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# **odoo\_rpc\_client Documentation**

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## 1.1 Overview

This is core part of [OpenERP Proxy](#)

This project is just **RPC client** for Odoo. This project provides interface similar to Odoo internal code to perform operations on **Odoo** objects hiding **XML-RPC** or **JSON-RPC** behind.

### 1.1.1 Features

- *Python 3.3+* support
- You can call any public method on any OpenERP / Odoo object including: *read, search, write, unlink* and others
- Have *a lot of speed optimizations* (caching, read only requested fields, read data for all records in current set (cache), by one RPC call, etc)
- Desinged to take as more benefits of **IPython autocomplete** as possible

- Provides *browse\_record* like interface, allowing to browse related models too. Supports *browse* method. Also adds method *search\_records* to simplify search-and-read operations.
- *Extension support*. You can easily modify most of components of this lib creating Your own extensions and plugins. It is really simple. See for examples in [openerp\\_proxy/ext/](#) directory.
- *Plugin Support*. Plugins are same as extensions, but aimed to implement additional logic. For example look at [odoo\\_rpc\\_client/plugins](#) and [odoo\\_rpc\\_client/plugin.py](#)
- Support of **JSON-RPC** for *version 8+* of Odoo
- Support of using **named parameters** in RPC method calls (server version 6.1 and higher).
- *Experimental* integration with [AnyField](#)
- Missed feature? fill and issue on [GitHub](#) or [GitLab](#)

### 1.1.2 Quick example

```
from odoo_rpc_client import Client

# assume that odoo server is listening localhost on standard 8069 port and
# have database 'my_db'.
client = Client('localhost', 'my_db', 'user', 'password')

# get current user
client.user
print(client.user.name)

# simple rpc calls
client.execute('res.partner', 'read', [user.partner_id.id])

# Model browsing
SaleOrder = client['sale.order']
s_orders = SaleOrder.search_records([])
for order in s_orders:
    print(order.name)
    for line in order.order_line:
        print("\t%s" % line.name)
    print("-" * 5)
    print()
```

### 1.1.3 Supported Odoo server versions

Tested with: - Odoo versions: 7.0, 8.0, 9.0, 10.0, 11.0, 12.0 - Python versions: 2.7, 3.3, 3.4, 3.5, 3.6, 3.7

## 1.2 Install

This project is present on [PyPI](#) so it could be installed via [PIP](#):

```
pip install odoo_rpc_client
```



## 1.3 Usage

### 1.3.1 Connect to server / database

The one difference between using as lib and using as shell is the way connection to database is created. When using as shell the primary object is session, which provides some interactivity. But when using as library in most cases there are no need for that interactivity, so connection should be created manually, providing connection data from some other sources like config file or something else.

So here is a way to create connection

```
from odoo_rpc_client import Client
db = Client(host='my_host.int',
            dbname='my_db',
            user='my_db_user',
            pwd='my_password here')
```

And next all there same, no more differences between shell and lib usage.

### 1.3.2 General usage

For example lets try to find how many sale orders in 'done' state we have in our database. (Look above sections to get help on how to connect to Odoo database)

```
>>> sale_order_obj = db['sale.order'] # or You may use 'db.get_obj('sale.order')' if
↳ You like
>>>
>>> # Now lets search for sale orders:
>>> sale_order_obj.search([('state', '=', 'done')], count=True)
5
```

So we have 5 orders in done state. So let's read them.

Default way to read data from Odoo is to search for required records with *search* method which return's list of IDs of records, then read data using *read* method. Both methods mostly same as Odoo internal ones:

```
>>> sale_order_ids = sale_order_obj.search([('state', '=', 'done')])
>>> sale_order_datas = sale_order_obj.read(sale_order_ids, ['name']) # Last argument
↳ is optional. # it describes
↳ list of fields to read # if it is not
↳ provided then all fields # will be read
>>> sale_order_datas[0]
{'id': 3,
 'name': 'SO0004'
}
```

As we see reading data in such way allows us to get list of dictionaries where each contain fields have been read

Another way to read data is to use *search\_records* or *read\_records* method. Each of these methods receives same arguments as search or read method respectively. But passing count argument for search\\_records will cause error. Main difference between these methods in using *Record* class instead of *dict* for each record had been read. Record class provides some orm-like abilities for records, allowing for example access fields as attributes and provide mechanisms to lazily fetch related fields.

```
>>> sale_orders = sale_order_obj.search_records([('state', '=', 'done')])
>>> sale_orders[0]
R(sale.order, 9)[SO0011]
>>>
>>> # So we have list of Record objects. Let's check what they are
>>> so = sale_orders[0]
>>> so.id
9
>>> so.name
SO0011
>>> so.partner_id
R(res.partner, 9)[Better Corp]
>>>
>>> so.partner_id.name
Better Corp
>>> so.partner_id.active
True
```

## 1.4 Additional features

### 1.4.1 Plugins

In version 0.4 plugin system was completely refactored. At this version we start using `extend_me` library to build extensions and plugins easily.

Plugins are usual classes that provides functionality that should be available at `db.plugins.*` point, implementing logic not related to core system.

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For more information see [source code](#) and [documentation](#)

## 2.1 odoo\_rpc\_client Package

### 2.1.1 client Module

This module provides some classes to simplify access to Odoo server via xmlrpc.

Example usage of this module

```
>>> cl = Client('server.com', 'dbname', 'some_user', 'mypassword')
>>> sale_obj = cl['sale_order']
>>> sale_ids = sale_obj.search([('state','not in',['done','cancel'])])
>>> sale_data = sale_obj.read(sale_ids, ['name'])
>>> for order in sale_data:
...     print("%5s :    %s" % (order['id'],order['name']))
>>> product_tmpl_obj = cl['product.template']
>>> product_obj = cl['product.product']
>>> tpl_ids = product_tmpl_obj.search([('name','ilike','template_name')])
>>> print(product_obj.search([('product_tmpl_id','in',tpl_ids)]))

>>> db = Client('erp.host.com', 'dbname='db0', user='your_user')
>>> so = db['sale.order']
>>> order_ids = so.search([('state','=', 'done')])
>>> order = so.read(order_ids[0])
```

Also You can call any method (beside private ones starting with underscore(\_)) of any model. For example following code allows to check availability of stock moves:

```
>>> db = session.connect()
>>> move_obj = db['stock.move']
>>> move_ids = [1234] # IDs of stock moves to be checked
>>> move_obj.check_assign(move_ids)
```

Ability to use Record class as analog to browse\_record:

```

>>> move_obj = db['stock.move']
>>> move = move_obj.browse(1234)
>>> move.state
... 'confirmed'
>>> move.check_assign()
>>> move.refresh()
>>> move.state
... 'assigned'
>>> move.picking_id
... R('stock.picking', 12) ['OUT-12']
>>> move.picking_id.id
... 12
>>> move.picking_id.name
... 'OUT-12'
>>> move.picking_id.state
... 'assigned'

