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# **cognite-sdk-python Documentation**

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This package has been created to ensure excellent user experience for data scientists using the Cognite Data Platform (CDP).

To install this package run the following command

```
pip install cognite-sdk
```



Project Configuration Module.

This module allows you to set an api-key and a project for your python project.

`cognite.config.configure_session` (*api\_key*=", *project*=", *cookies*=None, *debug*=False)  
Sets session variables.

### Parameters

- **api\_key** (*str*) – Api-key for current project.
- **cookies** (*dict*) – Cookies to pass with requests.
- **project** (*str*) – Project name for current project.
- **debug** (*bool*) – Whether or not to output a debug log.

`cognite.config.get_base_url` ()

Returns the current base url for requests made from the SDK. :param *api\_version*: Version of API to use for  
*base\_url* :type *api\_version*: float

**Returns** current base url.

**Return type** str

`cognite.config.get_config_variables` (*api\_key*, *project*)

Returns current project config variables unless other is specified.

### Parameters

- **api\_key** (*str*) – Other specified api-key.
- **project** (*str*) – Other specified project name.

**Returns** api-key and project name belonging to current project unless other is specified.

**Return type** tuple

`cognite.config.get_cookies` (*cookies*=None)

Returns cookies set for the current session.

**Returns** Cookies for current session.

**Return type** dict

`cognite.config.get_number_of_retries()`

Returns the current number of retries attempted for requests made from the SDK.

**Returns** current number of retries attempted for requests.

**Return type** int

`cognite.config.set_base_url(url=None)`

Sets the base url for requests made from the SDK.

**Parameters** `url` (*str*) – URL to set. Set this to None to use default url.

`cognite.config.set_number_of_retries(retries: int = None)`

Sets the number of retries attempted for requests made from the SDK.

**Parameters** `retries` (*int*) – Number of retries to attempt. Set this to None to use default number of retries.



Preprocessing module.

This module provides a number of preprocessing methods to further clean the data retrieved from the Cognite API.

`cognite.preprocessing.fill_nan` (*dataframe*)

Uses step interpolation to replace NaN values with the previous non-NaN value.

**Parameters** `dataframe` (*pandas.DataFrame*) – Input dataframe.

**Returns** Input dataframe with NaN values removed by forward fill.

**Return type** `pandas.DataFrame`

`cognite.preprocessing.make_index_even` (*dataframe*)

Creates time index with evenly spaced intervals. Adds NaN to timestamps with missing values.

**Parameters** `dataframe` (*pandas.DataFrame*) – Input dataframe.

**Returns** Input dataframe with evenly spaced intervals.

**Return type** `pandas.DataFrame`

`cognite.preprocessing.merge_list_of_dataframes` (*dataframes*)

Merges together a list of dataframes and creates a time index with evenly spaced intervals.

Adds NaN to timestamps with missing values.

**Parameters** `dataframes` (*list(pandas.DataFrame)*) – Input dataframes.

**Returns** Dataframes merged into one with evenly spaced intervals.

**Return type** `pandas.DataFrame`

`cognite.preprocessing.normalize` (*dataframe*)

Centers and scales each column in the data frame to zero mean and unit variance.

**Parameters** `dataframe` (*pandas.DataFrame*) – Input dataframe.

**Returns** Normalized dataframe.

**Return type** `pandas.DataFrame`

`cognite.preprocessing.preprocess` (*dataframe*, *remove\_leading\_nan\_rows=False*, *center\_and\_scale=False*)

Performs a series of preprocessing steps on the given dataframe.

1. Creates an evenly spaced time index
2. Forward fills NaN values
3. Either removes leading rows with nan values or removes columns with leading nan values
4. Removes columns with zero variance
5. Optionally centers and scales the dataframe to zero mean and unit variance.

#### Parameters

- **dataframe** (*pandas.DataFrame*) – Input dataframe.
- **remove\_leading\_nan\_rows** (*bool*, *optional*) – Whether or not to skip leading rows containing NaN values.
- **center\_and\_scale** (*bool*, *optional*) – Whether or not to normalize the data.

#### Returns

**tuple containing:** `pandas.DataFrame`: Dataframe with zero-variance columns removed.  
`numpy.array`: Array of bools indicating which columns were kept.

**Return type** tuple

`cognite.preprocessing.remove_nan_columns` (*dataframe*)

Removes columns of data frame where any value is NaN.

**Parameters** **dataframe** (*pandas.DataFrame*) – Input dataframe.

#### Returns

**tuple containing:** `pandas.DataFrame`: Dataframe with columns containing NaN values removed.  
`numpy.array`: Array of bools indicating which columns were kept.

**Return type** tuple

`cognite.preprocessing.remove_zero_variance_columns` (*dataframe*)

Removes columns with zero variance.

**Parameters** **dataframe** (*pandas.DataFrame*) – Input dataframe.

#### Returns

**tuple containing:** `pandas.DataFrame`: Dataframe with zero-variance columns removed.  
`numpy.array`: Array of bools indicating which columns were kept.

**Return type** tuple

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## Data Transfer Service

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```
class cognite.data_transfer_service.DataSpec (time_series_data_specs:
                                         List[cognite.data_transfer_service.TimeSeriesDataSpec]
                                         = None, files_data_spec: cog-
                                         nite.data_transfer_service.FilesDataSpec
                                         = None)
```

Bases: object

Object for specifying data when querying CDP.

### Parameters

- **time\_series\_data\_specs** (*List[TimeSeriesDataSpec]*) – Time Series data specs
- **files\_data\_spec** (*FilesDataSpec*) – Files data spec

**Raises** *DataSpecValidationError* – An error occurred while validating the data spec

```
classmethod from_JSON (json_repr)
```

```
to_JSON ()
```

```
exception cognite.data_transfer_service.DataSpecValidationError
```

Bases: Exception

```
class cognite.data_transfer_service.DataTransferService (data_spec: cog-
                                                                nite.data_transfer_service.DataSpec,
                                                                project: str = None,
                                                                api_key: str = None,
                                                                cookies: Dict = None,
                                                                num_of_processes: int =
                                                                10)
```

Bases: object

Create a Data Transfer Service object.

Fetch timeseries from the api.

```
get_dataframe (label: str = 'default', drop_agg_suffix: bool = True)
```

**get\_dataframes** (*drop\_agg\_suffix: bool = True*)

Return a dictionary of dataframes indexed by label - one per data spec.

**Parameters** **drop\_agg\_suffix** (*bool*) – If a time series has only one aggregate, drop the `<agg-func>` suffix on those column names.

**Returns** A label-indexed dictionary of data frames.

**Return type** Dict[str, pd.DataFrame]

**get\_file** (*name*)

Return files by name as specified in the DataSpec

**Parameters** **name** (*str*) – Name of file

**get\_time\_series\_name** (*ts\_label: str, dataframe\_label: str = 'default'*)

**class** `cognite.data_transfer_service.FilesDataSpec` (*file\_ids: Dict[str, int]*)

Bases: object

Object for specifying data from the Files API when using a data spec.

**Parameters** **file\_ids** (*Dict[str, int]*) – Dictionary of fileNames -> fileIds

**class** `cognite.data_transfer_service.TimeSeries` (*id: int, aggregates: List[str] = None, missing\_data\_strategy: str = None, label: str = None*)

Bases: object

Object for specifying a specific time series from the TimeSeries API when using a data spec.

#### Parameters

- **id** (*int*) – id of time series to retrieve
- **aggregates** (*List[str]*) – Local aggregate functions to apply
- **missing\_data\_strategy** (*str*) – Missing data strategy to apply
- **label** (*str*) – name of the column in the resulting data frame when passed to data transfer service.

## Examples

When you supply a label the resulting data frames produced by data transfer service will use the label as column names.

