idoitAPI

Release 0.5.1

x84net

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 $\mathbf{idoit}\mathbf{API}$ is a Python Class to access the i-doit JSON-RPC API .

Note: This project is work in progress.

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ONE

INDICES AND TABLES

• genindex

CHAPTER

TWO

IDOITAPI

class idoit.**IdoitAPI**(base_url, verify, language, username=None, password=None, apikey=None)

Python3 class to access i-doit JSON-RPC API

API methods - Namespace idoit:

Methods currently available in the i-doit JSON-RPC API

- idoit.search Implemented
- idoit.version Implemented
- idoit.constants Implemented
- idoit.login Implemented
- idoit.logout Implemented

API methods - Namespace cmdb:

Methods currently available in the i-doit JSON-RPC API

- cmdb.object.create Implemented
- cmdb.object.read Implemented
- cmdb.object.update Implemented
- cmdb.object.delete Implemented
- cmdb.object.recycle Implemented
- cmdb.object.archive Not implemented
- cmdb.object.purge Not implemented
- cmdb.object.markAsTemplate Not implemented
- cmdb.object.markAsMassChangeTemplate Not implemented
- cmdb.objects.read Implemented
- $\bullet \ \ cmdb. category. save \ \hbox{-} \ \ \textbf{Implemented}$
- cmdb.category.create Not Implemented
- cmdb.category.read Implemented
- cmdb.category.update Not implemented
- cmdb.category.delete Not implemented
- cmdb.category.quickpurge Implemented UNTESTED FIXXXME
- cmdb.category.purge Implemented

- cmdb.category.recycle Not implemented
- cmdb.category.archive Not implemented
- cmdb.dialog.read Implemented
- cmdb.dialog.create Not implemented
- cmdb.dialog.update Not implemented
- cmdb.dialog.delete Not implemented
- cmdb.reports.read Implemented

Parameters

- base_url str: Domain Name
- **verify** bool: Verify SSL Connection?
- language str: The Language your are using e.g. en or de
- username str: your Username can be left empty and set by environment variable IDOIT_USERNAME
- password str: your Password can be left empty and set by environment variable IDOIT PASSWORD
- apikey str: API Key for this i-doit instance can be left empty and set by environment variable IDOIT APIKEY

Raises

- requests.HTTPError Raised by requests lib.
- ValueError Raised when JSON-RPC PORT request returns not HTTP 200 statuscode.
- **SystemError** Raised when credentials are missing (username, password or apikey).

log_json_request

bool: Set to *True* to log JSON requests send to i-doit.

_api_login()

Login into i-doit and set session ID for later use

• Uses: idoit.login

api_logout()

Terminate active session to i-doit

• Uses: idoit.logout

copy_location(from_obj_id, to_obj_id)

Copy location from one object to another

Parameters

- **from_obj_id** int: Object ID of i-doit object to copy from
- to_obj_id int: Object ID of i-doit object to copy to

Returns

Dict with keys 'title', 'id', 'location_path' or raise exception as returned by get_location()

Create a new Object of a certain type

• Uses: cmdb.object.create

Parameters

- **obj_type** str: Object type constant to fetch.
- title str: Descriptive title of object.
- **status_id int**: CMDB status ID (planned, inoperative, etc.).
- category str: Category constant.
- **description** str: Description of object.
- **purpose** str: Purpose (constant?) of object (production, test, dev, etc.).
- categories dict: Categories to populate.

Some Object Types

- ??: int: 'C_OBJTYPE_PATCH_PANEL'
- 35: int: 'C_OBJTYPE_OPERATING_SYSTEM'
- 7: int: 'C_OBJTYPE_ROUTER'
- 6: int: 'C_OBJTYPE_SWITCH'
- 5: int: 'C_OBJTYPE_SERVER'

CMDB status IDs

- 1: int: planned
- 2: int: ordered
- 3: int: delivered
- 4: int: assembled
- 5: int: tested
- 6: int: in operation constant 'C__CMDB_STATUS__IN_OPERATION'
- 7: int: defect
- 8: int: under repair
- 9: int: delivered from repair
- 10: int: inoperative
- 11: int: stored constant 'C__CMDB_STATUS__STORED'
- 12: int: scrapped
- 15: int: swapped

Returns

JSON object of response or raise exception.

delete_object(obj_id, move_to='C__RECORD_STATUS__ARCHIVED', batch_request=False)

Delete an object from CMDB, per default delete = archived

• Uses: cmdb.object.delete

Parameters

- obj_id int: Object ID of i-doit object
- move_to str: Status constant to move to

Returns

JSON object of response or raise exception.

