Odoo REST API: Version 1.0 Documentation

Release 1.0.1

Synconics Technologies Pvt. Ltd. - Odoo Official Partner (https://v

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Our Odoo REST API Reference houses a lot of information, but doesn't always tell you how you should use it.

If you want to built apps and other integrations for the Odoo, this tutorial will walk you through what is required to authenticate and make basic API calls.

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CHAPTER 1

Get the module

The module **restapi** is available on **Odoo App Store**, Here are links for:

- Version 8.0 (Community)
- Version 9.0 (Community & Enterprise)
- Version 10.0 (Community & Enterprise)
- Version 11.0 (Community & Enterprise)
- Version 12.0 (Community & Enterprise)

Installation

There are two ways to install module:

Directly from App store

- 1. Activate Developer Mode
- 2. Navigate to the **Apps** menu
- 3. Click on second Apps menu if you are using version 9.0 otherwise App Store menu in left side bar
- 4. Remove Featured [x] filter from search bar
- 5. search module **restapi**
- 6. Click on **Install** button.

By puting module in addons

- 1. Unzip **restapi** module to **custom addons** directory
- 2. Restart odoo server
- 3. Activate **Developer Mode**
- 4. Navigate to the **Apps** menu
- 5. Click on Update Apps List menu in left side bar
- 6. Once apps list is updated, click on Apps menu in left side bar
- 7. Search module **restapi**
- 8. Click on **Install** button.

Getting Started

Connection

Configuration

If you already have an **Odoo server** and **restapi** module installed, you just need to follow below steps

Note: To use REST API on Odoo, you will need to set consumer key and secret for OAuth application on the user account you want to use:

- Log in your Odoo instance with an administrator account
- Go to Settings \rightarrow Users \rightarrow Users
- Click on the user you want to use for REST API access
- Click the **OAuth applications** button
- Register an Application you want to interact with your Odoo instance
- Click on Save button to generate Consumer Key and Secret.

Demo

To make exploration simpler, you can also ask https://odoo-restapi-demo.synconics.com for a test database:

GET /start

Request:

```
GET /start HTTP/1.1
Host: odoo-restapi-demo.synconics.com
```

```
HTTP/1.1 200 OK

{
    'client_id': 'uwCrAHAQbL7D9cvJLIztNaZ0bziEGMDh',
    'client_secret': 'FtHzOQVEs0aSEL9AXuIe9k7X6E2MekU7',
    'host': 'odoo-restapi-demo.synconics.com',
```

```
'database': 'odoo_restapi_demo'
}
```

Request Headers

• Accept – the response content type depends on Accept header

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource

Logging In

Odoo requires users of the REST API to be authenticated before they can query most data.

The restapi/1.0/common endpoint provides meta-calls which don't require authentication, such as the authentication itself or fetching version information. To verify if the connection information is correct before trying to authenticate, the simplest call is to ask for the server's version through the restapi/1.0/common/version endpoint. The authentication itself is done through the OAuth 1.0 restapi/1.0/common/oauth1 or OAuth 2.0 restapi/1.0/common/oauth2 endpoints.

How you can do

Odoo Version Information

The restapi/1.0/common/version endpoint provides Odoo server version information which don't require authentication.

GET /restapi/1.0/common/version Request:

```
GET /restapi/1.0/common/version HTTP/1.1
Host: <your Odoo server url>
```

Response:

```
HTTP/1.1 200 OK

{
   'server_version': '8.0',
   'server_version_info': [8, 0, 0, "final", 0],
   'server_series': '8.0',
   'protocal_version': 1
}
```

Request Headers

• Accept – the response content type depends on Accept header

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no user

OAuth1 Authentication

Start with setting up a new consumer by following the instructions on *Configuration*. When you have obtained a key and a secret you can try out OAuth 1.0 resapi/1.0/common/oauth1 flow goes as follows to get authorized:

Note: OAuth endpoints:

- 1. POST {your_Odoo_server_url}/restapi/1.0/common/oauth1/request_token (Temporary Credential Request endpoint)
- 2. GET {your_Odoo_server_url}/restapi/1.0/common/oauth1/authorize (Resource Owner Authorization endpoint)
- 3. POST {your_Odoo_server_url}/restapi/1.0/common/oauth1/access_token (Token Credentials Request endpoint)

1. Temporary Credential Request

Obtain a request token which will identify you (the consumer) in the next step. At this stage you will only need your consumer key and secret.