```
class cognite.data_transfer_service.TimeSeriesDataSpec (time_series: List[cognite.data_transfer_service.TimeSeries], aggregates: List[str], granularity: str, missing_data_strategy: str = None, start: Union[str, int, datetime.datetime] = None, end: Union[str, int, datetime.datetime] = None, label: str = None)
```

Bases: object

Object for specifying data from the TimeSeries API when using a data spec.

#### Parameters

- **time\_series** (*List[data\_transfer\_service.TimeSeries]*) – Time series
- **aggregates** (*List[str]*) – List of aggregate functions
- **granularity** (*str*) – Granularity of aggregates
- **missing\_data\_strategy** (*str*) – Missing data strategy to apply, can be “linearInterpolation” or “ffill”
- **start** (*Union[str, int, datetime]*) – Start time
- **end** (*Union[str, int, datetime]*) – end time
- **label** (*str*) – Label for this data spec

## Examples

When you specify a label, data transfer service will exhibit the following behaviour:

```
ts_data_spec = TimeSeriesDataSpec(..., label="some_label")
data_spec = DataSpec([ts_data_spec], ...)
dts = DataTransferService(data_spec)
dataframes = dts.get_dataframes
my_df = dataframes["some_label"]
```



## 4.1 Analytics

### 4.1.1 Models

Models Module.

This module mirrors the Models API.

<https://doc.cognitedata.com/0.6/models>

```
cognite.v06.analytics.models.create_model (name: str, description: str = "", metadata: Dict[str, Any] = None, input_fields: List[str] = None, output_fields: List[str] = None, **kwargs)
```

Creates a new model

#### Parameters

- **name** (*str*) – Name of model
- **description** (*str*) – Description
- **metadata** (*Dict[str, Any]*) – Metadata about model
- **input\_fields** (*List[str]*) – List of input fields the model accepts
- **(List[str] (output\_fields))** – List of output fields the model produces

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The created model.

**Return type** Dict

`cognite.v06.analytics.models.create_schedule` (*model\_id: int, name: str, output\_data\_spec: Dict, input\_data\_spec: Dict, description: str = None, args: Dict = None, metadata: Dict = None, \*\*kwargs*)

Create a new schedule on a given model.

#### Parameters

- **model\_id** (*int*) – Id of model to create schedule on
- **name** (*str*) – Name of schedule
- **output\_data\_spec** (*Dict*) – Specification of output. Example below.
- **input\_data\_spec** (*Dict*) – Specification of input. Example below.
- **description** (*str*) – Description for schedule
- **args** (*Dict*) – Dictionary of keyword arguments to pass to predict method.
- **metadata** (*Dict*) – Dictionary of metadata about schedule

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The created schedule.

**Return type** Dict

**Examples** The output data spec must look like this:

```
{
  "timeSeries": [
    {
      "label": "string",
      "id": 123456789
    }
  ]
}
```

The input data spec must look like this. The `local aggregate` and the `missingDataStrategy` fields are optional:

```
{
  "windowSize": "1s",
  "stride": "1s",
  "missingDataStrategy": "",
  "timeSeries": [
    {
      "label": "string",
      "id": 0,
      "missingDataStrategy": "string",
      "aggregate": "string"
    }
  ],
  "aggregate": "string",
  "granularity": "string"
}
```



`cognite.v06.analytics.models.create_source_package` (*name: str, package\_name: str, available\_operations: List[str], runtime\_version: str, description: str = None, meta\_data: Dict = None, file\_path: str = None, \*\*kwargs*)

Upload a source package to the model hosting environment.

#### Parameters

- **name** (*str*) – Name of source package
- **package\_name** (*str*) – name of root package for model
- **available\_operations** (*List[str]*) – List of routines which this source package supports [“predict”, “train”]
- **runtime\_version** (*str*) – Version of environment in which the source-package should run. Currently only 0.1.
- **description** (*str*) – Description for source package
- **meta\_data** (*Dict*) – User defined key value pair of additional information.
- **file\_path** (*str*) – File path of source package distribution. If not specified, a download url will be returned.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** Source package ID if file path was specified. Else, source package id and upload url.

**Return type** Dict

`cognite.v06.analytics.models.delete_model` (*model\_id: int, \*\*kwargs*)

Delete a model.

Will also delete all versions and schedules for this model.

**Parameters** **model\_id** (*int*) – Delete model with this id.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** Empty Response

**Return type** Dict

`cognite.v06.analytics.models.delete_schedule` (*schedule\_id: int, \*\*kwargs*)

Delete a schedule by id.

**Parameters** **schedule\_id** (*int*) – The id of the schedule to delete.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** Empty response

**Return type** Dict

`cognite.v06.analytics.models.delete_source_package` (*source\_package\_id*: *int*,  
*\*\*kwargs*)

Delete source package by id.

**Parameters** `source_package_id` (*int*) – Id of source package to delete.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** Empty response.

**Return type** Dict

`cognite.v06.analytics.models.delete_version` (*model\_id*: *int*, *version\_id*: *int*, *\*\*kwargs*)

Delete a model version by id.

**Parameters**

- `model_id` (*int*) – Id of model which has the model version.
- `version_id` (*int*) – Id of model version.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** The requested model version

**Return type** Dict

`cognite.v06.analytics.models.get_model` (*model\_id*: *int*, *\*\*kwargs*)

Get a model by id.

**Parameters** `model_id` (*int*) – Id of model to get.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** The requested model

**Return type** Dict

`cognite.v06.analytics.models.get_models` (*\*\*kwargs*)

Get all models.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** List of models

**Return type** List[Dict]

`cognite.v06.analytics.models.get_schedule` (*schedule\_id*: *int*, *\*\*kwargs*)

Get a schedule by id.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.

- **project** (*str*) – Project name.

**Returns** The requested schedule.

**Return type** Dict

`cognite.v06.analytics.models.get_schedules (**kwargs)`

Get all schedules.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The requested schedules.

**Return type** List[Dict]

`cognite.v06.analytics.models.get_source_package (source_package_id: int, **kwargs)`

Get model source package by id.

**Parameters** **source\_package\_id** (*int*) – Id of source package to get.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The requested source package.

**Return type** Dict

`cognite.v06.analytics.models.get_source_packages (**kwargs)`

Get all model source packages.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** List of source packages.

**Return type** List[Dict]

`cognite.v06.analytics.models.get_version (model_id: int, version_id: int, **kwargs)`

Get a specific model version by id.

**Parameters**

- **model\_id** (*int*) – Id of model which has the model version.
- **version\_id** (*int*) – Id of model version.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The requested model version

**Return type** Dict

`cognite.v06.analytics.models.get_versions (model_id: int, **kwargs)`

Get all versions of a specific model.

**Parameters** **model\_id** (*int*) – Get versions for the model with this id.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** List of model versions**Return type** List[Dict]

```
cognite.v06.analytics.models.online_predict (model_id: int, version_id: int = None, instances: List = None, args: Dict[str, Any] = None, **kwargs)
```

Perform online prediction on a models active version or a specified version.

**Parameters**

- **model\_id** (*int*) – Perform a prediction on the model with this id. Will use active version.
- **version\_id** (*int*) – Use this version instead of the active version. (optional)
- **instances** (*List*) – List of JSON serializable instances to pass to your model one-by-one.
- **args** (*Dict[str, Any]*) –

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** List of predictions for each instance.**Return type** List

```
cognite.v06.analytics.models.train_model_version (model_id: int, name: str, source_package_id: int, train_source_package_id: int = None, metadata: Dict = None, description: str = None, args: Dict[str, Any] = None, scale_tier: str = None, machine_type: str = None, **kwargs)
```

Train a new version of a model.

**Parameters**

- **model\_id** (*int*) – Create a new version under the model with this id
- **name** (*str*) – Name of model version. Must be unique on the model.
- **source\_package\_id** (*int*) – Use the source package with this id
- **train\_source\_package\_id** (*int*) – Use this source package for training. If omitted, will default to source\_package\_id.
- **metadata** (*Dict[str, Any]*) – Metadata about model version
- **description** (*str*) – Description of model version
- **args** (*Dict[str, Any]*) – Dictionary of arguments to pass to the training job.
- **scale\_tier** (*str*) – Which scale tier to use. Must be either “BASIC” or “CUSTOM”
- **machine\_type** (*str*) – Specify a machine type Applies only if scale\_tier is “CUSTOM”.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The created model version.

**Return type** Dict

## 4.2 Time Series

### Timeseries Module

This module mirrors the Timeseries API. It allows you to fetch data from the api and output it in various formats.

<https://doc.cognitedata.com/0.6/#Cognite-API-Time-series>

```
cognite.v06.time_series.get_multiple_time_series_by_id(ids, include_metadata=False, **kwargs)
```

Returns a TimeseriesResponse object containing the requested timeseries.

**Parameters** **ids** (*List[int]*) – IDs of timeseries to look up

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested timeseries with several getter methods with different output formats.

**Return type** *v05.dto.TimeSeriesResponse*

```
cognite.v06.time_series.get_time_series_by_id(id, include_metadata=False, **kwargs)
```

Returns a TimeseriesResponse object containing the requested timeseries.

**Parameters**

- **id** (*int*) – ID of timeseries to look up
- **include\_metadata** (*bool*) – Decide if the metadata field should be returned or not. Defaults to False.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested timeseries.

**Return type** *v05.dto.TimeSeriesResponse*