Status constants

- "C__RECORD_STATUS__ARCHIVED": str: Archived object
- "C__RECORD_STATUS__DELETED": str: Mark object as deleted

extract_contract_assignment(jsonrpc_response)

Extract contract assignment from response of json-rpc call to 'C_CATG_CONTRACT_ASSIGNMENT' :param jsonrpc_response: str: json-rpc response object

Returns

Dict with contract 'title' and 'id' if contract is set, else None

extract_general(jsonrpc_response)

Extract title, id, category, cmdb_status, description, purpose, tags from response of json-rpc call to 'C__CATG__GLOBAL' => to be used with get_general() :param obj_id: str: json-rpc response object

Returns

'title', 'id', 'category', 'cmdb_status', 'description', 'purpose', 'tag'

Return type

Dict with keys

extract_location(jsonrpc_response)

Extract title, location ID and path of location from response of json-rpc call to 'C_CATG_LOCATION' => to be used with get_location()

Parameters

jsonrpc_response - str: json-rpc response object

Returns

'title', 'id', 'location_path' or raise exception

Return type

Dict with keys

extract_service_assignment(jsonrpc_response)

Extract service assignment from response of json-rpc call to 'C__CATG__IT_SERVICE' :param json-rpc_response: str: json-rpc response object

Returns

Dict with contract 'title' and 'id' if service is set, else None

find_host_ip_serial(host=None, ip_addr=None, serial=None)

Query i-doit for a set of hostname, IP address and serial number in a single call.

Parameters

- host str: hostname to look for, might be empty
- ip str: ip address to look for, might be empty
- serial str: serial number to look for, might be empty

Returns

Dictionary with given host, IP, serial as keys and a list of object IDs with matching results as value. Only keys with search results will be present.

find_rack(r_title)

Query i-doit for an object type 'enclosure' with a given title :param r_title: str: Enclosure title

Returns

JSON object of response or raise exception.

get_all_firewalls()

Get a list of all devices in category Hardware->Firewall

• filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_all_loadbalancers()

Get a list of all devices in category Hardware->Loadbalancer

• filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_all_os()

Get a list of all available operating systems

- filter type 35 = OS
- filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_all_routers()

Get a list of all devices in category Hardware->Routers

• filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_all_servers()

Get a list of all devices in category Hardware->Servers

- filter type 5 = Server constant 'C_OBJTYPE_SERVER'
- filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_all_switches()

Get a list of all devices in category Hardware->Switches

• filter status 2 = Normal (not archived or deleted)

Returns

JSON object of response or raise exception.

get_category_from_object(obj_id, category, batch_request=False)

Read a certain category of an object

• Uses: cmdb.category.read

Parameters

- **obj_id** int: Object ID of i-doit object.
- category str: Category constant.

Returns

JSON object of response or raise exception.

get_category_hostaddress(batch_request=False)

get structure of category host address

Returns

JSON object of response or raise exception.

get_constants(batch_request=False)

Fetch defined constants from i-doit

• Uses: idoit.constants

Returns

JSON object of response or raise exception.

get_contact(obj_id)

Get category contact :param obj_id: int: Object ID of i-doit object to get contacts from

Returns

json rpc response

get_contract_assignment(obj_id, batch_request=False)

Get contract assignment from an object

Parameters

obj_id - int: Object ID of i-doit object

Returns

Dict with contract 'title' and 'id' if not batch_request

get_custom_category_info(cat_c_id, batch_request=False)

get structure of a certain custom category

Parameters

cat_c_id - str: Custom category constant

Returns

JSON object of response or raise exception.

get_dropdown_values(category, property_name, batch_request=False)

get values from drop down menus like manufacturer, model, CPU type etc. Use get_global_category_info(<category>) to find the property_name

get_filtered_objects(filter_dict, categories=None, batch_request=False)

Fetch a list of objects filtered by values in filter_dict and/or categories list

• Uses: cmdb.objects.read

Parameters

- **filter_dict** dict: Dictionary with keys to filter request
- categories str: List of Category constant(s).

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Returns

JSON object of response or raise exception.

get_general(obj_id, batch_request=False)

Get title, category, cmdb_status, description, purpose, tags from general :param obj_id: int: Object ID of i-doit object to get genreal information from

Returns

dict

get_global_category_info(cat_g_id, batch_request=False)

get structure of a certain global category

Parameters

cat_g_id - str: Global category constant

Returns

JSON object of response or raise exception.

get_idoit_version(batch_request=False)

Fetch information about i-doit and the current user

• Uses: idoit.version

Returns

JSON object of response or raise exception.

get_ipv4_address(obj_id, primary=True, fqdn=False)

Fetch IPv4 Address from object. Per default the 'primary_hostaddress' will be returned.

Parameters

- obj_id int: Object ID of i-doit object
- **primary** bool: When primery=False first match for 'hostaddress' will be returned.
- fqdn str: If fqdn is true a tupple (ip,fqdn) will be returned. fqdn might be 'None'!