POST /restapi/1.0/common/oauth1/request_token Request:

Response:

```
HTTP/1.1 200 OK

{
  'oauth_token': 'mXYKtuv8k3NJfnpLMpU3KFuEijXx2Aat',
  'oauth_token_secret': 'QAlvAmzyULWeitpe24oNhj3n91los7W5'
}
```

Query Parameters

- oauth_consumer_key Odoo consumer key
- oauth_nonce A randomly selected value provided by your application, which is unique
 for each authorization request. During the OAuth callback phase, your application must

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check that this value matches the one you provided during authorization. This mechanism is important for the security of your application.

- oauth_callback An absolute URL to which the Odoo will redirect the User back when the Obtaining User Authorization step is completed.
- oauth_signature_method The signature method that Consumer used to sign the request. The protocol defines three signature methods: HMAC-SHA1, RSA-SHA1, and PLAINTEXT.
- oauth_timestamp The timestamp is expressed in the number of seconds since January 1, 1970 00:00:00 GMT. The timestamp value MUST be a positive integer and MUST be equal or greater than the timestamp used in previous requests.
- oauth_singature Base64-encoded HMAC-SHA256 signature signed with the consumer's private key containing the all the components of the request and some OAuth value. The signature can be used to verify that the identity URL wasn't modified because it was sent by the server.
- oauth_version OPTIONAL. If present, value MUST be 1.0. Odoo assume the protocol version to be 1.0 if this parameter is not present. Odoo's response to non-1.0 value is left undefined.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

2. Resource Owner Authorization

Obtain authorization from the user (resource owner) to access their protected resources (customers, orders, etc.). This is commonly done by redirecting the user to a specific url to which you add the request token as a query parameter. Note that not all services will give you a verifier even if they should. Also the oauth_token given here will be the same as the one in the previous step.

GET /restapi/1.0/common/oauth1/authorize Request:

```
GET /restapi/1.0/common/oauth1/authorize HTTP/1.1
Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK
{
   'oauth_token': 'mXYKtuv8k3NJfnpLMpU3KFuEijXx2Aat',
```

```
'oauth_verifier': 'sdflk3450FASDLJasd2349dfs'
}
```

Query Parameters

• oauth_token - OPTIONAL. The Request Token obtained in the previous step.

Request Headers

- Accept the response content type depends on Accept header
- Authorization OPTIONAL OAuth token to authenticate

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

3. Token Credentials Request

Obtain an access token from the Odoo. Save this token as it can be re-used later. In this step we will re-use most of the credentials obtained uptil this point.

POST /restapi/1.0/common/oauth1/access_token Request:

Response:

```
HTTP/1.1 200 OK

{
   'oauth_token': 'RF7gImCv0B58eogLiPmOmNPizZEVVUWP',
   'oauth_token_secret': 'oxBUTIjTl8gfbxEv2jpXo5rRtQ16u3Lg'
}
```

Query Parameters

- oauth_consumer_key Odoo consumer key
- oauth_token The Request Token obtained previously.

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- oauth_nonce A randomly selected value provided by your application, which is unique for each authorization request. During the OAuth callback phase, your application must check that this value matches the one you provided during authorization. This mechanism is important for the security of your application.
- oauth_signature_method The signature method that Consumer used to sign the request. The protocol defines three signature methods: HMAC-SHA1, RSA-SHA1, and PLAINTEXT.
- oauth_timestamp The timestamp is expressed in the number of seconds since January 1, 1970 00:00:00 GMT. The timestamp value MUST be a positive integer and MUST be equal or greater than the timestamp used in previous requests.
- oauth_verifier The verification code received from the Odoo.
- oauth_singature Base64-encoded HMAC-SHA256 signature signed with the consumer's private key containing the all the components of the request and some OAuth value. The signature can be used to verify that the identity URL wasn't modified because it was sent by the server.
- oauth_version OPTIONAL. If present, value MUST be 1.0. Odoo assume the protocol version to be 1.0 if this parameter is not present. Odoo's response to non-1.0 value is left undefined.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

OAuth2 Authentication

Setup credentials following the instructions on *Configuration*. When you have obtained a client_id and a client_secret you can try out OAuth 2.0 resapi/1.0/common/oauth2 flow goes as follows to get authorized:

Note: OAuth endpoints:

- 1. GET {your_Odoo_server_url}/restapi/1.0/common/oauth2/authorize (Resource Owner Authorization endpoint)
- 2. POST {your_Odoo_server_url}/restapi/1.0/common/oauth2/access_token (Token Credentials Request endpoint)

1. Resource Owner Authorization

User authorization through redirection. First we will create an authorization url from the base URL given by the Odoo and the credentials previously obtained.