```
cognite.v06.time_series.search_for_time_series (name=None,          descrip-  
          tion=None,          query=None,  
          unit=None,          is_string=None,  
          is_step=None, metadata=None, as-  
          set_ids=None,  asset_subtrees=None,  
          min_created_time=None,  
          max_created_time=None,  
          min_last_updated_time=None,  
          max_last_updated_time=None,  
          **kwargs)
```

Returns a TimeSeriesResponse object containing the search results.

#### Parameters

- **name** (*str*) – Prefix and fuzzy search on name.
- **description** (*str*) – Prefix and fuzzy search on description.
- **query** (*str*) – Search on name and description using wildcard search on each of the words (separated by spaces). Retrieves results where at least on word must match. Example: “some other”
- **unit** (*str*) – Filter on unit (case-sensitive)
- **is\_string** (*bool*) – Filter on whether the ts is a string ts or not.
- **is\_step** (*bool*) – Filter on whether the ts is a step ts or not.
- **metadata** (*Dict*) – Filter out time series that do not match these metadata fields and values (case-sensitive). Format is {“key1”: “val1”, “key2”, “val2”}
- **asset\_ids** (*List*) – Filter out time series that are not linked to any of these assets. Format is [12,345,6,7890].
- **asset\_subtrees** (*List*) – Filter out time series that are not linked to assets in the subtree rooted at these assets. Format is [12,345,6,7890].
- **min\_created\_time** (*int*) – Filter out time series with createTime before this. Format is milliseconds since epoch.
- **max\_created\_time** (*int*) – Filter out time series with createTime after this. Format is milliseconds since epoch.
- **min\_last\_updated\_time** (*int*) – Filter out time series with lastUpdatedTime before this. Format is milliseconds since epoch.
- **max\_last\_updated\_time** (*int*) – Filter out time series with lastUpdatedTime after this. Format is milliseconds since epoch.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **sort** (*str*) – “createTime” or “lastUpdatedTime”. Field to be sorted. If not specified, results are sorted by relevance score.
- **dir** (*str*) – “asc” or “desc”. Only applicable if sort is specified. Default ‘desc’.
- **limit** (*int*) – Return up to this many results. Maximum is 1000. Default is 25.
- **offset** (*int*) – Offset from the first result. Sum of limit and offset must not exceed 1000. Default is 0.

- **boost\_name** (*bool*) – Whether or not boosting name field. This option is experimental and can be changed.

**Returns** A data object containing the requested timeseries with several getter methods with different output formats.

**Return type** *v05.dto.TimeSeriesResponse*

## 4.3 Datapoints

### Datapoints Module

This module mirrors the Datapoints API. It allows you to fetch data from the api and output it in various formats.

<https://doc.cognitedata.com/0.6/#Cognite-API-Datapoints>

`cognite.v06.datapoints.get_datapoints` (*id*, *start*, *end=None*, *aggregates=None*, *granularity=None*, *\*\*kwargs*)

Returns a DatapointsObject containing a list of datapoints for the given query.

This method will automate paging for the user and return all data for the given time period.

#### Parameters

- **id** (*int*) – The unique id of the timeseries to retrieve data for.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.
- **aggregates** (*list*) – The list of aggregate functions you wish to apply to the data. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.

#### Keyword Arguments

- **include\_outside\_points** (*bool*) – No description
- **processes** (*int*) – Number of download processes to run in parallel. Defaults to number returned by `cpu_count()`.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **limit** (*str*) – Max number of datapoints to return. If limit is specified, this method will not automate paging and will return a maximum of 100,000 dps.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.DatapointsResponse*

## 4.4 Sequences

Sequences Module

This module mirrors the Sequences API.

<https://doc.cognitedata.com/api/0.6/#tag/Sequences>

`cognite.v06.sequences.delete_sequence_by_id(id: int, **kwargs)`

Deletes the sequence with the given id.

**Parameters** `id` (*int*) – ID of the sequence to delete

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

Returns:

`cognite.v06.sequences.get_data_from_sequence(id: int, inclusive_from: int = None, inclusive_to: int = None, limit: int = 100, column_ids: List[int] = None, **kwargs)`

Gets data from the given sequence.

**Parameters**

- `id` (*int*) – id of the sequence.
- `inclusive_from` (*int*) – Row number to get from (inclusive). If set to None, you'll get data from the first row that exists.
- `inclusive_to` (*int*) – Row number to get to (inclusive). If set to None, you'll get data to the last row that exists (depending on the limit).
- `limit` (*int*) – How many rows to return.
- `column_ids` (*List[int]*) – ids of the columns to get data for.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** A data object containing the requested sequence.

**Return type** *v06.dto.Sequence*

`cognite.v06.sequences.get_sequence_by_external_id(external_id: str, **kwargs)`

Returns a Sequence object containing the requested sequence.

**Parameters** `external_id` (*int*) – External ID of the sequence to look up

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** A data object containing the requested sequence.

**Return type** *v06.dto.Sequence*

`cognite.v06.sequences.get_sequence_by_id(id: int, **kwargs)`

Returns a Sequence object containing the requested sequence.



**Parameters** `id` (*int*) – ID of the sequence to look up

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested sequence.

**Return type** *v06.dto.Sequence*

`cognite.v06.sequences.post_data_to_sequence` (*id: int, rows: List[cognite.v06.dto.Row], \*\*kwargs*)

Posts data to a sequence.

**Parameters**

- **id** (*int*) – ID of the sequence.
- **rows** (*list*) – List of rows with the data.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

Returns:

`cognite.v06.sequences.post_sequences` (*sequences: List[cognite.v06.dto.Sequence], \*\*kwargs*)

Create a new time series.

**Parameters** **sequences** (*list [v06.dto.Sequence]*) – List of sequence data transfer objects to create.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** The created sequence

## 4.5 DTO

### Data Objects

This module contains data objects used to represent the data returned from the API.

**class** `cognite.v06.dto.Column` (*id: int = None, name: str = None, external\_id: str = None, value\_type: str = None, metadata: dict = None*)

Bases: `object`

Data transfer object for a column.

**Parameters**

- **id** (*int*) – ID of the column.
- **name** (*str*) – Name of the column.
- **external\_id** (*str*) – External ID of the column.
- **value\_type** (*str*) – Data type of the column.
- **metadata** (*dict*) – Custom, application specific metadata. String key -> String Value.

```
    static from_JSON(the_column: dict)
```

```
class cognite.v06.dto.Row(row_number: int, values: List[cognite.v06.dto.RowValue])
```

Bases: object

Data transfer object for a row of data in a sequence.

#### Parameters

- **row\_number** (*int*) – The row number for this row.
- **values** (*list*) – The values in this row.

```
    static from_JSON(the_row: dict)
```

```
    get_row_as_csv()
```

```
class cognite.v06.dto.RowValue(column_id: int, value: str)
```

Bases: object

Data transfer object for the value in a row in a sequence.

#### Parameters

- **column\_id** (*int*) – The ID of the column that this value is for.
- **value** (*str*) – The actual value.

```
    static from_JSON(the_row_value: dict)
```

```
class cognite.v06.dto.Sequence(id: int = None, name: str = None, external_id: str = None,
                               asset_id: int = None, columns: List[cognite.v06.dto.Column] =
                               None, description: str = None, metadata: dict = None)
```

Bases: object

Data transfer object for a sequence.

#### Parameters

- **id** (*int*) – ID of the sequence.
- **name** (*str*) – Name of the sequence.
- **external\_id** (*str*) – External ID of the sequence.
- **asset\_id** (*int*) – ID of the asset the sequence is connected to, if any.
- **columns** (*List[Column]*) – List of columns in the sequence.
- **description** (*str*) – Description of the sequence.
- **metadata** (*dict*) – Custom, application specific metadata. String key -> String Value.