Returns

'ip' and maybe 'hostname'

Return type

Dictionary with keys

get_location(obj_id, batch_request=False)

Get title, location ID and path of location from an object

Parameters

obj_id - int: Object ID of i-doit object

Returns

Dict with keys title, id, location_path or raise exception

get_object(obj_id, batch_request=False)

Read general informations of an object specified by it's ID

• Uses: cmdb.object.read

Parameters

obj_id - int: Object ID of i-doit object

Returns

JSON object of response or raise exception.

get_object_type_categories_by_obj_type(obj_type, batch_request=False)

Fetch all categories that belong to a certain object

Parameters

obj_type - str: Object type constant to fetch

Returns

JSON object of response or raise exception.

get_objects_by_type(obj_type, status=2, title=None, limit=None, batch_request=False)

Fetch a list of objects filtered by obj_type, title, limit

• Uses: cmdb.objects.read

Parameters

- **obj_type** int / str: Number or constant of object type
- **status int** default 2 = Normal (not archived or deleted)
- title str: Title of object
- limit int / str: default no limit, can be fixed or with offset

limit:

- 1000: int: get 1000 objects
- '1000, 1000': str: with offset, here get the next thousand object

Returns

JSON object of response or raise exception.

get_report(rep_id)

Get the results of a predefined report

Parameters

rep_id – int: ID of the predefined report

Returns

JSON object of response or raise exception.

get_service_assignment(obj_id, batch_request=False)

Get service assignment from an object

Parameters

obj_id - int: Object ID of i-doit object

Returns

Dict with contract 'title' and 'id' if not batch_request

get_specific_category_info(cat_s_id, batch_request=False)

get structure of a certain specific category

Parameters

cat_s_id - str: Specific category constant

Returns

JSON object of response or raise exception.

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get_version()

Get version of this class

purge_object(obj_id, category, entry, batch_request=False)

Purge category entry of an object from CMDB, for example ip entries from category host address

• Uses: cmdb.category.purge

Parameters

- obj_id int: Object ID of i-doit object
- category str: Category constant
- entry int: Entry identificator

Returns

JSON object of response or raise exception.

quickpurge_object(obj_id, category, cat_e_id, batch_request=False)

UNTESTED FIXXXME - Purge category entry of an object from CMDB - if quickpurge is active

• Uses: cmdb.category.quickpurge

Parameters

- obj_id int: Object ID of i-doit object
- category str: Category constant
- cat_e_id int: Entry identificator

Returns

JSON object of response or raise exception.

recycle_object(obj_id, batch_request=False)

Move object from archived or deleted back to normal

• Uses: cmdb.object.recycle

Parameters

```
obj_id – int: Object ID of i-doit object
```

Returns

JSON object of response or raise exception.

remove_all_ip_addresses(obj_id)

remove all ip entrys from object :param obj_id: int: Object ID of i-doit object to remove IPs from

Returns

```
'entry_id', 'ip', 'hostname', 'domain', 'is_primary'
```

Return type

List of dicts with keys

remove_ip_entry(obj_id, ip_address)

remove given ip entry from object :param obj_id: int: Object ID of i-doit object to remove IPs from :param ip_address: str: IP to remove

Returns

json rpc response

search_text(text, batch_request=False)

Simple search - like in i-doit top right

• Uses: idoit.search

Parameters

text – str: Text to search for.

Returns

JSON object of response or raise exception.

send_batch()

Submit the currently queued requests and clear the list of queued requests.

Returns

Tuple with result of batch request, batch list that has been send and dictionary with keys = JSON-RPC request ID.

send_rpc(method, params_dict, header=None, batch_request=False)

Generic method to send json-rpc call to server. Only set method and method specific params. Parameters like **apikey** and **language** etc will be added.

Parameters

- method dict: JSON-RPC method to use
- params_dict dict: Method specific parameters.
- header dict: Header if other than default needs to be used.

Returns

JSON object of response or raise exception.

send_rpc_d(data, batch=False)

Generic method to send json-rpc call to server

Parameters

- data dict: supply your own data dictionary
- batch bool: RPC call is batch request.

Returns

JSON object of response or raise exception or when batch is True dictionary with object IDs as keys.

set_contract_assignment(obj_id, contract_id, batch_request=False)

Set contract assignment from an object

Parameters

- **obj_id** int: Object ID of i-doit object
- **contract_id int**: Contract ID of contract to assign

Returns

Dict with contract 'title' and 'id' if not batch_request

set_general(obj_id, g_dict, batch_request=False)

Set 'title', 'category', 'cmdb_status', 'description', 'purpose', 'tags' from dict in general

Parameters

• **obj_id** – int: Object ID of i-doit object to get contacts from

• **g_dict** – dict: Dictionary with vales to set, purpose and tags might be empty 'category', 'purpose' and 'tags' are not set if None