```

```

class odoo_rpc_client.client.Client(host, dbname=None, user=None, pwd=None,
                                     port=8069, protocol='xml-rpc', timeout=None, **ex-
                                     tra_args)

```

Bases: `extend_me.Extensible`

A simple class to connect to Odoo instance via RPC (XML-RPC, JSON-RPC) Should be initialized with following arguments:

#### Parameters

- **host** (*str*) – server host name to connect to
- **dbname** (*str*) – name of database to connect to
- **user** (*str*) – username to login as
- **pwd** (*str*) – password to log-in with
- **port** (*int*) – port number of server
- **protocol** (*str*) – protocol used to connect. To get list of available protocols call: `odoo_rpc_client.connection.get_connector_names()`
- **timeout** (*float*) – Connection timeout

any other keyword arguments will be directly passed to connector

Example:

```

>>> db = Client('host', 'dbname', 'user', pwd='Password')
>>> cl = Client('host')
>>> db2 = cl.login('dbname', 'user', 'password')

```

Allows access to Odoo objects / models via dictionary syntax:

```

>>> db['sale.order']
Object ('sale.order')

```

```

clean_caches()
    Clean client related caches

```

```

connect(**kwargs)
    Connects to the server

```

if any keyword arguments will be passed, new Proxy instance will be created using following algorithm: get init args from self instance and update them with passed keyword arguments, and call Proxy class constructor passing result as arguments.

**Note**, that if You pass any keyword arguments, You also should pass 'pwd' keyword argument with user password

**Returns** Id of user logged in or new Client instance (if kwargs passed)

**Return type** `intlClient`

**Raises** `LoginException` – if wrong login or password

#### **connection**

Connection to server.

**Return type** `odoo_rpc_client.connection.connection.ConnectorBase`

#### **database\_version**

Base database version ('8.0', '9.0', etc)

(Already parsed with `pkg_resources.parse_version`)

#### **database\_version\_full**

Full database base version ('9.0.1.3', etc)

(Already parsed with `pkg_resources.parse_version`)

#### **dbname**

Name of database to connect to

**Return type** `str`

#### **execute** (*obj, method, \*args, \*\*kwargs*)

Call method *method* on object *obj* passing all next positional and keyword (if available on server) arguments to remote method

Note that passing keyword arguments not available on OpenERP/Odoo server 6.0 and older

#### **Parameters**

- **obj** (*string*) – object name to call method for
- **method** (*string*) – name of method to call

**Returns** result of RPC method call

#### **execute\_wkf** (*object\_name, signal, object\_id*)

Triggers workflow event on specified object

#### **Parameters**

- **object\_name** (*string*) – send workflow signal for
- **signal** (*string*) – name of signal to send
- **object\_id** – ID of document (record) to send signal to

#### **classmethod from\_url** (*url*)

Create Client instance from URL

**Parameters** **url** (*str*) – url of Client

**Returns** Client instance

**Return type** `Client`

**get\_init\_args** ()

Returns dictionary with init arguments which can be safely passed to class constructor

**Return type** dict

**get\_obj** (*object\_name*)

Returns wrapper around Odoo object 'object\_name' which is instance of orm.object.Object class

**Parameters** **object\_name** – name of an object to get wrapper for

**Returns** instance of Object which wraps choosen object

**Return type** *odoo\_rpc\_client.orm.object.Object*

**get\_url** ()

Returns dabase URL

At this moment mostly used internaly in session

**host**

Server host

**Return type** str

**login** (*dbname, user, password*)

Login to database

Return new Client instance. (Just an aliase on connect method)

**Parameters**

- **dbname** (*str*) – name of database to connect to
- **user** (*str*) – username to login as
- **password** (*str*) – password to log-in with

**Returns** new Client instance, with specifed credentials

**Return type** *odoo\_rpc\_client.client.Client*

**plugins**

Plugins associated with this Client instance

**Return type** *odoo\_rpc\_client.plugin.PluginManager*

Usage examples:

```
db.plugins.module_utils      # access module_utils plugin
db.plugins['module_utils']    # access module_utils plugin
```

**port**

Server port

**protocol**

Server protocol

**Return type** str

**reconnect** ()

Recreates connection to the server and clears caches

**Returns** ID of user logged in

**Return type** int

**Raises** *ClientException* – if wrong login or password

**ref** (*xmlid*)

Return record for specified xmlid

**Parameters** **xmlid** (*str*) – string representing xmlid to get record for. xmlid must be *fully qualified* (with module name)

**Returns** Record for that xmlid or False

**Return type** *odoo\_rpc\_client.orm.record.Record*

**registered\_objects**

List of registered in Odoo database objects

**Return type** list

**server\_version**

Server base version ('8.0', '9.0', etc)

(Already parsed with `pkg_resources.parse_version`)

**services**

ServiceManager instance, which contains list of all available services for current connection.

**Return type** *odoo\_rpc\_client.service.service.ServiceManager*

Usage examples:

```
db.services.report      # report service
db.services.object     # object service (model related actions)
db.services.common     # used for login
                       # (db.services.common.login(dbname,
                       #                               username,
                       #                               password)
db.services.db         # database management service
```

**classmethod to\_url** (*inst, \*\*kwargs*)

Converts instance to url

**Parameters** **inst** (*Client/dict*) – instance to convert to init args

**Returns** generated URL

**Return type** str

**uid**

Returns ID of current user. if one is None, connects to database and returns it

**Return type** int

**user**

Current logged in user instance

**Return type** *odoo\_rpc\_client.orm.record.Record*

**user\_context**

Get current user context

**Return type** dict

**username**

User login used to access DB

**Return type** str

## 2.1.2 exceptions Module

**exception** `odoo_rpc_client.exceptions.ClientException`

Bases: `odoo_rpc_client.exceptions.Error`

Base class for client related exceptions

**exception** `odoo_rpc_client.exceptions.ConnectorError`

Bases: `odoo_rpc_client.exceptions.Error`

Base class for exceptions related to connectors

**exception** `odoo_rpc_client.exceptions.Error`

Bases: `Exception`

Base class for exceptions

**exception** `odoo_rpc_client.exceptions.LoginException`

Bases: `odoo_rpc_client.exceptions.ClientException`

This exception should be raised, when operations requires login and password. For example interaction with Odoo object service.