```
    static from_JSON(the_sequence: dict)
```

```
class cognite.v06.dto.SequenceDataRequest(inclusive_from: int, inclusive_to: int, limit: int
                                           = 100, column_ids: List[int] = None)
```

Bases: object

Data transfer object for requesting sequence data.

#### Parameters

- **inclusive\_from** (*int*) – Row number to get from (inclusive).
- **inclusive\_to** (*int*) – Row number to get to (inclusive).
- **limit** (*int*) – How many rows to return.
- **column\_ids** (*List[int]*) – ids of the columns to get data for.

**class** `cognite.v06.dto.SequenceDataResponse` (*rows: List[cognite.v06.dto.Row]*)

Bases: `object`

Data transfer object for the data in a sequence, used when receiving data.

**Parameters** `rows` (*list*) – List of rows with the data.

**static** `from_JSON` (*the\_data: dict*)

`to_json` ()

Returns data as a json object

`to_pandas` ()

Returns data as a pandas dataframe



## 5.1 Assets

Assets Module.

This module mirrors the Assets API.

<https://doc.cognitedata.com/0.5/#Cognite-API-Assets>

`cognite.v05.assets.delete_assets` (*asset\_ids*: List[int], *\*\*kwargs*)

Delete a list of assets.

**Parameters** `asset_ids` (*list[int]*) – List of IDs of assets to delete.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.assets.get_asset` (*asset\_id*, *\*\*kwargs*)

Returns the asset with the provided assetId.

**Parameters** `asset_id` (*int*) – The asset id of the top asset to get.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** A data object containing the requested assets with several getter methods with different output formats.

**Return type** `v05.dto.AssetResponse`

`cognite.v05.assets.get_asset_subtree` (*asset\_id*, *depth=None*, *\*\*kwargs*)

Returns asset subtree of asset with provided assetId.

#### Parameters

- **asset\_id** (*int*) – The asset id of the top asset to get.
- **depth** (*int*) – Get subassets this many levels below the top asset.

#### Keyword Arguments

- **limit** (*int*) – The maximum number of assets to be returned.
- **cursor** (*str*) – Cursor to use for paging through results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested assets with several getter methods with different output formats.

**Return type** *v05.dto.AssetListResponse*

```
cognite.v05.assets.get_assets(name=None, path=None, description=None, metadata=None,
                             depth=None, fuzziness=None, **kwargs)
```

Returns assets matching provided description.

#### Parameters

- **name** (*str*) – The name of the asset(s) to get.
- **path** (*str*) – The path of the subtree to search in.
- **description** (*str*) – Search query.
- **metadata** (*dict*) – The metadata values used to filter the results.
- **depth** (*int*) – Get sub assets up to this many levels below the specified path.
- **fuzziness** (*int*) – The degree of fuzziness in the name matching.

#### Keyword Arguments

- **autopaging** (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.
- **limit** (*int*) – The maximum number of assets to be returned.
- **cursor** (*str*) – Cursor to use for paging through results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested assets with several getter methods with different output formats.

**Return type** *v05.dto.AssetListResponse*

```
cognite.v05.assets.post_assets(assets: List[cognite.v05.dto.Asset], **kwargs)
```

Insert a list of assets.

**Parameters** **assets** (*list* [*v05.dto.Asset*]) – List of asset data transfer objects.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the posted assets with several getter methods with different output formats.

**Return type** *v05.dto.AssetListResponse*

`cognite.v05.assets.search_for_assets` (*name=None, description=None, query=None, metadata=None, asset\_subtrees=None, min\_created\_time=None, max\_created\_time=None, min\_last\_updated\_time=None, max\_last\_updated\_time=None, \*\*kwargs*)

Search for assets.

#### Parameters

- **name** – Prefix and fuzzy search on name.
- **str** (*description*) – Prefix and fuzzy search on description.
- **query** (*str*) – Search on name and description using wildcard search on each of the words (separated by spaces). Retrieves results where at least one word must match. Example: ‘some other’
- **metadata** (*dict*) – Filter out assets that do not match these metadata fields and values (case-sensitive). Format is {“key1”:”value1”,”key2”:”value2”}.
- **asset\_subtrees** (*List[int]*) – Filter out assets that are not linked to assets in the subtree rooted at these assets. Format is [12,345,6,7890].
- **min\_created\_time** (*str*) – Filter out assets with `createdTime` before this. Format is milliseconds since epoch.
- **max\_created\_time** (*str*) – Filter out assets with `createdTime` after this. Format is milliseconds since epoch.
- **min\_last\_updated\_time** (*str*) – Filter out assets with `lastUpdatedTime` before this. Format is milliseconds since epoch.
- **max\_last\_updated\_time** (*str*) – Filter out assets with `lastUpdatedTime` after this. Format is milliseconds since epoch.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **sort** (*str*) – Field to be sorted.
- **dir** (*str*) – Sort direction (desc or asc)
- **limit** (*int*) – Return up to this many results. Max is 1000, default is 25.
- **offset** (*int*) – Offset from the first result. Sum of limit and offset must not exceed 1000. Default is 0.
- **boost\_name** (*str*) – Whether or not boosting name field. This option is experimental and can be changed.

**Returns** *v05.dto.EventListResponse*.

## 5.2 Data Transfer Objects

### Data Objects

This module contains data objects used to represent the data returned from the API. These objects have at least the following output formats:

- `to_pandas()`: Returns pandas dataframe
- `to_ndarray()`: Numpy array
- `to_json()`: Json format

**class** `cognite.v05.dto.Asset` (*name, parent\_id=None, description=None, metadata=None, ref\_id=None, parent\_name=None, parent\_ref\_id=None*)

Bases: `object`

Data transfer object for assets.

#### Parameters

- **name** (*str*) – Name of asset. Often referred to as tag.
- **parent\_id** (*int*) – ID of parent asset, if any.
- **description** (*str*) – Description of asset.
- **metadata** (*dict*) – Custom , application specific metadata. String key -> String Value.
- **ref\_id** (*str*) – Reference ID used only in post request to disambiguate references to duplicate names.
- **parent\_name** (*str*) – Name of parent, this parent must exist in the same POST request.
- **parent\_ref\_id** (*list(int)*) – Reference ID of parent, to disambiguate if multiple nodes have the same name.

**class** `cognite.v05.dto.AssetListResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Assets Response Object

**to\_json** ()

Returns data as a json object

**to\_pandas** ()

Returns data as a pandas dataframe

**class** `cognite.v05.dto.AssetResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

**to\_json** ()

Returns data as a json object

**to\_pandas** ()

Returns data as a pandas dataframe

**class** `cognite.v05.dto.CogniteDataObject` (*internal\_representation*)

Bases: `object`

Abstract Cognite Data Object

This abstract class provides a skeleton for all data objects in this module. All data objects should inherit this class.

**next\_cursor** ()

Returns next cursor to use for paging through results

**previous\_cursor** ()

Returns previous cursor

**to\_json** ()

Returns data as a json object



**to\_ndarray()**  
Returns data as a numpy array

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.Datapoint` (*timestamp, value*)

Bases: `object`

Data transfer object for datapoints.

#### Parameters

- **timestamp** (*int, datetime*) – The data timestamp in milliseconds since the epoch (Jan 1, 1970) or as a datetime object.
- **value** (*string*) – The data value, Can be string or numeric depending on the metric.

**class** `cognite.v05.dto.DatapointDepth` (*depth, value*)

Bases: `object`

Data transfer object for Depth datapoints.

#### Parameters

- **depth** (*double*) – The depth (in m) of the datapoint
- **value** (*string*) – The data value, Can be string or numeric depending on the metric.

**class** `cognite.v05.dto.DatapointsQuery` (*name, aggregates=None, granularity=None, start=None, end=None, limit=None*)

Bases: `object`

Data Query Object for Datapoints.

#### Parameters

- **name** (*str*) – Unique name of the time series.
- **aggregates** (*list*) – The aggregate functions to be returned. Use default if null. An empty string must be sent to get raw data if the default is a set of aggregate functions.
- **granularity** (*str*) – The granularity size and granularity of the aggregates.
- **start** (*str, int, datetime*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. Example: ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or as a datetime object.
- **end** (*str, int, datetime*) – Get datapoints up to this time. The format is the same as for start.

**class** `cognite.v05.dto.DatapointsResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Datapoints Response Object.

**to\_json()**  
Returns data as a json object

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.DatapointsResponseIterator` (*datapoints\_objects*)

Bases: `object`

Iterator for Datapoints Response Objects.

```
class cognite.v05.dto.Event (start_time=None, end_time=None, description=None, type=None, sub_type=None, metadata=None, asset_ids=None)
```

Bases: object

Data transfer object for events.

#### Parameters

- **start\_time** (*int*) – Start time of the event in ms since epoch.
- **end\_time** (*int*) – End time of the event in ms since epoch.
- **description** (*str*) – Textual description of the event.
- **type** (*str*) – Type of the event, e.g. ‘failure’.
- **sub\_type** (*str*) – Subtype of the event, e.g. ‘electrical’.
- **metadata** (*dict*) – Customizable extra data about the event.
- **asset\_ids** (*list[int]*) – List of Asset IDs of related equipments that this event relates to.

