 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

## 2.13.2 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.

## 2.14 Captures

### 2.14.1 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`

## 2.14.2 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.

### 2.14.3 Section

```
class cdroutercaptures.Section(**kwargs)
    Model for CDRouter Capture Sections.

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

### 2.14.4 Structure

```
class cdroutercaptures.Structure(**kwargs)
    Model for CDRouter Capture Structures.

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

### 2.14.5 SummaryPacket

```
class cdroutercaptures.SummaryPacket(**kwargs)
    Model for CDRouter Capture Summary Packets.

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

### 2.14.6 Summary

```
class cdroutercaptures.Summary(**kwargs)
    Model for CDRouter Capture Summaries.

    Parameters
        • structure – (optional) captures.Structure object
        • summaries – (optional) captures.SummaryPacket list
```

### 2.14.7 Field

```
class cdroutercaptures.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
```

## 2.14.8 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

## 2.14.9 Packet

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

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

## 2.14.10 Decode

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

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

## 2.14.11 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.

## 2.14.12 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

## 2.14.13 ASCIIFrame

```
class cdrouter.captures.ASCIIFrame(**kwargs)
```

Model for CDRouter Capture ASCII frame.

### Parameters

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

## 2.14.14 ASCII

```
class cdrouter.captures.ASCII(**kwargs)
```

Model for CDRouter Capture ASCII.

### Parameters

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

## 2.14.15 CloudShark

```
class cdrouter.captures.CloudShark(**kwargs)
```

Model for CDRouter CloudShark uploads.

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

## 2.15 Highlights

### 2.15.1 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

## 2.15.2 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.

## 2.16 Imports

### 2.16.1 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, username=None, password=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).
- **username** – (optional) API username to use as string (may be required if importing from a CDRouter 10+ system).
- **password** – (optional) API password 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

## 2.16.2 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.

## 2.16.3 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.

## 2.16.4 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

## 2.16.5 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.
- **tags** – (optional) Tags to add to imported resources as string list.

## 2.17 Exports

### 2.17.1 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’)

## 2.18 History

### 2.18.1 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

### 2.18.2 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.

## 2.18.3 Page

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

    Parameters
        • data – history.History list
        • links – cdrouter.Links object
```

## 2.19 System

### 2.19.1 SystemService

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

    check_for_lounge_upgrade(email)
        Check the CDRouter Support Lounge for eligible upgrades using your Support Lounge email.

            Parameters email – CDRouter Support Lounge email 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, nonce)**  
Download & install an upgrade from the CDRouter Support Lounge using your Support Lounge email and upgrade nonce. Please note that any running tests will be stopped.

**Parameters**

- **email** – CDRouter Support Lounge email as a string.
- **nonce** – Upgrade nonce from `system.Release`.

**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

## 2.19.2 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.

## 2.19.3 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.

## 2.19.4 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.

## 2.19.5 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

- **testsuite** – (optional) `system.Testsuite` object
- **nonce** – (optional) Upgrade nonce as string.

## 2.19.6 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.

## 2.19.7 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.

## 2.19.8 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.

## 2.19.9 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

## 2.19.10 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.

## 2.19.11 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.

## 2.20 Tags

### 2.20.1 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

## 2.20.2 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

## 2.20.3 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.

## 2.21 Testsuites

### 2.21.1 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.

## 2.21.2 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.

## 2.21.3 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.

## 2.21.4 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.

## 2.21.5 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.

## 2.21.6 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.

## 2.21.7 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.

## 2.21.8 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.

## 2.21.9 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

## 2.22 Users

### 2.22.1 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

## 2.22.2 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.

## 2.22.3 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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