**exception** `odoo_rpc_client.exceptions.ObjectException`

Bases: `odoo_rpc_client.exceptions.ClientException`

Base class for exceptions related to Objects

**exception** `odoo_rpc_client.exceptions.ReportError`

Bases: `odoo_rpc_client.exceptions.Error`

Error raise in process of report generation

## 2.1.3 plugin Module

**class** `odoo_rpc_client.plugin.Plugin` (*client*)

Bases: `object`

Base class for all plugins, extensible by name

(uses metaclass `extend_me.ExtensibleByHashType`)

**Parameters** **client** (`odoo_rpc_client.client.Client` instance) – instance of Client to bind plugins to

Example of simple plugin:

```
from odoo_rpc_client.plugin import Plugin

class AttendanceUtils(Plugin):

    # This is required to register Your plugin
    # *name* - is for db.plugins.<name>
    class Meta:
        name = "attendance"

    def get_sign_state(self):
        # Note: folowing code works on version 6 of Openerp/Odoo
        emp_obj = self.client['hr.employee']
        emp_id = emp_obj.search(
            [('user_id', '=', self.client.uid)])
```

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```
emp = emp_obj.read(emp_id, ['state'])
return emp[0]['state']
```

This plugin will automatically register itself in system, when module which contains it will be imported.

**client**

Related Client instance

**class** `odoo_rpc_client.plugin.PluginManager` (*client*)

Bases: `extend_me.Extensible`, `odoo_rpc_client.utils.DirMixin`

Class that holds information about all plugins

**Parameters** **client** (`odoo_rpc_client.client.Client` instance) – instance of Client to bind plugins to

Plugins will be accessible via index or attribute syntax:

```
plugins = PluginManager(client)
plugins.Test    # accepts plugin 'Test' as attribute
plugins['Test'] # access plugin 'Test' via indexing
```

**refresh()**

Clean-up plugin cache This will force to reinitialize each plugin when asked

**registered\_plugins**

List of names of registered plugins

**class** `odoo_rpc_client.plugin.TestPlugin` (*client*)

Bases: `odoo_rpc_client.plugin.Plugin`

Just an example plugin to test if plugin logic works

**class Meta**

Bases: `object`

**name** = 'Test'

**test()**

## 2.1.4 utils Module

**class** `odoo_rpc_client.utils.AttrDict`

Bases: `dict`, `odoo_rpc_client.utils.DirMixin`

Simple class to make dictionary able to use attribute get operation to get elements it contains using syntax like:

```
>>> d = AttrDict(arg1=1, arg2='hello')
>>> print(d.arg1)
1
>>> print(d.arg2)
hello
>>> print(d['arg2'])
hello
>>> print(d['arg1'])
1
```

**class** `odoo_rpc_client.utils.DirMixin`

Bases: `object`

**class** odoo\_rpc\_client.utils.UConverter (*hint\_encodings=None*)

Bases: object

Simple converter to unicode

Create instance with specified list of encodings to be used to try to convert value to unicode

Example:

```
ustr = UConverter(['utf-8', 'cp-1251'])
my_unicode_str = ustr(b'hello - ')
```

**default\_encodings** = ['utf-8', 'ascii']

odoo\_rpc\_client.utils.wpartial (*func, \*args, \*\*kwargs*)

Wrapped partial, same as functools.partial decorator, but also calls functools.wrap on its result thus showing correct function name and representation.

## 2.1.5 Subpackages

### connection Package

#### connection Module

odoo\_rpc\_client.connection.connection.get\_connector (*name*)

Return connector specified by its name

odoo\_rpc\_client.connection.connection.get\_connector\_names ()

Returns list of connector names registered in system

**class** odoo\_rpc\_client.connection.connection.ConnectorBase (*host, port, timeout=None, extra\_args=None*)

Bases: object

Base class for all connectors

#### Parameters

- **host** (*str*) – hostname to connect to
- **port** (*int*) – port to connect to
- **extra\_args** (*dict*) – extra arguments for specific connector.

#### extra\_args

Connector extra arguments

**get\_service** (*name*)

Returns service for specified *name*

**Parameters** *name* – name of service

**Returns** specified service instance

#### host

Connector host

#### port

Connector port

**timeout**  
Connector timeout

**update\_extra\_args** (\*\*kwargs)  
Update extra args and clean service cache

## jsonrpc Module

**class** `odoo_rpc_client.connection.jsonrpc.ConnectorJSONRPC` (\*args, \*\*kwargs)  
Bases: `odoo_rpc_client.connection.connection.ConnectorBase`

JSON-RPC connector

**available extra arguments:**

- `ssl_verify`: (optional) if True, the SSL cert will be verified.

**class Meta**  
Bases: object

**name** = 'json-rpc'

**use\_ssl** = False

**class** `odoo_rpc_client.connection.jsonrpc.ConnectorJSONRPCS` (\*args, \*\*kwargs)  
Bases: `odoo_rpc_client.connection.jsonrpc.ConnectorJSONRPC`

JSON-RPCS Connector

**class Meta**  
Bases: object

**name** = 'json-rpcs'

**use\_ssl** = True

**exception** `odoo_rpc_client.connection.jsonrpc.JSONRPCError` (message, code=None, data=None)

Bases: `odoo_rpc_client.exceptions.ConnectorError`

JSON-RPC error wrapper

**data\_debug**  
Debug information got from Odoo server

Usually traceback

**data\_message**  
Error message got from Odoo server

**class** `odoo_rpc_client.connection.jsonrpc.JSONRPCMethod` (rpc\_proxy, url, service, method)

Bases: object

Class that implements RPC call via json-rpc protocol

**prepare\_method\_data** (\*args)  
Prepare data for JSON request

**class** `odoo_rpc_client.connection.jsonrpc.JSONRPCProxy` (host, port, service, ssl=False, ssl\_verify=True, timeout=None)

Bases: object

Simple Odoo service proxy wrapper

## xmlrpc Module

**class** `odoo_rpc_client.connection.xmlrpc.ConnectorXMLRPC` (*host, port, timeout=None, extra\_args=None*)

Bases: `odoo_rpc_client.connection.connection.ConnectorBase`

XML-RPC connector

Note: `extra_arguments` may be same as parameters of `xmlrpclib.ServerProxy`

**class** **Meta**

Bases: `object`

**name** = `'xml-rpc'`

**ssl** = `False`

**get\_service\_url** (*service\_name*)

**class** `odoo_rpc_client.connection.xmlrpc.ConnectorXMLRPCS` (*host, port, timeout=None, extra\_args=None*)

Bases: `odoo_rpc_client.connection.xmlrpc.ConnectorXMLRPC`

XML-RPCS Connector

Note: `extra_arguments` may be same as parameters of `xmlrpclib.ServerProxy`

**class** **Meta**

Bases: `object`

**name** = `'xml-rpcs'`

**ssl** = `True`

**exception** `odoo_rpc_client.connection.xmlrpc.XMLRPCError` (*fault\_instance*)

Bases: `odoo_rpc_client.exceptions.ConnectorError`

Exception raised on XMLRPC errors

**Parameters** **fault\_instance** (`xmlrpclib.Fault`) – exception raised by XMLRPC lib

**fault**

Return `xmlrpclib.Fault` instance related to this error

**class** `odoo_rpc_client.connection.xmlrpc.XMLRPCMethod` (*method*)

Bases: `object`

Class wrapper around XML-RPC method to wrap `xmlrpclib.Fault` into `XMLRPCProxy`

**class** `odoo_rpc_client.connection.xmlrpc.XMLRPCProxy` (*uri, timeout=None, \*args, \*\*kwargs*)

Bases: `xmlrpc.client.ServerProxy`

Wrapper class around XML-RPC's `ServerProxy` to wrap method's errors into `XMLRPCError` class

## service Package

`odoo_rpc_client.service.get_service_class` (*name*)

Return service class specified by its name

**class** `odoo_rpc_client.service.ServiceBase` (*service, client, name*)

Bases: `object`

Base class for all Services

**Parameters**

- **service** – instance of original service class. must support following syntax `service.service_method(args)` to call remote methods
- **client** – instance of Client, this service is binded to

**clean\_cache()**

To be implemented by subclasses, if needed

**client**

Related Client instance

**name**

Service name

**class** `odoo_rpc_client.service.ServiceManager` (*client*)

Bases: `extend_me.Extensible`, `odoo_rpc_client.utils.DirMixin`

Class to hold services related to specific client and to automatically clean service cached on update of service classes

Usage:

```
services = ServiceManager(client)
services.service_list          # get list of registered services
services.object               # returns service with name 'object'
services['common']            # returns service with name 'common'
services.get_service('report') # returns service named 'report'
```

**clean\_cache()**

Cleans manager's service cache.

**classmethod clean\_caches()**

Cleans saved service instances, so on next access new service instances will be generated. This usually happens when new service extension enabled (new class inherited from ServiceBase created)

**clean\_service\_caches()**

Clean caches of all services handled by this manager usually this should be called on module update, when list of available objects or reports changed

**client**

Client instance this ServiceManager is bounded to

**get\_service** (*name*)

Returns instance of service with specified name

**Parameters** **name** – name of service

**Returns** specified service instance

**service\_list**

Returns list of all registered services

**db Module**

**class** `odoo_rpc_client.service.db.DBService` (*service, client, name*)

Bases: `odoo_rpc_client.service.service.ServiceBase`

Service class to simplify interaction with 'db' service

**class Meta**

Bases: `object`

**name** = 'db'

**create\_db** (*password, dbname, demo=False, lang='en\_US', admin\_password='admin'*)

Create new database on server, named *dbname*

**Parameters**

- **password** (*str*) – super admin password
- **dbname** (*str*) – name of database to create
- **demo** (*bool*) – load demo data or not. Default: False
- **lang** (*str*) – language to be used for database. Default: 'en\_US'
- **admin\_password** (*str*) – password to be used for 'Administrator' database user. Default: 'admin'

**Returns** Client instance logged to created database as admin user.

**Return type** instance of `odoo_rpc_client.client.Client`

**db\_exist** (*db*)

Check if database exists

**Parameters** **db** (*str|Client*) – name of database or *Client* instance with *client.dbname* is not *None*

**Returns** True if database exists else False

**Return type** `bool`

**drop\_db** (*password, db*)

Drop specified database

**Parameters**

- **password** (*str*) – super admin password
- **db** (*str|Client*) – name of database or *Client* instance with *client.dbname* is not *None*

**Raise** *ValueError* (unsupported value of *db* argument)

**dump\_db** (*password, db, \*\*kwargs*)

Dump database

Note, that from defined arguments, may be passed other arguments (for example odoo version 9.0 requires format arg to be passed)

Note, this method may consume huge amount of memory. In production dump/restore have to be done by other means.

**Parameters**

- **password** (*str*) – super admin password
- **db** (*str|Client*) – name of database or *Client* instance with *client.dbname* is not *None*
- **format** (*str*) – (only odoo 9.0) (default: zip)

**Raise** *ValueError* (unsupported value of *db* argument)

**Returns** byte-string with base64 encoded data

**Return type** `bytes`

**list\_db()**

Display list of databses of thist connection

**restore\_db** (*password*, *dbname*, *data*, *\*\*kwargs*)

Restore database

Note, this method may consume huge amount of memory. In production dump/restore have to be done by other means.

#### Parameters

- **password** (*str*) – super admin password
- **dbname** (*str*) – name of database
- **data** (*bytes*) – restore data (base64 encoded string)
- **copy** (*bool*) – (only odoo 8.0+) if set to True, then new db-uid will be generated. (default: False)

**Returns** True

**Return type** bool

**server\_base\_version()**

Returns server base version ('9.0', '8.0', etc) parsed via `pkg_resources.parse_version`. No info about community / enterprise here

**server\_version()**

Returns server version.

(Already parsed with `pkg_resources.parse_version`)

**server\_version\_str()**

Return server version (not wrapped by `pkg.parse_version`)

## object Module

**class** `odoo_rpc_client.service.object.ObjectService` (*\*args*, *\*\*kwargs*)

Bases: `odoo_rpc_client.service.service.ServiceBase`

Service class to simplify interaction with 'object' service Particulary, implements logic of choosing execute method ('execute' or 'execute\_kw') The last one cannot work with keyword arguments(

**class** `Meta`

Bases: `object`

**name** = 'object'

**clean\_cache()**

Cleans service cache, to fill them with fresh data on next call of related methods

**execute** (*obj*, *method*, *\*args*, *\*\*kwargs*)

First arguments should be 'object' and 'method' and next will be passed to method of given object

**execute\_wkf** (*object\_name*, *signal*, *object\_id*)

Triggers workflow event on specified object

#### Parameters

- **object\_name** (*str*) – name of object/model to trigger workflow on
- **signal** (*str*) – name of signal to send to workflow

- **object\_id** (*int*) – ID of document (record) to send signal to

**get\_registered\_objects** ()

Returns list of registered objects in database

## report Module

Report printing logic

Best way to generate report is:

```
data_records = client['res.partner'].search_records([], limit=10)
report = client.services.report['res.partner'].generate(data_records)
report.content
```

Or if it is desired to save it on disk:

```
data_records = client['res.partner'].search_records([], limit=10)
report = client.services.report['res.partner'].generate(data_records)
report.save('filename to save report with')
```

where *report* is instance of *ReportResult* and *report.content* returns already *base64* decoded content of report, which could be directly written to file (or just use *report.save(path)* method)

**class** odoo\_rpc\_client.service.report.**Report** (*service, report*)

Bases: *extend\_me.Extensible*

Class that represents report.

useful to simplify report generation

### Parameters

- **service** (*ReportService*) – instance of report service to bind report to
- **report** (*Record*) – model of report action

**generate** (*model\_data, report\_type='pdf', context=None*)

Generate report

### Parameters

- **model\_data** – *RecordList* or *Record* or list of *obj\_ids*. represent document or documents to generate report for
- **report\_type** (*str*) – Type of report to generate. default is 'pdf'.
- **context** (*dict*) – Additional info. Optional.

**Raises** *ReportError*

**Returns** *ReportResult* instance that contains generated report

**Return type** *ReportResult*

**name**

Name of report

**report\_action**

Action of this report

**service**

Service this report is binded to



**class** `odoo_rpc_client.service.report.ReportResult` (*report, result, path=None*)

Bases: `extend_me.Extensible`

Just a simple and extensible wrapper on report result

As variant of usage - wrap result returned by server methods `report_get` and `render_report` like:

```
ReportResult(report_get(report_id))
```

**content**

Report file content. Already base64-decoded

**format**

Report format

**path**

Path where file is located or will be located on save

**result**

Base64-encoded report content. To get already decoded report content, use `.content` property

**Raises** `ReportError` – When `.state` property is `False`. This may appear in case when report is not ready yet, when using `report` and `report_get` methods

**save** (*path=None*)

Save's file by specified path or if no path specified save it in temp dir with automatically generated name.

**state**

Result status. only if `True`, other fields are available

**class** `odoo_rpc_client.service.report.ReportService` (*\*args, \*\*kwargs*)

Bases: `odoo_rpc_client.service.service.ServiceBase`

Service class to simplify interaction with 'report' service

**class Meta**

Bases: `object`

**name** = `'report'`

**available\_reports**

Returns dictionary with all available reports

{<report name> : <Report instance>}

**generate\_report** (*report\_name, report\_data, report\_type='pdf', context=None*)

Generate specified report for specified report data. Report data could be `RecordList` or `Record` instance. Result is wrapped into `ReportResult` class

**Parameters**

- **report\_name** (*str*) – string representing name of report service
- **report\_data** – `RecordList` or `Record` or ('model\_name', obj\_ids) represent document or documents to generate report for
- **report\_type** (*str*) – Type of report to generate. default is 'pdf'.
- **context** (*dict*) – Additional info. Optional.

**Raises** `ReportError`

**Returns** `ReportResult` instance that contains generated report

**Return type** `ReportResult`

**render\_report** (*report\_name, model, ids, report\_type='pdf', context=None*)

Proxy to report service *render\_report* method

NOTE: available after version 6.1.

**Parameters**

- **report\_name** (*str*) – string representing name of report service
- **model** (*str*) – name of model to generate report for
- **ids** (*list of int | int*) – list of object ID to get report for (or just single id)
- **report\_type** (*str*) – Type of report to generate. default is 'pdf'.
- **context** (*dict*) – Additional info. Optional.

**Returns** dictionary with keys: - 'state': boolean, True if report generated correctly - 'result': base64 encoded content of report file - 'format': string representing report format

**Return type** dict

**report** (*report\_name, model, ids, report\_type='pdf', context=None*)

Proxy to report service *report* method

**Parameters**

- **report\_name** (*str*) – string representing name of report service
- **model** (*str*) – name of model to generate report for
- **ids** (*list of int | int*) – list of object ID to get report for (or just single id)
- **report\_type** (*str*) – Type of report to generate. default is 'pdf'.
- **context** (*dict*) – Additional info. Optional.

**Returns** ID of report to get by method *report\_get*

**Return type** int

**report\_get** (*report\_id*)

Proxy method to report service *report\_get* method

**Parameters** **report\_id** (*int*) – int that represents ID of report to get (value returned by report method)

**Returns**

dictionary with keys:

- 'state': boolean, True if report generated correctly
- 'result': base64 encoded content of report file
- 'format': string representing format, report generated in

**Return type** dict

## service Module

`odoo_rpc_client.service.service.get_service_class` (*name*)

Return service class specified by it's name

**class** `odoo_rpc_client.service.service.ServiceBase` (*service, client, name*)

Bases: `object`

Base class for all Services

#### Parameters

- **service** – instance of original service class. must support following syntax `service.service_method(args)` to call remote methods
- **client** – instance of `Client`, this service is binded to

**clean\_cache** ()

To be implemented by subclasses, if needed

**client**

Related `Client` instance

**name**

Service name

**class** `odoo_rpc_client.service.service.ServiceManager` (*client*)

Bases: `extend_me.Extensible`, `odoo_rpc_client.utils.DirMixin`

Class to hold services related to specific client and to automatically clean service cached on update of service classes

Usage:

```
services = ServiceManager(client)
services.service_list      # get list of registered services
services.object            # returns service with name 'object'
services['common']         # returns service with name 'common'
services.get_service('report') # returns service named 'report'
```

**clean\_cache** ()

Cleans manager's service cache.

**classmethod clean\_caches** ()

Cleans saved service instances, so on next access new service instances will be generated. This usually happens when new service extension enabled (new class inherited from `ServiceBase` created)

**clean\_service\_caches** ()

Clean caches of all services handled by this manager usually this should be called on module update, when list of available objects or reports changed

**client**

Client instance this `ServiceManager` is bounded to

**get\_service** (*name*)

Returns instance of service with specified name

**Parameters** **name** – name of service

**Returns** specified service instance

**service\_list**

Returns list of all registered services

## orm Package

### object Module

**class** `odoo_rpc_client.orm.object.Object` (*service, object\_name*)

Bases: `odoo_rpc_client.utils.DirMixin`

Base class for all Objects

Provides simple interface to remote osv.osv objects:

```
erp = Client(...)
sale_obj = Object(erp, 'sale.order')
sale_obj.search([('state', 'not in', ['done', 'cancel'])])
```

To create new instance - use `get_object` function, it implements all extensions magic, which is highly used in this project

It is possible to create extension only to specific object. Example could be found in `plugins/module_utils.py` file.

#### **client**

Client instance, this object is related to

**Return type** `odoo_rpc_client.client.Client`

#### **columns\_info**

Reads information about fields available on model.

Internally this method uses `fields_get` method.

**Returns** dictionary with information about fields available on this model.

**Return type** `odoo_rpc_client.utils.AttrDict`

#### **create** (*vals, context=None*)

Create new record with *vals*

Also look at [Odoo documentation](#) for this method

##### **Parameters**

- **vals** (*dict*) – dictionary with values to be written to newly created record
- **context** (*dict*) – context dictionary

**Returns** ID of newly created record

**Return type** `int`

#### **name**

Name of the object

**Return type** `str`

#### **read** (*ids, fields=None, context=None*)

Read *fields* for records with id in *ids*

Also look at [Odoo documentation](#) for this method

##### **Parameters**

- **ids** (*int | list*) – ID or list of IDs of records to read data for
- **fields** (*list*) – list of field names to read. if not passed all fields will be read.

- **context** (*dict*) – dictionary with extra context

**Returns** list of dictionaries with data had been read

**Return type** list

**resolve\_field\_path** (*field*)

Resolves dot-separated field path to list of tuples (model, field\_name, related\_model)

**Parameters** **field** (*str*) – dot-separated field path to resolve

For example:

```
sale_obj = client['sale.order']
sale_obj.resolve_field_path('partner_id.country_id.name')
```

will be resolved to:

```
[('sale.order', 'partner_id', 'res.partner'),
 ('res.partner', 'country_id', 'res.country'),
 ('res.country', 'name', False)]
```

**search** (*args*[, *offset=0*][, *limit=None*][, *order=None*][, *count=False*][, *context=None*])

Search records by criteria.

Also look at [Odoo documentation](#) for this method

**search\_count** (*domain=None*, *context=None*)

Returns the number of records matching the provided domain.

**Returns** number of records

**Return type** int

**search\_read** (*domain=None*, *fields=None*, *offset=0*, *limit=None*, *order=None*, *context=None*)

Search and read records specified by domain

Note that this method reads data in correct order

Also look at [Odoo documentation](#)

**Returns** list of dictionaries with data had been read

**Return type** list

**service**

Object service instance

**stdcall\_methods**

Property that returns all methods of this object, that supports standard call

**Returns** list with names of *stdcall* methods

**Return type** list(str)

**unlink** (*ids*, *context=None*)

Unlink records specified by *ids*

Also look at [Odoo documentation](#) for this method

**Parameters** **ids** (*list*) – list of IDs of records to be deleted

**write** (*ids*, *vals*, *context=None*)

Write data in *vals* dictionary to records with ID in *ids*

For more info, look at [odoo documentation](#) for this method

### Parameters

- **ids** (*int / list*) – ID or list of IDs of records to write data for
- **vals** (*dict*) – dictionary with values to be written to database for records specified by ids
- **context** (*dict*) – context dictionary

`odoo_rpc_client.orm.object.get_object` (*client, name*)  
 Create new Object instance.

### Parameters

- **client** (*Client*) – Client instance to bind this object to
- **name** (*str*) – name of object. Ex. 'sale.order'

**Returns** Created Object instance

**Return type** *Object*

## cache Module

`odoo_rpc_client.orm.cache.empty_cache` (*client*)  
 Create instance of empty cache for Record

**Parameters** **client** (*Client*) – instance of Client to create cache for

**Returns** instance of Cache class

**Return type** *Cache*

Cache is dictionary-like object with structure like:

```
cache = {
    'product.product': {
        1: {
            'id': 1,
            'name': 'product1',
            'default_code': 'product1',
        },
    },
}
```

**class** `odoo_rpc_client.orm.cache.Cache` (*client, \*args, \*\*kwargs*)

Bases: dict

Cache to be used for Record's data.

This is root cache, which manages model local cache

`cache['res.partner'] -> ObjectCache('res.partner')`

**client**

Access to Client instance this cache belongs to

**class** `odoo_rpc_client.orm.cache.ObjectCache` (*root, obj, \*args, \*\*kwargs*)

Bases: dict

Cache for object / model data

Automatically generates empty data dicts for records requested. Also contains object context

**cache\_field** (*rid, ftype, field\_name, value*)

This method impelment additional caching functionality, like caching related fields, and so...

**Parameters**

- **rid** (*int*) – Record ID
- **ftype** (*str*) – field type
- **field\_name** (*str*) – name of field
- **value** – value to cache for field

**context**

Return context instance related to this cache

**get\_ids\_to\_read** (*\*fields*)

Return list of ids, that have no at least one of specified fields in cache

For example:

```
cache.get_ids_to_read('name', 'country_id', 'parent_id')
```

This code will traverse all record ids managed by this cache, and find those that have no at least one field in cache. This is highly useful in prefetching

**parse\_prefetch\_fields** (*fields*)

Parse fields to be prefetched, sparating, cache's object fields and related fields.

Used internaly

**Parameters** **fields** (*list*) – list of fields to prefetch

**Returns** returns tuple (prefetch\_fields, related\_fields), where prefetch\_fields is list of fields, to be read for current object, and related\_fields is dictionary of form: {'related.object': ['relatedfield1', 'relatedfield2.relatedfield']}

**Return type** tuple

**prefetch\_fields** (*fields*)

Prefetch specified fields for this cache. Also, dot (“.”) may be used in field name to prefetch related fields:

```
cache.prefetch_fields(
    ['myfield1', 'myfields2_ids.relatedfield'])
```

**Parameters** **fields** (*list*) – list of fields to prefetch

**update\_context** (*new\_context*)

Updates or sets new context for thes ObjectCache instance

**Parameters** **new\_context** (*dict*) – context dictionary to update cached context with

**Returns** updated context

**update\_keys** (*keys*)

Add new IDs to cache.

**Parameters** **keys** (*list*) – list of new IDs to be added to cache

**Returns** self

**Return type** *ObjectCache*

## record Module

This module contains classes and logic to handle operations on records

**class** `odoo_rpc_client.orm.record.Record` (*obj, rid, cache=None, context=None*)

Bases: `odoo_rpc_client.utils.DirMixin`

Base class for all Records

Do not use it to create record instances manually. Use `get_record` function instead. It implements all extensions mangic

But class should be used for `isinstance` checks.

It is possible to create extensions of this class that will be binded only to specific Odoo objects

For example, if You need to extend all recrods of products, do something like this:

```
class MyProductRecord(Record):
    class Meta:
        object_name = 'product.product'

    def __init__(self, *args, **kwargs):
        super(MyProductRecord, self).__init__(*args, **kwargs)

        # to avoid double read, save once read value to record
        # instance
        self._sale_orders = None

    @property
    def sale_orders(self):
        ''' Sale orders related to curent product
        '''
        if self._sale_orders is None:
            so = self._client['sale.order']
            domain = [('order_line.product_id', '=', self.id)]
            self._sale_orders = so.search_records(
                domain, cache=self._cache)

        return self._sale_orders
```

And after this, next code is valid:

```
products = client['product.product'].search_records([])
products_so = products.filter(lambda p: bool(p.sale_orders))
products_so_gt_10 = products.filter(
    lambda p: len(p.sale_orders) > 10)

for product in products_so_gt_10:
    print("Product: %s" % product.default_code)
    for pso in product.sale_orders:
        print("      %s" % pso.name)
```

### Parameters

- **obj** (*Object*) – instance of object this record is related to
- **rid** (*int*) – ID of database record to fetch data from
- **cache** (*Cache*) – Cache instance. (usually generated by function `empty_cache()`)
- **context** (*dict*) – if specified, then cache's context will be updated



Note, to create instance of cache call *empty\_cache*

#### **as\_dict**

Provides dictionary with record's data in raw form

**Return type** dict

#### **context**

Returns context to be used for this record

#### **copy** (*default=None, context=None*)

copy this record.

#### **Parameters**

- **default** (*dict*) – dictionary default values for new record (optional)
- **context** (*dict*) – dictionary with context used to copy this record. (optional)

**Returns** Record instance for created record

**Return type** *Record*

Note about context: by default cache's context will be used, and if some context will be passed to this method, new dict, which is combination of default context and passed context, will be passed to server.

#### **get** (*field\_name, default=None*)

Try to get field *field\_name*, if field name is not available return *default* value for it

if *default* is None and it is not possible to get field value, then raises *KeyError*

#### **Parameters**

- **field\_name** (*str*) – name of field to get value for
- **default** – default value for case when no such field

**Returns** field value

**Raises** **KeyError** – if cannot get field value

Note: This may be useful for code that expected to be working for different Odoo versions which have different database schemes.

#### **id**

Record ID

**Return type** int

#### **read** (*fields=None, context=None, multi=False*)

Rereads data for this record (or for all records in whole cache)

#### **Parameters**

- **fields** (*list*) – list of fields to be read (optional)
- **context** (*dict*) – context to be passed to read (optional) does not modify record's context
- **multi** (*bool*) – if set to True, that data will be read for all records of this object in current cache (query).

**Returns** dict with data had been read

**Return type** dict

#### **refresh** ()

Reread data and clean-up the caches

**Returns** self

**Return type** *Record*

**class** `odoo_rpc_client.orm.record.ObjectRecords (*args, **kwargs)`

Bases: `odoo_rpc_client.orm.object.Object`

Adds support to use records from Object classes

**browse** (*\*args, \*\*kwargs*)

Aliase to `read_records` method. In most cases same as serverside `browse` (i mean server version 7.0)

**create\_record** (*vals, context=None, cache=None*)

Create new record in database and return Record instance. Same as `create` method, but returns Record instance instead of ID.

#### Parameters

- **vals** (*dict*) – values to create record with
- **context** (*dict*) – extra context to pass to `create` method
- **cache** (*Cache*) – cache to add created record to. if None is passed, then new cache will be created.

**Returns** Record instance of created record

**Return type** `odoo_rpc_client.orm.record.Record`

For example:

```
>>> partner_obj = db['res.partner']
>>> john = partner_obj.create_record({'name': 'John'})
>>> john.name
John
```

#### **model**

Returns Record instance of model related to this object. Useful to get additional info on object.

**Returns** Record('ir.model')

**Return type** `odoo_rpc_client.orm.record.Record`

#### **model\_name**

Result of `name_get` called on object's model

**read\_records** (*ids, fields=None, context=None, cache=None*)

Return instance or RecordList class, making available to work with data simpler

#### Parameters

- **ids** (*int/list of int*) – ID or list of IDs to read data for
- **fields** (*list*) – list of fields to read (*optional*)
- **context** (*dict*) – context to be passed to read. default=None
- **cache** (*Cache*) – cache to use for records and record lists. Pass None to create new cache. default=None.

**Returns** Record instance if *ids* is int or RecordList instance if *ids* is list of ints

**Return type** Record|RecordList

For example:

```
>>> so_obj = db['sale.order']
>>> data = so_obj.read_records([1,2,3,4,5])
>>> for order in data:
    order.write({'note': 'order data is %s'%order.data})
```

**search\_records** (\*args, \*\*kwargs)

Return instance or list of instances of Record class, making available to work with data simpler

#### Parameters

- **domain** – list of tuples, specifying search domain
- **offset** (*int*) – (optional) number of results to skip in the returned values (default:0)
- **limit** (*int/False*) – optional max number of records in result (default: False)
- **order** (*str*) – optional columns to sort
- **context** (*dict*) – optional context to pass to *search* method
- **count** – if set to True, then only amount of records found will be returned. (default: False)
- **read\_fields** (*list of strings*) – optional. specifies list of fields to read.
- **cache** (*Cache*) – cache to be used for records and recordlists

**Returns** RecordList contains records found, or integer that represents amount of records found (if count=True)

**Return type** RecordListint

For example:

```
>>> so_obj = db['sale.order']
>>> data = so_obj.search_records([('date', '>=', '2013-01-01')])
>>> for order in data:
...     order.write({'note': 'order date is %s'%order.date})
```

#### simple\_fields

List of simple fields which could be fetched fast enough

This list contains all fields that are not function nor binary

**Type** list of strings

**class** odoo\_rpc\_client.orm.record.**RecordList** (*obj, ids=None, fields=None, cache=None, context=None*)

Bases: collections.abc.MutableSequence, *odoo\_rpc\_client.utils.DirMixin*

Class to hold list of records with some extra functionality

#### Parameters

- **obj** (*Object*) – instance of Object to make this list related to
- **ids** (*list of int*) – list of IDs of objects to read data from
- **fields** (*list of strings*) – list of field names to read by default
- **cache** (*Cache*) – Cache instance. (usually generated by function *empty\_cache()*)
- **context** (*dict*) – context to be passed automatically to methods called from this list (not used yet)

**context**

Returns context to be used for this list

**copy** (*context=None, new\_cache=False*)

Returns copy of this list, possibly with modified context and new empty cache.

**Parameters**

- **context** (*dict*) – new context values to be used on new list
- **new\_cache** (*bool*) – if set to True, then new cache instance will be created for resulting recordlist if set to Cache instance, than it will be used for resulting recordlist

**Returns** copy of this record list.

**Return type** *RecordList*

**Raises** **ValueError** – when incorrect value passed to new\_cache

**existing** (*uniqify=True*)

Filters this list with only existing items

**Parm bool uniqify** if set to True, then all duplicates will be removed. Default: True

**Returns** new RecordList instance

**Return type** *RecordList*

**filter** (*func*)

Filters items using *func*.

**Parameters func** (*callable(record)->bool|anyfield.SField*) – callable to check if record should be included in result.

**Returns** RecordList which contains records that matches results

**Return type** *RecordList*

**group\_by** (*grouper*)

Groups all records in list by specifed grouper.

**Parameters grouper** (*string|callable(record)|anyfield.SField*) – field name or callable to group results by. if callable is passed, it should receive only one argument - record instance, and result of calling grouper will be used as key to group records by.

**Returns** dictionary

for example we have list of sale orders and want to group it by state

```
# so_list - variable that contains list of sale orders selected
# by some criterias. so to group it by state we will do:
group = so_list.group_by('state')

# Iterate over resulting dictionary
for state, rlist in group.iteritems():
    # Print state and amount of items with such state
    print state, rlist.length
```

or imagine that we would like to group records by last letter of sale order number

```
# so_list - variable that contains list of sale orders selected
# by some criterias. so to group it by last letter of sale
# order name we will do:
```

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```

group = so_list.group_by(lambda so: so.name[-1])

# Iterate over resulting dictionary
for letter, rlist in group.iteritems():
    # Print state and amount of items with such state
    print letter, rlist.length

```

**ids**

IDs of records present in this RecordList

**insert** (*index, item*)

Insert record to list

**Parameters**

- **item** (*Record|int*) – Record instance to be inserted into list. if int passed, it considered to be ID of record
- **index** (*int*) – position where to place new element

**Returns** self

**Return type** *RecordList*

**length**

Returns length of this record list

**mapped** (*field*)

**Experimental**, Provides similar functionality to Odoo’s mapped() method, but supports only dot-separated field name as argument, no callables yet.

Returns list of values of field of each record in this recordlist. If value of field is RecordList or Record instance, than RecordList instance will be returned

Thus folowing code will work

```

# returns a list of names
records.mapped('name')

# returns a recordset of partners
record.mapped('partner_id')

# returns the union of all partner banks,
# with duplicates removed
record.mapped('partner_id.bank_ids')

```

**Parameters** **field** (*str*) – returns list of values of ‘field’ for each record in this RecordList

**Return type** list or *RecordList*

**object**

Object this record is related to

**prefetch** (*\*fields*)

Prefetches specified fields into cache if no fields passed, then all ‘simple\_fields’ will be prefetched

By default field read performed only when that field is requested, thus when You need to read more then one field, few rpc requests will be performed. to avoid multiple unnecessary rpc calls this method is implemented.