```
class cognite.v05.dto.EventListResponse (internal_representation)
```

Bases: *cognite.v05.dto.CogniteDataObject*

Event List Response Object.

```
to_json ()
```

Returns data as a json object

```
to_pandas ()
```

Returns data as a pandas dataframe

```
class cognite.v05.dto.EventResponse (internal_representation)
```

Bases: *cognite.v05.dto.CogniteDataObject*

Event Response Object.

```
to_json ()
```

Returns data as a json object

```
to_pandas ()
```

Returns data as a pandas dataframe

```
class cognite.v05.dto.FileInfoResponse (internal_representation)
```

Bases: *cognite.v05.dto.CogniteDataObject*

File Info Response Object.

#### Parameters

- **id** (*int*) – ID given by the API to the file.
- **file\_name** (*str*) – File name. Max length is 256.
- **directory** (*str*) – Directory containing the file. Max length is 512.
- **source** (*dict*) – Source that this file comes from. Max length is 256.
- **file\_type** (*str*) – File type. E.g. pdf, css, spreadsheet, .. Max length is 64.
- **metadata** (*dict*) – Customized data about the file.
- **asset\_ids** (*list[str]*) – Names of assets related to this file.
- **uploaded** (*bool*) – Whether or not the file is uploaded.
- **uploaded\_at** (*int*) – Epoch time (ms) when the file was uploaded successfully.

**to\_json()**  
Returns data as a json object

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.FileListResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

File List Response Object

**to\_json()**  
Returns data as a json object

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.LatestDatapointResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Latest Datapoint Response Object.

**to\_json()**  
Returns data as a json object

**to\_ndarray()**  
Returns data as a numpy array

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.RawResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Raw Response Object.

**to\_json()**  
Returns data as a json object

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.RawRow` (*key, columns*)

Bases: `object`

DTO for a row in a raw database.

The Raw API is a simple key/value-store. Each row in a table in a raw database consists of a unique row key and a set of columns.

#### Parameters

- **key** (*str*) – Unique key for the row.
- **columns** (*int*) – A key/value-map consisting of the values in the row.

**repr\_json()**

**class** `cognite.v05.dto.TagMatchingResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Tag Matching Response Object.

In addition to the standard output formats this data object also has a `to_list()` method which returns a list of names of the tag matches.

**to\_json()**  
Returns data as a json object

**to\_list** (*first\_matches\_only=True*)  
Returns a list representation of the matches.

**Parameters** **first\_matches\_only** (*bool*) – Boolean determining whether or not to return only the top match for each tag.

**Returns** list of matched tags.

**Return type** list

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.TimeSeries` (*name, is\_string=False, metadata=None, unit=None, asset\_id=None, description=None, security\_categories=None, is\_step=None*)

Bases: object

Data Transfer Object for a time series.

#### Parameters

- **name** (*str*) – Unique name of time series.
- **is\_string** (*bool*) – Whether the time series is string valued or not.
- **metadata** (*dict*) – Metadata.
- **unit** (*str*) – Physical unit of the time series.
- **asset\_id** (*int*) – Asset that this time series belongs to.
- **description** (*str*) – Description of the time series.
- **security\_categories** (*list(int)*) – Security categories required in order to access this time series.
- **is\_step** (*bool*) – Whether or not the time series is a step series.

**class** `cognite.v05.dto.TimeSeriesResponse` (*internal\_representation*)

Bases: `cognite.v05.dto.CogniteDataObject`

Time series Response Object

**to\_json()**  
Returns data as a json object

**to\_pandas()**  
Returns data as a pandas dataframe

**class** `cognite.v05.dto.TimeseriesWithDatapoints` (*name, datapoints*)

Bases: object

Data transfer object for a timeseries with datapoints.

#### Parameters

- **name** (*str*) – Unique ID of time series.
- **datapoints** (*List[v05.dto.Datapoint]*) – List of datapoints in the timeseries.

## 5.3 Events

### Events Module

This module mirrors the Events API. It allows you to get, post, update, and delete events.

<https://doc.cognitedata.com/0.5/#Cognite-API-Events>

`cognite.v05.events.delete_events(event_ids, **kwargs)`

Deletes a list of events.

**Parameters** `event_ids` (*List[int]*) – List of ids of events to delete.

#### Keyword Arguments

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.events.get_event(event_id, **kwargs)`

Returns a `EventResponse` containing an event matching the id.

**Parameters** `event_id` (*int*) – The event id.

#### Keyword Arguments

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** A data object containing the requested event.

**Return type** `v05.dto.EventResponse`

`cognite.v05.events.get_events(type=None, sub_type=None, asset_id=None, **kwargs)`

Returns an `EventListReponse` object containing events matching the query.

#### Parameters

- `type` (*str*) – Type (class) of event, e.g. ‘failure’.
- `sub_type` (*str*) – Sub-type of event, e.g. ‘electrical’.
- `asset_id` (*str*) – Return events associated with this assetId.

#### Keyword Arguments

- `sort` (*str*) – Sort descending or ascending. Default ‘ASC’.
- `cursor` (*str*) – Cursor to use for paging through results.
- `limit` (*int*) – Return up to this many results. Maximum is 10000. Default is 25.
- `has_description` (*bool*) – Return only events that have a textual description. Default null. False gives only those without description.
- `min_start_time` (*string*) – Only return events from after this time.
- `max_start_time` (*string*) – Only return events form before this time.
- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.
- `autopaging` (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.

**Returns** A data object containing the requested event.

**Return type** `v05.dto.EventListResponse`

`cognite.v05.events.post_events` (*events*, *\*\*kwargs*)

Adds a list of events and returns an EventListResponse object containing created events.

**Parameters** *events* (`List[v05.dto.Event]`) – List of events to create.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** `v05.dto.EventListResponse`

`cognite.v05.events.search_for_events` (*description=None*, *type=None*, *subtype=None*,  
*min\_start\_time=None*, *max\_start\_time=None*,  
*min\_end\_time=None*, *max\_end\_time=None*,  
*min\_created\_time=None*, *max\_created\_time=None*,  
*min\_last\_updated\_time=None*,  
*max\_last\_updated\_time=None*, *metadata=None*,  
*asset\_ids=None*, *asset\_subtrees=None*, *\*\*kwargs*)

Search for events.

**Parameters** *str* (*description*) – Prefix and fuzzy search on description.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **type** (*str*) – Filter on type (case-sensitive).
- **subtype** (*str*) – Filter on subtype (case-sensitive).
- **min\_start\_time** (*str*) – Filter out events with startTime before this. Format is milliseconds since epoch.
- **max\_start\_time** (*str*) – Filter out events with startTime after this. Format is milliseconds since epoch.
- **min\_end\_time** (*str*) – Filter out events with endTime before this. Format is milliseconds since epoch.
- **max\_end\_time** (*str*) – Filter out events with endTime after this. Format is milliseconds since epoch.
- **min\_created\_time** (*str*) – Filter out events with createdTime before this. Format is milliseconds since epoch.
- **max\_created\_time** (*str*) – Filter out events with createdTime after this. Format is milliseconds since epoch.
- **min\_last\_updated\_time** (*str*) – Filter out events with lastUpdatedtime before this. Format is milliseconds since epoch.
- **max\_last\_updated\_time** (*str*) – Filter out events with lastUpdatedtime after this. Format is milliseconds since epoch.
- **metadata** (*dict*) – Filter out events that do not match these metadata fields and values (case-sensitive). Format is {"key1": "value1", "key2": "value2"}.

- **asset\_ids** (*List[int]*) – Filter out events that are not linked to any of these assets. Format is [12,345,6,7890].
- **asset\_subtrees** (*List[int]*) – Filter out events that are not linked to assets in the subtree rooted at these assets. Format is [12,345,6,7890].
- **sort** (*str*) – Field to be sorted.
- **dir** (*str*) – Sort direction (desc or asc)
- **limit** (*int*) – Return up to this many results. Max is 1000, default is 25.
- **offset** (*int*) – Offset from the first result. Sum of limit and offset must not exceed 1000. Default is 0.

**Returns** v05.dto.EventListResponse.

## 5.4 Files

### Files Module

This module mirrors the Files API. It allows you to manage files in GCP.

<https://doc.cognitedata.com/0.5/#Cognite-API-Files>

`cognite.v05.files.delete_files(file_ids, **kwargs)`

Delete

**Parameters** `file_ids` (*list[int]*) – List of IDs of files to delete.

#### Keyword Arguments

- **api\_key** (*str*) – Your api key.
- **project** (*str*) – Your project.

**Returns** List of files deleted and files that failed to delete.

`cognite.v05.files.download_file(id, get_contents=False, **kwargs)`

Get list of files matching query.

#### Parameters

- **id** (*int*) – Path to file to upload, if omitted a upload link will be returned.
- **get\_contents** (*bool, optional*) – Boolean to determine whether or not to return file contents as string. Default is False and download url is returned.

#### Keyword Arguments

- **api\_key** (*str, optional*) – Your api-key.
- **project** (*str, optional*) – Project name.

**Returns** Download link if `get_contents` is False else file contents.

**Return type** bytes

`cognite.v05.files.get_file_info(id, **kwargs)`

Returns information about a file.

**Parameters** `id` (*int*) – Id of the file.

#### Keyword Arguments

- **api\_key** (*str, optional*) – Your api-key.

- **project** (*str, optional*) – Project name.

**Returns** A data object containing the requested file information.

**Return type** *v05.dto.FileInfoResponse*