Purpose IDs

'1': int: Produktion'2': int: Integration

CMDB status IDs

1: int: planned6: int: in operation10: int: inoperative11: int: stored

Returns

json rpc response

set_ipv4_address(*obj_id*, *dev_ip*, *is_primary=False*, *hostname=None*, *fqdn=None*, *batch_request=False*)
Set IPv4 addess and / or hostname, fqdn

Parameters

- **obj_id** int: Object ID of i-doit object to get contacts from
- dev_ip str: IP address to set
- is_primary bool: set to True if this is the primary address / hostname
- hostname str: hostname to set
- fqdn str: fqdn to set

Returns

json rpc response

set_location(obj_id, location_id, batch_request=False)

Set location path of an object

Parameters

- obj_id int: Object ID of i-doit object
- **location_id** int: Location ID from extract location()[1]

Returns

json rpc response

set_service_assignment(obj_id, service_id, batch_request=False)

Set service assignment from an object

Parameters

- obj_id int: Object ID of i-doit object
- service_id int: Service ID of service to assign

Returns

json rpc response

 ${\bf update_cmdb_status}(obj_id, status_id, batch_request \!\!=\!\! False)$

Update CMDB Status of an Object - status IDs are listed in create_object_by_type()

Parameters

• **obj_id** – int: Object ID of i-doit object.

• **status_id** – int: CMDB status ID (planned, inoperative, etc.).

Returns

JSON object of response or raise exception.

update_object_category(obj_id, category, data_dict, batch_request=False)

Update some entries of an object in a certain category.

• Uses: cmdb.category.save

Parameters

- **obj_id** int: Object ID of i-doit object.
- category str: Category constant.
- data_dict dict: Dict with entries to update.

Returns

JSON object of response or raise exception.

update_object_category_entry(obj_id, category, entry_id, data_dict, batch_request=False)

Update an entry in a category of an object.

• Uses: cmdb.category.save

Parameters

- **obj_id** int: Object ID of i-doit object.
- category str: Category constant.
- **entry_id int**: ID of entry to be updated.
- data_dict dict: Dict with entries to update.

Returns

JSON object of response or raise exception.

update_object_title(obj_id, title, batch_request=False)

Update the title of a certain object

• Uses: cmdb.object.update

Parameters

- **obj_id** int: Object ID of i-doit object.
- title str: Descriptive title of object.

Returns

JSON object of response or raise exception.

CHAPTER

THREE

MODULES

3.1 idoitSettings

A dict which should be named **settings** as configuration file for a specific i-doit instance. Pass it as **parameter** when creating a new object from this class.

```
username ``str``
    your Username

password ``str``
    your Password

apikey ``str``
    API Key for this i-doit instance

base_url ``str``
    Domain Name

verify ``bool``
    Verify SSL Connection?

language ``str``
    The Language your are using e.g. en or de
```

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CHAPTER

FOUR

EXAMPLES

4.1 Example_add_new_switch.py

Example-Script for i-doit API class - add a new switch to idoit / create new switch object

4.2 Example_connect_ports.py

Example-Script for i-doit API class - Connecting and / or creating ports

4.3 Example_Constants.py

Example-Script for i-doit API class - Display all available constants from idoit (Method cmdb.constants)

- show structure of one of the global categories (Method cmdb.category_info)
- show structure of one of the specific categories (Method cmdb.category_info)
- show structure of one of the custom categories (Method cmdb.category_info)
- show a certain category of an specific object (Method cmdb.category.read)

4.4 Example_create_panel_1ru_24x_rj45.py

```
Example-Script for i-doit API class - Create 19' Patchpanel with height 1RU and 24x RJ45 Ports
```

```
examples.Example_create_panel_1ru_24x_rj45.create_panel_1ru_24x_rj45_new(pan_title, prefix_in, in_start_nr, prefix_out, out_start_nr)
```

Create 19' Patchpanel with height 1RU and 24x RJ45 Ports

Parameters

- pan_title str: Name of patchpanel
- **prefix_in** str: Prefix of input port
- in_start_nr int: Number of first input port
- prefix_out str: Prefix of output port

• out_start_nr - int: Number of first output port

Returns

Object ID of new panel.

4.5 Example_find_name_ip_serial.py

Example-Script for i-doit API class - Demo usage of method find_host_ip_serial()

4.6 Example List Switch Info.py

Example-Script for i-doit API class - Demo usage of method get_all_switches()

- get all switches which are in operation ('cmdb_status_title': 'In Betrieb', 'cmdb_status': 6)
- list: Title, ObjID, Hostname, Domain and IP (address informations from category C_CATG_IP)

4.7 Example_read_CDMB_status_of_device.py

Example-Script for i-doit API class - Query CMDB status of a device

4.8 Example_Request_grouping.py

Example-Script for i-doit API class - group multiple JSON requests in one HTTP call - batch requests

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