GET /restapi/1.0/common/oauth2/authorize Request:

Response:

```
HTTP/1.1 200 OK
{
   'code': 'dcee1806d2c50d0fb598',
   'state': 'Y1Ux1iNPvn6KYQK5Lj84WJ9VJrQw1L'
}
```

Query Parameters

- client_id Odoo consumer key
- **state** Specifies any additional URL-encoded state data to be returned in the callback URL after approval.
- redirect_uri An absolute URL to which the Odoo will redirect the User back when the obtaining User Authorization step is completed.
- response_type Must be code for this authentication flow.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

2. Token Credentials Request

Fetch an access token from the Odoo using the authorization code obtained during user authorization.

POST /restapi/1.0/common/oauth2/access_token Request:

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```
code='dcee1806d2c50d0fb598'
grant_type='authorization_code'
```

Response:

```
HTTP/1.1 200 OK

{
   'access_token': 'eyJ0eXAiOiJKV1QiLCJhbGciOiJSUzI1NiIsIn',
   'token_type': 'bearer',
   'access_token_validity': '7/20/2017 12:00:05',
   'refresh_token': 'ZXIiLCJnaXZlbl9uYW1lIjoiRnJhbmsifQ'
}
```

Query Parameters

- client_id Odoo consumer key
- client_secret Odoo consumer secret
- redirect_uri An absolute URL to which the Odoo will redirect the User back when the obtaining User Authorization step is completed.
- code Authorization code the consumer must use to obtain the access and refresh tokens.
- grant_type Value must be authorization_code for this flow.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

Calling Methods

The second endpoint restapi/1.0/object is used to call methods of odoo models.

What you can do

The REST API lets you do the following with the Odoo models:

Check Access Rights

For instance to see if we can read the res.partner model we can call <code>check_access_rights</code> with operation passed by position and <code>raise_exception</code> passed by keyword (in order to get a true/false result rather than true/error).

GET /restapi/1.0/object/{object_name}/check_access_rights?operation={list_of_operations} Request:

Response:

```
HTTP/1.1 200 OK
{
   'return': true
}
```

Query Parameters

- operation allowed for the user according to the access rights. one of create, write, read or unlink.
- raise_exception OPTIONAL. raise an Error or return None, depending on the value True or False (default: True)

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

List Records

Records can be listed and filtered via search(). It takes a mandatory domain filter (possibly empty), and returns the database identifiers of all records matching the filter.

GET /restapi/1.0/object/{object_name}/search Request:

```
GET /restapi/1.0/object/res.partner/search?domain=[('is_company','=',True),(

→'customer','=',True)] HTTP/1.1

Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK
{
   'res.partner': [
```

```
7, 18, 12, 10, 17, 19, 8, 31, 26, 16, 13, 20, 30, 22, 29, 15, 23, 28, 74
]
}
```

Query Parameters

- domain A search domain. Use an empty list to match all records.
- offset OPTIONAL. Number of results to ignore (default: none)
- limit OPTIONAL. Maximum number of records to return (default: all)
- order OPTIONAL. Sort string
- **count** OPTIONAL. if True, only counts and returns the number of matching records (default: False)

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Pagination

By default a restapi/1.0/object/{object_name}/search will return the ids of all records matching the condition, which may be a huge number. offset and limit parameters are available to only retrieve a subset of all matched records.

Request:

```
HTTP/1.1 200 OK

{
  'res.partner': [
     13, 20, 30, 22, 29
  ]
}
```

Count Records

Rather than retrieve a possibly gigantic list of records and count them, search_count() can be used to retrieve only the number of records matching the query. It takes the same domain filter as search() and no other parameter.

Warning: calling restapi/1.0/object/{object_name}/search then restapi/1.0/object/{object_name}/search_count (or the other way around) may not yield coherent results if other users are using the server: stored data could have changed between the calls

GET /restapi/1.0/object/{object_name}/search_count Request:

Response:

```
HTTP/1.1 200 OK
{
   'count': 19
}
```

Query Parameters

• domain – A search domain. Use an empty list to match all records.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Read Records

Note: API endpoints:

- GET {your_Odoo_server_url}/restapi/1.0/object/{object_name}/{id} (Read Single Record)
- GET {your_Odoo_server_url}/restapi/1.0/object/{object_name}?ids={comma_separated_ids} (Read Record Set)

• GET {your_Odoo_server_url}/restapi/1.0/object/{object_name}/?domain={comma_separated_list_of_args} (Read Filter Records)

Read Single Record

Record data is accessible via the read(), which takes a single record id and optionally a list of fields to fetch. By default, it will fetch all the fields the current user can read, which tends to be a huge amount.

GET /restapi/1.0/object/{object_name}/{id} Request:

```
GET /restapi/1.0/object/res.partner/12 HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

Query Parameters

• **fields** – OPTIONAL. list of field names to return (default is all fields).

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed

• 403 Forbidden – if any error raise

Conversely, picking only three fields deemed interesting.

Request:

```
GET /restapi/1.0/object/res.partner/12?fields=['name','country_id'] HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

```
HTTP/1.1 200 OK

{
  'res.partner': {
    'id': 12,
    'name': 'Think Big Systems',
    'country_id': [486, 'United Kingdom']
  }
}
```

Note: even if the id field is not requested, it is always returned

Read List Records

Record data is accessible via the read(), which takes a list of ids (as returned by /restapi/1.0/object/{object_name}/search) and optionally domain filter and a list of fields to fetch. By default, it will fetch all the fields the current user can read, which tends to be a huge amount.

GET /restapi/1.0/object/{object_name}?ids={comma_separated_ids} Request:

```
GET /restapi/1.0/object/res.partner?ids=12,17 HTTP/1.1
Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK

{
    'id': 12,
        'name': 'Think Big Systems',
        'street': '89 Lingfield Tower',
        'street2': false,
        'city': 'London',
        'state_id': false,
        'zip': false,
        'country_id': [486, 'United Kingdom'],
        'create_date': '2017-07-10 11:02:57',
        'create_uid': [1, 'Administrator'],
        'write_date': '2017-07-11 15:08:45',
        'write_uid': [1, 'Administrator'],
        ...
```

```
. . .
    },
        'id': 17,
        'name': 'Edward Foster',
        'street': '69 rue de Namur',
        'street2': false,
        'city': 'Wavre',
        'state_id': false,
        'zip': '1300',
        'country_id': [274, 'Belgium'],
        'create_date': '2017-07-04 18:10:31',
        'create_uid': [1, 'Administrator'],
        'write_date': '2017-07-04 19:02:59',
        'write_uid': [1, 'Administrator'],
        . . .
        . . .
]
```

Query Parameters

• **fields** – OPTIONAL. list of field names to return (default is all fields).

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Conversely, picking only three fields deemed interesting.

Request:

```
GET /restapi/1.0/object/res.partner?ids=12,17&fields=['name','country_id']_

HTTP/1.1

Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK
{
   'res.partner': [
```

```
{
    'id': 12,
    'name': 'Think Big Systems',
    'country_id': [486, 'United Kingdom']
},
{
    'id': 17,
    'name': 'Edward Foster',
    'country_id': [274, 'Belgium']
}
```

Note: even if the id field is not requested, it is always returned

Read Filter Records

Record data is accessible via the search_read() (shortcut which as its name suggests is equivalent to a search() followed by a read(), but avoids having to perform two requests and keep ids around).

It takes similar arguments of search() and optionally a list of fields to fetch. By default, it will fetch all the records and relavent fields the current user can read, which tends to be a huge amount.

GET /restapi/1.0/object/{object_name}/?domain={comma_separated_list_of_args} Request:

```
GET /restapi/1.0/object/res.partner?domain=[('is_company','=',True),('customer','= \( \rightarrow',True) \)] HTTP/1.1
Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK
  'res.partner': [
          'id': 12,
          'name': 'Think Big Systems',
          'street': '89 Lingfield Tower',
          'street2': false,
          'city': 'London',
          'state_id': false,
          'zip': false,
          'country_id': [486, 'United Kingdom'],
          'create_date': '2017-07-10 11:02:57',
          'create_uid': [1, 'Administrator'],
          'write_date': '2017-07-11 15:08:45',
          'write_uid': [1, 'Administrator'],
          . . .
          . . .
          . . .
      },
          'id': 17,
```