```
cognite.v05.files.list_files (name=None, directory=None, file_type=None, source=None,
                             **kwargs)
```

Get list of files matching query.

#### Parameters

- **name** (*str, optional*) – List all files with this name.
- **directory** (*str, optional*) – Directory to list files from.
- **source** (*str, optional*) – List files coming from this source.
- **file\_type** (*str, optional*) – Type of files to list.

#### Keyword Arguments

- **api\_key** (*str, optional*) – Your api-key.
- **project** (*str, optional*) – Project name.
- **asset\_id** (*list*) – Returns all files associated with this asset id.
- **sort** (*str*) – Sort descending or ascending. ‘ASC’ or ‘DESC’.
- **limit** (*int*) – Number of results to return.
- **is\_uploaded** (*bool*) – List only uploaded files if true. If false, list only other files. If not set, list all files without considering whether they are uploaded or not.
- **autopaging** (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.
- **cursor** (*str*) – Cursor to use for paging through results.

**Returns** A data object containing the requested files information.

**Return type** *v05.dto.FileListResponse*

```
cognite.v05.files.upload_file (file_name, file_path=None, directory=None, source=None,
                               file_type=None, content_type=None, **kwargs)
```

Upload metadata about a file and get an upload link.

The link will expire after 30 seconds if not resumable. A resumable upload link is default. Such a link is one-time use and expires after one week. For more information, check this link: [https://cloud.google.com/storage/docs/json\\_api/v1/how-tos/resumable-upload](https://cloud.google.com/storage/docs/json_api/v1/how-tos/resumable-upload). Use PUT request to upload file with the link returned.

If `file_path` is specified, the file will be uploaded directly by the SDK.

#### Parameters

- **file\_name** (*str*) – File name. Max length is 256.
- **file\_path** (*str, optional*) – Path of file to upload, if omitted a upload link will be returned.
- **content\_type** (*str, optional*) – MIME type of your file. Required if `file_path` is specified.
- **directory** (*str, optional*) – Directory containing the file. Max length is 512.
- **source** (*str, optional*) – Source that this file comes from. Max length is 256.



- **file\_type** (*str*, *optional*) – File type. E.g. pdf, css, spreadsheet, .. Max length is 64.

#### Keyword Arguments

- **api\_key** (*str*, *optional*) – Your api-key.
- **project** (*str*, *optional*) – Project name.
- **metadata** (*dict*) – Customized data about the file.
- **asset\_ids** (*list*) – IDs of assets related to this file.
- **resumable** (*bool*) – Whether to generate a resumable URL or not. Default is true.
- **overwrite** (*bool*) – Whether to overwrite existing data if duplicate or not. Default is false.

**Returns** A dictionary containing the field fileId and optionally also uploadURL if file\_path is omitted.

**Return type** dict

## 5.5 Raw

### Raw Module

This module mirrors the Raw API. It allows the user to handle raw data.

<https://doc.cognitedata.com/0.5/#Cognite-API-Cloud-Raw>

`cognite.v05.raw.create_databases` (*database\_names: list*, *api\_key=None*, *project=None*)

Creates databases in the Raw API and returns the created databases.

#### Parameters

- **database\_names** (*list*) – A list of databases to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v05.dto.RawResponse`

`cognite.v05.raw.create_rows` (*database\_name: str = None*, *table\_name: str = None*,  
*rows: List[cognite.v05.dto.RawRow] = None*, *api\_key=None*,  
*project=None*, *ensure\_parent=False*, *use\_gzip=False*)

Creates tables in the given Raw API database.

#### Parameters

- **database\_name** (*str*) – The database to create rows in.
- **table\_name** (*str*) – The table names to create rows in.
- **rows** (*list [v05.dto.RawRow]*) – The rows to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **ensure\_parent** (*bool*) – Create database/table if it doesn't exist already

- **use\_gzip** (*bool*) – Compress content using gzip

**Returns** An empty response

```
cognite.v05.raw.create_tables(database_name: str = None, table_names: list = None,  
                             api_key=None, project=None)
```

Creates tables in the given Raw API database.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_names** (*list*) – The table names to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.RawResponse*

```
cognite.v05.raw.delete_databases(database_names: list, recursive: bool = False,  
                                 api_key=None, project=None)
```

Deletes databases in the Raw API.

**Parameters**

- **database\_names** (*list*) – A list of databases to delete.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

```
cognite.v05.raw.delete_rows(database_name: str = None, table_name: str = None,  
                             rows: List[cognite.v05.dto.RawRow] = None, api_key=None,  
                             project=None)
```

Deletes rows in the Raw API.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_name** (*str*) – The table name where the rows are at.
- **rows** (*list*) – The rows to delete.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

```
cognite.v05.raw.delete_tables(database_name: str = None, table_names: list = None,  
                              api_key=None, project=None)
```

Deletes databases in the Raw API.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_names** (*list*) – The table names to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.raw.get_databases` (*limit: int = None, cursor: str = None, api\_key=None, project=None*)

Returns a RawObject containing a list of raw databases.

**Parameters**

- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.RawResponse*

`cognite.v05.raw.get_row` (*database\_name: str = None, table\_name: str = None, row\_key: str = None, api\_key=None, project=None*)

Returns a RawObject containing a list of rows.

**Parameters**

- **database\_name** (*str*) – The database name to retrieve rows from.
- **table\_name** (*str*) – The table name to retrieve rows from.
- **row\_key** (*str*) – The key of the row to fetch.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.RawResponse*

`cognite.v05.raw.get_rows` (*database\_name: str = None, table\_name: str = None, limit: int = None, cursor: str = None, api\_key=None, project=None*)

Returns a RawObject containing a list of rows.

**Parameters**

- **database\_name** (*str*) – The database name to retrieve rows from.
- **table\_name** (*str*) – The table name to retrieve rows from.
- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.RawResponse*

`cognite.v05.raw.get_tables` (*database\_name: str = None, limit: int = None, cursor: str = None, api\_key=None, project=None*)

Returns a RawObject containing a list of tables in a raw database.

**Parameters**

- **database\_name** (*str*) – The database name to retrieve tables from.
- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.RawResponse*

## 5.6 Tagmatching

### Tag Matching Module

This module mirrors the Tag Matching API. It allows the user to search for tag id matches.

<https://doc.cognitedata.com/0.5/#Cognite-API-Tag-Matching>

```
cognite.v05.tagmatching.tag_matching(tag_ids, fuzzy_threshold=0, platform=None,
                                     **kwargs)
```

Returns a TagMatchingObject containing a list of matched tags for the given query.

This method takes an arbitrary string as argument and performs fuzzy matching with a user defined threshold toward tag ids in the system.

**Parameters**

- **tag\_ids** (*list*) – The tag\_ids to retrieve matches for.
- **fuzzy\_threshold** (*int*) – The threshold to use when searching for matches. A fuzzy threshold of 0 means you only want to accept perfect matches. Must be  $\geq 0$ .
- **platform** (*str*) – The platform to search on.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v05.dto.TagMatchingResponse*

## 5.7 Timeseries

### Timeseries Module

This module mirrors the Timeseries API. It allows you to fetch data from the api and output it in various formats.

<https://doc.cognitedata.com/0.5/#Cognite-API-Time-series>