**Returns** self, which allows chaining of operations

**Return type** *RecordList*

**read** (*fields=None, context=None*)

Read wrapper. Takes care about adding RecordList's context to object's read method.

**Warning:** does not update cache by data been read

**records**

Returns list (class 'list') of records

**refresh** ()

Cleanup data caches. next try to get data will cause rereading of it

**Returns** self

**Return type** instance of RecordList

**search** (*domain, \*args, \*\*kwargs*)

Performs normal search, but adds ('id', 'in', self.ids) to search domain

**Returns** list of IDs found

**Return type** list of integers

**search\_records** (*domain, \*args, \*\*kwargs*)

Performs normal search\_records, but adds ('id', 'in', self.ids) to domain

**Returns** RecordList of records found

**Return type** RecordList instance

**sort** (*key=None, reverse=False*)

sort(key=None, reverse=False) – inplace sort

anyfield.SField instances may be safely passed as 'key' arguments. no need to convert them to function explicitly

**Returns** self

`odoo_rpc_client.orm.record.get_record(obj, rid, cache=None, context=None)`

Creates new Record instance

Use this method to create new records, because of standard object creation bypasses extension's magic.

**param Object obj** instance of Object this record is related to

**param int rid** ID of database record to fetch data from

**param cache** Cache instance. (usually generated by function empty\_cache())

**type cache** Cache

**param dict context** if specified, then cache's context will be updated

**return** created Record instance

**rtype** Record

`odoo_rpc_client.orm.record.get_record_list(obj, ids=None, fields=None, cache=None, context=None)`

Returns new instance of RecordList object.

**Parameters**

- **obj** (*Object*) – instance of Object to make this list related to
- **ids** (*list of int*) – list of IDs of objects to read data from

- **fields** (*list of strings (not used now)*) – list of field names to read by default (not used now)
- **cache** (*Cache*) – Cache instance. (usually generated by function `empty_cache()`)
- **context** (*dict*) – context to be passed automatically to methods called from this list (not used yet)

## service Module

**class** `odoo_rpc_client.orm.service.Service` (*\*args, \*\*kwargs*)

Bases: `odoo_rpc_client.service.object.ObjectService`

Service class to simplify interaction with ‘object’ service. Particularly, implements logic of choosing execute method (‘execute’ or ‘execute\_kw’) to use. The last one cannot work with keyword arguments

**clean\_cache** ()

Cleans caches, to fill them with fresh data on next call of related methods

**get\_obj** (*object\_name*)

Returns wrapper around Odoo object ‘object\_name’ which is instance of Object

**Parameters** `object_name` (*string*) – name of an object to get wrapper for

**Returns** instance of Object which wraps choosen object

**Return type** *Object*

## 2.2 Plugins Package

This package contains plugins provided out-of-the-box

### 2.2.1 module\_utils Plugin

**class** `odoo_rpc_client.plugins.module_utils.ModuleObject` (*service, object\_name*)

Bases: `odoo_rpc_client.orm.object.Object`

Add shortcut methods to ‘ir.module.module’ object / model to install or upgrade modules

Also this methods will be available for Record instances too

**class** `Meta`

Bases: `object`

**name** = `'ir.module.module'`

**install** (*ids, context=None*)

Immediatly install module

**upgrade** (*ids, context=None*)

Immediatly upgrades module

**class** `odoo_rpc_client.plugins.module_utils.ModuleUtils` (*\*args, \*\*kwargs*)

Bases: `odoo_rpc_client.plugin.Plugin, odoo_rpc_client.utils.DirMixin`

Utility plugin to simplify module management

Allows to access Odoo module objects as attributes of this plugin:

```
# this method supports IPython autocomplete
db.plugins.module_utils.m_stock
```

or dictionary style access to modules:

```
db.plugins.module_utils['stock']
```

which is equivalent to

```
db.get_obj('ir.module.module').search_records(
    [('name', '=', 'stock')])[0]
```

Also autocomplete in IPython supported for this syntax

#### **class Meta**

Bases: object

**name** = 'module\_utils'

#### **installed\_modules**

RecordList with list of modules installed in current database

**Return type** *RecordList*

#### **modules**

Returns dictionary of modules registered in system.

Result dict is like: {'module\_name': module\_inst}

where *module\_inst* is *Record* instance for this module

#### **update\_module\_list()**

Update module list

If there are some modules added to server, update list, to be able to install them.

## 2.2.2 external\_ids Plugin

**class** odoo\_rpc\_client.plugins.external\_ids.**ExternalIDS**(*client*)

Bases: *odoo\_rpc\_client.plugin.Plugin*

This plugin adds additional methods to work with external\_ids (xml\_id) for Odoo records.

#### **class Meta**

Bases: object

**name** = 'external\_ids'

#### **get\_for**(*val*, *module=None*)

Return RecordList of 'ir.model.data' for *val* or False

##### **Parameters**

- **val** – value to get 'ir.model.data' records for
- **module** (*str*) – module name to search 'ir.model.data' for

**Return type** *RecordList*

**Returns** RecordList with 'ir.model.data' records found

**Raises** **ValueError** – if *val* argument could not be parsed



`val` could be one of following types:

- Record instance
- RecordList instance
- tuple(model, res\_id), for example ('res.partner', 5)
- str, string in format 'module.name'.

**Note**, in case of `val` is `str`: if `module` specified as parameter, then `val` supposed to be `name` only. For example, following calls are equal:

```
cl.plugins.external_ids.get_for('base.group_configuration')
cl.plugins.external_ids.get_for('group_configuration',
                                module='base')
```

**get\_record** (*xml\_id*, *module=None*)

Return *Record* instance for specified *xml\_id*

**Parameters**

- **xml\_id** (*str*) – string with *xml\_id* to search record for
- **module** (*str*) – module name to search Record in

**Return type** *Record*

**Returns** Record for *val* or False if not found

**Raises** **ValueError** – if *xml\_id* argument could not be parsed

**get\_xmlid** (*val*, *module=None*)

Return *xml\_id* for *val*. Note, that only first *xml\_id* will be returned!

**Parameters**

- **val** – look in documentation for *get\_for* method
- **module** (*str*) – module name to search *xml\_id* for

**Return type** str

**Returns** *xml\_id* for *val* or False if not found

**Raises** **ValueError** – if *val* argument could not be parsed

Note, that if *module* specified as parametr, then *val* supposed to be *name* only

**class** odoo\_rpc\_client.plugins.external\_ids.**Record\_XMLIDS** (*obj*, *rid*, *cache=None*, *context=None*)

Bases: *odoo\_rpc\_client.orm.record.Record*

Simple class to add ability to get *xmlid* from record itself

**as\_xmlid** (*module=None*)

Get *xmlid* for record

**Parameters** **module** (*str*) – module to search *xmlid* in

**Returns** *xmlid* for this record or False

**Return type** str



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