```
'name': 'Edward Foster',
    'street': '69 rue de Namur',
    'street2': false,
    'city': 'Wavre',
    'state_id': false,
    'zip': '1300',
    'country_id': [274, 'Belgium'],
    'create_date': '2017-07-04 18:10:31',
    'create_uid': [1, 'Administrator'],
    'write_date': '2017-07-04 19:02:59',
    'write_uid': [1, 'Administrator'],
    ...
    ...
},
...
},
...
]
```

Query Parameters

- domain OPTIONAL. A search domain. Use an empty list to match all records.
- **fields** OPTIONAL. list of field names to return (default is all fields).
- offset OPTIONAL. Number of results to ignore (default: none)
- limit OPTIONAL. Maximum number of records to return (default: all)
- order OPTIONAL. Sort string
- **count** OPTIONAL. if True, only counts and returns the number of matching records (default: False)

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Conversely, picking only three fields deemed interesting.

Request:

Response:

```
HTTP/1.1 200 OK
  'res.partner': [
      {
          'id': 7,
          'name': 'Agrolait',
          'country_id': [274, 'Belgium']
          'id': 12,
          'name': 'Think Big Systems',
          'country_id': [486, 'United Kingdom']
          'id': 17,
          'name': 'Edward Foster',
          'country_id': [274, 'Belgium']
      },
          'id': 8,
          'name': 'China Export',
          'country_id': [302, 'China']
      },
          'id': 10,
          'name': 'The Jackson Group',
          'country_id': [488, 'United States']
  ]
```

Note: even if the id field is not requested, it is always returned

Listing Record Fields

fields_get() can be used to inspect a model's fields and check which ones seem to be of interest.

Because it returns a large amount of meta-information (it is also used by client programs) it should be filtered before printing, the most interesting items for a human user are string (the field's label), help (a help text if available) and type (to know which values to expect, or to send when updating a record).

GET /restapi/1.0/object/{object_name}/fields_get Request:

```
HTTP/1.1 200 OK {
```

```
'res.partner': {
     'ean13': {
         'type': 'char',
         'help': 'BarCode',
         'string': 'EAN13'
     },
     'property_account_position_id': {
          'type': 'many2one',
         'help': 'The fiscal position will determine taxes and accounts used for
\hookrightarrowthe partner.',
          'string': 'Fiscal Position'
     },
     'signup_valid': {
         'type': 'boolean',
          'help': '',
          'string': 'Signup Token is Valid'
     },
      'date_localization': {
         'type": 'date',
         'help": '',
         'string': 'Geo Localization Date'
      'ref_company_ids': {
         'type': 'one2many',
         'help': '',
         'string': 'Companies that refers to partner'
     },
      'sale_order_count': {
         'type': 'integer',
         'help': '',
         'string': '# of Sales Order'
      'purchase_order_count': {
         'type': 'integer',
         'help': '',
         'string': '# of Purchase Order'
 }
```

Query Parameters

- allfields OPTIONAL. list of fields to document, all if empty or not provided
- attributes OPTIONAL. list of description attributes to return for each field, all if empty or not provided

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

• 200 OK – no error

- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Create Records

Records of a model are created using create().

It takes a mapping of fields to values, used to initialize the record. For any field which has a default value and is not set through the mapping argument, the default value will be used.

Warning: while most value types are what would be expected (integer for Integer, string for Char or Text),

- Date, Datetime and Binary fields use string values
- One2many and Many2many use a special command protocol detailed in the documentation to the write method.

POST /restapi/1.0/object/{object_name}?vals={values_for_the_object's_fields} Request:

```
POST /restapi/1.0/object/res.partner?vals={'name':'Peter Mitchell','street':'31_

→Hong Kong street','city':'Taipei','zip':'106','country_id':482} HTTP/1.1

Host: <your Odoo server url>
```

Response:

```
HTTP/1.1 200 OK
  'res.partner': {
      'id': 20,
      'name': 'Peter Mitchell',
      'street': '31 Hong Kong street',
      'street2': false,
      'city': 'Taipei',
      'state_id': false,
      'zip': '106',
      'country_id': [482, 'Taiwan'],
      'create_date': '2017-07-12 13:34:22',
      'create uid': [1, 'Administrator'],
      'write_date': '2017-07-12 13:34:22',
      'write_uid': [1, 'Administrator'],
      . . .
  }
```

Query Parameters

• vals - values for the object's fields, as a dictionary:: {'field_name': field_value,...} see write() for details.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Update Records

Note: API endpoints:

- PUT {your_Odoo_server_url}/restapi/1.0/object/{object_name}/{id}?vals={fields_and_values_to_update} (Update Single Record)
- PUT {your_Odoo_server_url}/restapi/1.0/object/{object_name}?ids={comma_separated_ids}&vals={fields_and_values_to_upd}
 (Update Record Set)

Update Single Record

Record can be updated using write(), it takes a record id to update and a mapping of updated fields to values similar to create().

PUT /restapi/1.0/object/{object_name}/{id}?vals={fields_and_values_to_update} Request:

```
PUT /restapi/1.0/object/res.partner/20?vals={'street2':'Chung Hsiao East Road'}_

HTTP/1.1
Host: {your_Odoo_server_url}
```

```
HTTP/1.1 200 OK

{
    'res.partner': {
        'id': 20,
        'name': 'Peter Mitchell',
        'street': '31 Hong Kong street',
        'street2': 'Chung Hsiao East Road',
        'city': 'Taipei',
        'state_id': false,
        'zip': '106',
        'country_id': [482, 'Taiwan'],
        'create_date': '2017-07-12 13:34:22',
        'create_uid': [1, 'Administrator'],
        'write_date': '2017-07-13 11:18:28',
```

```
'write_uid': [1, 'Administrator'],
...
...
}
```

Query Parameters

• vals - fields to update and the value to set on them:: {'field_name': field_value,...} see write() for details.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Update List Records

Records can be updated using write(), it takes a list of records to update and a mapping of updated fields to values similar to create().

Multiple records can be updated simultanously, but they will all get the same values for the fields being set. It is not currently possible to perform **computed** updates (where the value being set depends on an existing value of a record).

PUT /restapi/1.0/object/{object_name}?ids={comma_separated_ids}&vals={fields_and_values_to_ Request:

```
PUT /restapi/1.0/object/res.partner?ids=17,20&vals={'street2':'Chung Hsiao East_

→Road'} HTTP/1.1

Host: {your_Odoo_server_url}
```

```
'zip': '1300',
        'country_id': [274, 'Belgium'],
        'create_date': '2017-07-04 18:10:31',
        'create_uid': [1, 'Administrator'],
        'write_date': '2017-07-13 11:18:28',
        'write_uid': [1, 'Administrator'],
        . . .
        . . .
    },
        'id': 20,
        'name': 'Peter Mitchell',
        'street': '31 Hong Kong street',
        'street2': 'Chung Hsiao East Road',
        'city': 'Taipei',
        'state_id': false,
        'zip': '106',
        'country_id': [482, 'Taiwan'],
        'create_date': '2017-07-12 13:34:22',
        'create_uid': [1, 'Administrator'],
        'write_date': '2017-07-13 11:18:28',
        'write_uid': [1, 'Administrator'],
        . . .
    }
]
```

Query Parameters

• vals - fields to update and the value to set on them:: {'field_name': field_value,...} see write() for details.

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Delete Records

Note: API endpoints:

DELETE {your_Odoo_server_url}/restapi/1.0/object/{object_name}/{id} (Delete Single Record)

DELETE {your_Odoo_server_url}/restapi/1.0/object/{object_name}?ids={comma_separated_ids} (Delete Record Set)

Delete Single Record

Record can be deleted using unlink(), it takes a record id to delete.

DELETE /restapi/1.0/object/{object_name}/{id} Request:

```
DELETE /restapi/1.0/object/res.partner/20 HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

```
HTTP/1.1 200 OK {}
```

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Delete List Records

Records can be deleted using unlink(), it takes a list of records to delete.