```
cognite.v05.timeseries.delete_time_series(name, **kwargs)
```

Delete a timeseries.

**Parameters** `name` (*str*) – Name of timeseries to delete.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.timeseries.get_datapoints` (*name, start, end=None, aggregates=None, granularity=None, \*\*kwargs*)

Returns a DatapointsObject containing a list of datapoints for the given query.

This method will automate paging for the user and return all data for the given time period.

#### Parameters

- **name** (*str*) – The name of the timeseries to retrieve data for.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.
- **aggregates** (*list*) – The list of aggregate functions you wish to apply to the data. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.

#### Keyword Arguments

- **include\_outside\_points** (*bool*) – No description
- **protobuf** (*bool*) – Download the data using the binary protobuf format. Only applicable when getting raw data. Defaults to True.
- **processes** (*int*) – Number of download processes to run in parallel. Defaults to number returned by `cpu_count()`.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **limit** (*str*) – Max number of datapoints to return. If limit is specified, this method will not automate paging and will return a maximum of 100,000 dps.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v05.dto.DatapointsResponse`

`cognite.v05.timeseries.get_datapoints_frame` (*time\_series, aggregates, granularity, start, end=None, \*\*kwargs*)

Returns a pandas dataframe of datapoints for the given timeseries all on the same timestamps.

This method will automate paging for the user and return all data for the given time period.

#### Parameters

- **time\_series** (*list*) – The list of timeseries names to retrieve data for. Each timeseries can be either a string containing the timeseries or a dictionary containing the names of the timeseries and a list of specific aggregate functions.
- **aggregates** (*list*) – The list of aggregate functions you wish to apply to the data for which you have not specified an aggregate function. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are: ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.

### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **cookies** (*dict*) – Cookies.
- **limit** (*str*) – Max number of rows to return. If limit is specified, this method will not automate paging and will return a maximum of 100,000 rows.
- **processes** (*int*) – Number of download processes to run in parallel. Defaults to number returned by `cpu_count()`.

**Returns** A pandas dataframe containing the datapoints for the given timeseries. The datapoints for all the timeseries will all be on the same timestamps.

**Return type** pandas.DataFrame

### Examples

The `timeseries` parameter can take a list of strings and/or dicts on the following formats:

```
Using strings:
    ['<timeseries1>', '<timeseries2>']

Using dicts:
    [{'name': '<timeseries1>', 'aggregates': ['<aggfunc1>', '<aggfunc2>']},
     {'name': '<timeseries2>', 'aggregates': []}]

Using both:
    ['<timeseries1>', {'name': '<timeseries2>', 'aggregates': ['<aggfunc1>', '↪<aggfunc2>']}]
```

`cognite.v05.timeseries.get_latest` (*name*, *before=None*, *\*\*kwargs*)

Returns a LatestDatapointObject containing the latest datapoint for the given timeseries.

**Parameters** **name** (*str*) – The name of the timeseries to retrieve data for.

### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v05.dto.LatestDatapointsResponse`

```
cognite.v05.timeseries.get_multi_time_series_datapoints (datapoints_queries,
                                                         start, end=None, aggregates=None, granularity=None, **kwargs)
```

Returns a list of DatapointsObjects each of which contains a list of datapoints for the given timeseries.

This method will automate paging for the user and return all data for the given time period(s).

#### Parameters

- **datapoints\_queries** (*list[v05.dto.DatapointsQuery]*) – The list of DatapointsQuery objects specifying which timeseries to retrieve data for.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.
- **aggregates** (*list, optional*) – The list of aggregate functions you wish to apply to the data. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.

#### Keyword Arguments

- **include\_outside\_points** (*bool*) – No description.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A list of data objects containing the requested data with several getter methods with different output formats.

**Return type** `list(v05.dto.DatapointsResponse)`

```
cognite.v05.timeseries.get_timeseries (prefix=None, description=None, include_metadata=False, asset_id=None, path=None,
                                       **kwargs)
```

Returns a TimeseriesObject containing the requested timeseries.

#### Parameters

- **prefix** (*str*) – List timeseries with this prefix in the name.
- **description** (*str*) – Filter timeseries taht contains this string in its description.
- **include\_metadata** (*bool*) – Decide if the metadata field should be returned or not. Defaults to False.
- **asset\_id** (*int*) – Get timeseries related to this asset.

- **path** (*str*) – Get timeseries under this asset path branch.

**Keyword Arguments**

- **limit** (*int*) – Number of results to return.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **autopaging** (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.

**Returns** A data object containing the requested timeseries with several getter methods with different output formats.

**Return type** *v05.dto.TimeSeriesResponse*

`cognite.v05.timeseries.live_data_generator` (*name*, *update\_frequency=1*, *\*\*kwargs*)  
Generator function which continuously polls latest datapoint of a timeseries and yields new datapoints.

**Parameters**

- **name** (*str*) – Name of timeseries to get latest datapoints for.
- **update\_frequency** (*float*) – Frequency to pull for data in seconds.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Yields** *dict* – Dictionary containing timestamp and value of latest datapoint.

`cognite.v05.timeseries.post_datapoints` (*name*, *datapoints: List[cognite.v05.dto.Datapoint]*, *\*\*kwargs*)

Insert a list of datapoints.

**Parameters**

- **name** (*str*) – Name of timeseries to insert to.
- **datapoints** (*list[v05.dto.Datapoint]*) – List of datapoint data transfer objects to insert.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.timeseries.post_datapoints_frame` (*data*, *\*\*kwargs*)  
Write a dataframe

**Parameters** **dataframe** (*DataFrame*) – Pandas DataFrame Object containing the timeseries

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.



`cognite.v05.timeseries.post_multi_tag_datapoints` (*timeseries\_with\_datapoints:*  
*List[cognite.v05.dto.TimeseriesWithDatapoints],*  
*\*\*kwargs*)

Insert data into multiple timeseries.

**Parameters** `timeseries_with_datapoints` (*List [v05.dto.TimeseriesWithDatapoints]*) – The timeseries with data to insert.

#### Keyword Arguments

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.
- `use_gzip` (*bool*) – Whether or not to gzip the request

**Returns** An empty response.

`cognite.v05.timeseries.post_time_series` (*time\_series:* *List[cognite.v05.dto.TimeSeries],*  
*\*\*kwargs*)

Create a new time series.

**Parameters** `time_series` (*list [v05.dto.TimeSeries]*) – List of time series data transfer objects to create.

#### Keyword Arguments

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

`cognite.v05.timeseries.update_time_series` (*time\_series:* *List[cognite.v05.dto.TimeSeries],*  
*\*\*kwargs*)

Update an existing time series.

For each field that can be updated, a null value indicates that nothing should be done.

**Parameters** `time_series` (*list [v05.dto.TimeSeries]*) – List of time series data transfer objects to update.

#### Keyword Arguments

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.



## 6.1 Assets

Assets Module.

This module mirrors the Assets API.

<https://doc.cognitedata.com/0.4/#Cognite-API-Assets>

`cognite.v04.assets.delete_assets(asset_ids: List[int], **kwargs)`

Delete a list of assets.

**Parameters** `asset_ids` (`list[v04.dto.Asset]`) – List of IDs of assets to delete.

**Keyword Arguments**

- `api_key` (`str`) – Your api-key.
- `project` (`str`) – Project name.

**Returns** An empty response.

`cognite.v04.assets.get_asset_subtree(asset_id="", depth=None, **kwargs)`

Returns assets with provided assetId.

**Parameters**

- `asset_id` (`str`) – The asset id of the top asset to get.
- `depth` (`int`) – Get subassets this many levels below the top asset.

**Keyword Arguments**

- `limit` (`int`) – The maximum number of assets to be returned.
- `cursor` (`str`) – Cursor to use for paging through results.
- `api_key` (`str`) – Your api-key.
- `project` (`str`) – Project name.

**Returns** A data object containing the requested assets with several getter methods with different output formats.

**Return type** *v04.dto.AssetResponse*

`cognite.v04.assets.get_assets` (*name=None, path=None, description=None, metadata=None, depth=None, fuzziness=None, \*\*kwargs*)

Returns assets matching provided description.

**Parameters**

- **name** (*str*) – The name of the asset(s) to get.
- **path** (*str*) – The path of the subtree to search in.
- **description** (*str*) – Search query.
- **metadata** (*str*) – The metadata values used to filter the results.
- **depth** (*int*) – Get sub assets up to this many levels below the specified path.
- **fuzziness** (*int*) – The degree of fuzziness in the name matching.

**Keyword Arguments**

- **limit** (*int*) – The maximum number of assets to be returned.
- **cursor** (*str*) – Cursor to use for paging through results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested assets with several getter methods with different output formats.

**Return type** *v04.dto.AssetResponse*

`cognite.v04.assets.post_assets` (*assets: List[v04.dto.Asset], \*\*kwargs*)

Insert a list of assets.

**Parameters** **assets** (*list[v04.dto.Asset]*) – List of asset data transfer objects.

**Keyword Arguments**

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the posted assets with several getter methods with different output formats.

**Return type** *v04.dto.AssetResponse*

## 6.2 Cloud Storage

### Cloud Storage Module

This module mirrors the Cloud Storage API. It allows you to manage files in cloud storage.

<https://doc.cognitedata.com/0.4/#Cognite-API-Cloud-Storage>

`cognite.v04.cloud_storage.delete_files` (*file\_ids, \*\*kwargs*)

Delete

**Parameters** **file\_ids** (*list[int]*) – List of IDs of files to delete.

**Keyword Arguments**

- **api\_key** (*str*) – Your api key.
- **project** (*str*) – Your project.

**Returns** List of files deleted and files that failed to delete.

**Return type** list

`cognite.v04.cloud_storage.download_file` (*id*, *get\_contents=False*, *\*\*kwargs*)

Get list of files matching query.

**Parameters**

- **id** (*int*) – Path to file to upload, if omitted a upload link will be returned.
- **get\_contents** (*bool*, *optional*) – Boolean to determine whether or not to return file contents as string. Default is False and download url is returned.

**Keyword Arguments**

- **api\_key** (*str*, *optional*) – Your api-key.
- **project** (*str*, *optional*) – Project name.

**Returns** Download link if `get_contents` is False else file contents.

**Return type** str

`cognite.v04.cloud_storage.get_file_info` (*id*, *\*\*kwargs*)

Returns information about a file.

**Parameters** **id** (*int*) – Id of the file.

**Keyword Arguments**

- **api\_key** (*str*, *optional*) – Your api-key.
- **project** (*str*, *optional*) – Project name.

**Returns** A data object containing the requested file information.

**Return type** `v04.dto.FileInfoResponse`

`cognite.v04.cloud_storage.list_files` (*name=None*, *directory=None*, *file\_type=None*, *source=None*, *\*\*kwargs*)

Get list of files matching query.

**Parameters**

- **name** (*str*, *optional*) – List all files with this name.
- **directory** (*str*, *optional*) – Directory to list files from.
- **source** (*str*, *optional*) – List files coming from this source.
- **file\_type** (*str*, *optional*) – Type of files to list.

**Keyword Arguments**

- **api\_key** (*str*, *optional*) – Your api-key.
- **project** (*str*, *optional*) – Project name.
- **tag\_id** (*list*) – Returns all files associated with this tagId.
- **sort** (*str*) – Sort descending or ascending. 'ASC' or 'DESC'.
- **limit** (*int*) – Number of results to return.

- **autopaging** (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.

**Returns** A data object containing the requested files information.

**Return type** *v04.dto.FileListResponse*

`cognite.v04.cloud_storage.upload_file` (*file\_name*, *file\_path=None*, *directory=None*,  
*source=None*, *file\_type=None*, *content\_type=None*,  
*\*\*kwargs*)

Upload metadata about a file and get an upload link.

The link will expire after 30 seconds if not resumable. A resumable upload link is default. Such a link is one-time use and expires after one week. For more information, check this link: [https://cloud.google.com/storage/docs/json\\_api/v1/how-tos/resumable-upload](https://cloud.google.com/storage/docs/json_api/v1/how-tos/resumable-upload). Use PUT request to upload file with the link returned.

If *file\_path* is specified, the file will be uploaded directly by the SDK.

#### Parameters

- **file\_name** (*str*) – File name. Max length is 256.
- **file\_path** (*str*, *optional*) – Path of file to upload, if omitted a upload link will be returned.
- **content\_type** (*str*, *optional*) – MIME type of your file. Required if *file\_path* is specified.
- **directory** (*str*, *optional*) – Directory containing the file. Max length is 512.
- **source** (*str*, *optional*) – Source that this file comes from. Max length is 256.
- **file\_type** (*str*, *optional*) – File type. E.g. pdf, css, spreadsheet, .. Max length is 64.

#### Keyword Arguments

- **api\_key** (*str*, *optional*) – Your api-key.
- **project** (*str*, *optional*) – Project name.
- **metadata** (*dict*) – Customized data about the file.
- **tag\_ids** (*list*) – IDs (tagIds) of equipment related to this file.
- **resumable** (*bool*) – Whether to generate a resumable URL or not. Default is true.
- **overwrite** (*bool*) – Whether to overwrite existing data if duplicate or not. Default is false.

**Returns** A dictionary containing the field *fileId* and optionally also *uploadURL* if *file\_path* is omitted.

**Return type** *dict*

## 6.3 Data Transfer Objects

### Data Objects

This module contains data objects used to represent the data returned from the API. These objects have at least the following output formats:

- `to_pandas()`: Returns pandas dataframe

- `to_ndarray()`: Numpy array
- `to_json()`: Json format