DELETE /restapi/1.0/object/{object_name}?ids={comma_separated_ids} Request:

```
DELETE /restapi/1.0/object/res.partner?ids=17,20 HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

```
HTTP/1.1 200 OK {}
```

Request Headers

• Accept – the response content type depends on Accept header

• Authorization – The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Workflow Manipulations

Workflows can be moved along by sending them signals.

Signals are sent to a specific record using restapi/1.0/workflow endpoint, and possibly trigger a transition on the workflow instance associated with the record.

Note: Workflow manipulation will be used only for Odoo older version (V8.0, V9.0, V10.0).

GET /restapi/1.0/workflow/{object_name}/{id}/{signal} Request:

Warning: this example needs account module installed

```
GET /restapi/1.0/workflow/account.invoice/5/invoice_open HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

```
HTTP/1.1 200 OK {}
```

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Report Printing

Available reports can be listed by searching the ir.actions.report.xml model, fields of interest being model the model on which the report applies, can be used to look for available reports on a specific model name human-readable report name

report_name the technical name of the report, used to print it

Reports can be printed using restapi/1.0/report endpoint over REST API with the following information:

- the name of the report (report name)
- the single record id or ids of the records to include in the report

Note: API endpoints:

- GET {your_Odoo_server_url}/restapi/1.0/report/{report_name}/{id} (Print Single Report)
- GET {your_Odoo_server_url}/restapi/1.0/report/{report_name}?ids={comma_separated_ids} (Print Report Set)

Print Single Report

Report can be printed by giving the name of the report(report_name) and a single record id.

GET /restapi/1.0/report/{report_name}/{id}
 Request:

Warning: this example needs account module installed

```
GET /restapi/1.0/report/account.report_invoice/12 HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

Note: the report is sent as PDF binary data encoded in base64, it must be decoded and may need to be saved to disk before use

```
...'
}
}
```

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Print List Reports

Report can be printed by giving the name of the report(report_name) and a list of records.

GET /restapi/1.0/report/{report_name}?ids={comma_separated_ids}
 Request:

Warning: this example needs account module installed

```
GET /restapi/1.0/report/account.report_invoice?ids=12,17 HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

Note: the report is sent as PDF binary data encoded in base64, it must be decoded and may need to be saved to disk before use

```
osFaS+TBnK4kKti5sNaYq\/z49aqYl5kqLrljUtORfMOlo\/36+H4ZH
         . . .
         . . . '
         'id': 17,
         'state': 'true',
         'format': 'pdf',
         'result': '9iggMd1TLtbRKUdKXEQFsd4XrZRPLIgMZUeJ+jKvrAlK6AhJ65A\nMp
         MpKuC3j5obIsRwS7hAN81\/YtvDvnYXHbAoLI47SIUsOMenorF4gO\/
→m4+fH\npo4vLZ8oKMukgp0cJbhVSMV2U
         uPRObAfMLIrLrg\/OcJwT8h+Vt+wn8eurLlh\nQrIfKHQOHHQOHf\/\/\/
         \/\yH5BAEAAP8ALAAAABuAIwAAAj\/AP8JHDhQXjpz\n\/
→PopXNiPn0OHDRMmbKhQIsOJFS1SxAhxI
         8SHFzVeDBnx48iNBAeeOkcxokeX\nFRdOnAlSokaaLXNujJkxo8iYHRkKtWkzZ
         SsaOXkAWsoUECynsHgoqEW1q
         . . .
         . . . '
 1
```

Request Headers

- Accept the response content type depends on Accept header
- Authorization The OAuth protocol parameters to authenticate.

Response Headers

• Content-Type – this depends on Accept header of request

Status Codes

- 200 OK no error
- 404 Not Found there's no resource
- 401 Unauthorized authentication failed
- 403 Forbidden if any error raise

Inspection and Introspection

While we previously used fields_get() to query a model and have been using an arbitrary model from the start, Odoo stores most model metadata inside a few meta-models which allow both querying the system and altering models and fields (with some limitations) on the fly over REST API.

Note:

- 1. Provides information about Odoo models via its various fields (ir.model)
- 2. Provides information about the fields of Odoo models and allows adding custom fields without using Python code (ir.model.fields)

ir.model

Provides information about Odoo models via its various fields

name a human-readable description of the model

model the name of each model in the system

state whether the model was generated in Python code (base) or by creating an ir.model record (manual)

field_id list of the model's fields through a One2many to ir.model.fields

view_ids One2many to the Views defined for the model

access_ids One2many relation to the Access Control set on the model

Note: ir.model can be used to:

- query the system for installed models (as a precondition to operations on the model or to explore the system's content)
- get information about a specific model (generally by listing the fields associated with it)
- · create new models dynamically over REST API

Warning:

- custom model names must start with x_{-}
- the state must be provided and manual, otherwise the model will not be loaded
- it is not possible to add new *methods* to a custom model, only fields

Example

1. Create x_custom_model model record in ir.model object using Create Records API endpoint.

Request:

```
POST /restapi/1.0/object/ir.model?vals={'name':'Custom Model','model':'x_custom_

→model','state':'manual'} HTTP/1.1

Host: {your_Odoo_server_url}
```

2. Inspect a model x_custom_model's fields using Listing Record Fields API endpoint.

Request:

```
GET /restapi/1.0/object/x_custom_model/fields_get?attributes=['string','help \( \to ', 'type'] \) HTTP/1.1
Host: {your_Odoo_server_url}
```

Response:

Note: a custom model will initially contain only the "built-in" fields available on all models

```
HTTP/1.1 200 OK
  'x_custom_model': {
      'create_uid': {
          'type': 'many2one',
          'string': 'Created by'
      },
      'create_date': {
          'type": 'datetime',
          'string': 'Created on'
      },
      '__last_update': {
          'type': 'datetime',
          'string': 'Last Modified on'
      'write_uid': {
          'type': 'many2one',
          'string': 'Last Updated by'
      'write_date': {
          'type': 'datetime',
          'string': 'Last Updated on'
      'display_name': {
          'type': 'char',
          'string': 'Display Name'
      'id": {
          'type': 'integer',
          'string': 'Id'
  }
```

ir.model.fields

Provides information about the fields of Odoo models and allows adding custom fields without using Python code **model_id** Many2one to *ir.model* to which the field belongs

name the field's technical name (used in read or write)

field_description the field's user-readable label (e.g. string in fields_get)

ttype the type of field to create

state whether the field was created via Python code (base) or via ir.model.fields (manual)

required, readonly, translate enables the corresponding flag on the field

groups field-level access control, a Many2many to res.groups

selection, size, on_delete, relation, relation_field, domain type-specific properties and customizations, see the fields documentation for details

Note: Like custom models, only new fields created with state="manual" are activated as actual fields on the model.

Warning: computed fields can not be added via ir.model.fields, some field meta-information (defaults, onchange) can not be set either

Example

1. Create x_custom model record in ir.model object using Create Records API endpoint.

Request:

Response:

```
HTTP/1.1 200 OK

{
    'ir.model': {
        'id': 105,
        'name': 'Custom Model',
        'model': 'x_custom',
        'state': 'manual'
        ...
        ...
        ...
     }
}
```

2. Create x_name field record in ir.model.fields object using Create Records API endpoint.

Request:

```
HTTP/1.1 200 OK {
```

```
'ir.model.fields': {
    'id': 210,
    'name': 'x_name',
    'model_id': [105, 'Custom Model'],
    'ttype': 'char',
    'state': 'manual',
    'required': True
    ...
    ...
}
```

3. Create test record record in x_custom object using Create Records API endpoint.

Request:

```
POST /restapi/1.0/object/x_custom?vals={'x_name':'test record'} HTTP/1.1 Host: {your_Odoo_server_url}
```

```
/restapi
                                        DELETE /restapi/1.0/object/{object name}?ids={commark
GET /restapi/1.0/common/oauth1/authorize,
GET /restapi/1.0/common/oauth2/authorize, /start
                                         GET /start.7
GET /restapi/1.0/common/version,8
GET /restapi/1.0/object/{object_name}/?domain={comma_separated_list_of_args},
GET /restapi/1.0/object/{object_name}/check_access_rights?operation={list_of_operations},
GET /restapi/1.0/object/{object_name}/fields_get,
GET /restapi/1.0/object/{object_name}/search,
GET /restapi/1.0/object/{object_name}/search_count,
GET /restapi/1.0/object/{object_name}/{id},
GET /restapi/1.0/object/{object_name}?ids={comma_separated_ids},
GET /restapi/1.0/report/{report_name}/{id},
GET /restapi/1.0/report/{report_name}?ids={comma_separated_ids},
GET /restapi/1.0/workflow/{object_name}/{id}/{signal},
POST /restapi/1.0/common/oauth1/access token,
POST /restapi/1.0/common/oauth1/request_token,
POST /restapi/1.0/common/oauth2/access_token,
POST /restapi/1.0/object/{object_name}?vals={values_for_the_object's_fields},
PUT /restapi/1.0/object/{object_name}/{id}?vals={fields_and_values_to_update},
PUT /restapi/1.0/object/{object_name}?ids={comma_separated_ids}&vals={fields_and_values_to_
DELETE /restapi/1.0/object/{object_name}/{id},
```