```
class cognite.v04.dto.Asset (name, parent_id=None, description=None, metadata=None,
                                ref_id=None, parent_name=None, parent_ref_id=None)
```

Bases: object

Data transfer object for assets.

**name**

*str* – Name of asset. Often referred to as tag.

**parent\_id**

*int* – ID of parent asset, if any.

**description**

*str* – Description of asset.

**metadata**

*dict* – Custom , application specific metadata. String key -> String Value.

**ref\_id**

*str* – Reference ID used only in post request to disambiguate references to duplicate names.

**parent\_name**

*str* – Name of parent, this parent must exist in the same POST request.

**parent\_ref\_id**

*list(int)* – Reference ID of parent, to disambiguate if multiple nodes have the same name.

```
class cognite.v04.dto.AssetResponse (internal_representation)
```

Bases: `cognite.v04.dto.CogniteDataObject`

Assets Response Object

**to\_json()**

Returns data as a json object

**to\_pandas()**

Returns data as a pandas dataframe

```
class cognite.v04.dto.CogniteDataObject (internal_representation)
```

Bases: object

Abstract Cognite Data Object

This abstract class provides a skeleton for all data objects in this module. All data objects should inherit this class.

**next\_cursor()**

Returns next cursor to use for paging through results

**previous\_cursor()**

Returns previous cursor

**to\_json()**

Returns data as a json object

**to\_ndarray()**

Returns data as a numpy array

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.Datapoint` (*timestamp, value*)

Bases: `object`

Data transfer object for datapoints.

**timestamp**

*int, datetime* – The data timestamp in milliseconds since the epoch (Jan 1, 1970) or as a datetime object.

**value**

*string* – The data value, Can be string or numeric depending on the metric.

**class** `cognite.v04.dto.DatapointsQuery` (*tag\_id, aggregates=None, granularity=None, start=None, end=None, limit=None*)

Bases: `object`

Data Query Object for Datapoints.

**tag\_id**

*str* – Unique ID of time series.

**aggregates**

*list* – The aggregate functions to be returned. Use default if null. An empty list must be sent to get raw data if the default is a set of aggregate functions.

**granularity**

*str* – The granularity size and granularity of the aggregates.

**start**

*str, int, datetime* – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. Example: '2d-ago' will get everything that is up to 2 days old. Can also send time in ms since epoch or as a datetime object.

**end**

*str, int, datetime* – Get datapoints up to this time. The format is the same as for start.

**class** `cognite.v04.dto.DatapointsResponse` (*internal\_representation*)

Bases: `cognite.v04.dto.CogniteDataObject`

Datapoints Response Object.

**to\_json** ()

Returns data as a json object

**to\_pandas** ()

Returns data as a pandas dataframe

**class** `cognite.v04.dto.DatapointsResponseIterator` (*datapoints\_objects*)

Bases: `object`

Iterator for Datapoints Response Objects.

**class** `cognite.v04.dto.FileInfoResponse` (*internal\_representation*)

Bases: `cognite.v04.dto.CogniteDataObject`

File Info Response Object.

**id**

*int* – ID given by the API to the file.

**file\_name**

*str* – File name. Max length is 256.

**directory**

*str* – Directory containing the file. Max length is 512.



**source***dict* – Source that this file comes from. Max length is 256.**file\_type***str* – File type. E.g. pdf, css, spreadsheet, .. Max length is 64.**metadata***dict* – Customizd data about the file.**tag\_ids***list[str]* – IDs of equipment related to this file.**uploaded***bool* – Whether or not the file is uploaded.**uploaded\_at***int* – Epcoc thime (ms) when the file was uploaded succesfully.**to\_json()**

Returns data as a json object

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.FileListResponse` (*internal\_representation*)Bases: `cognite.v04.dto.CogniteDataObject`**to\_json()**

Returns data as a json object

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.LatestDatapointResponse` (*internal\_representation*)Bases: `cognite.v04.dto.CogniteDataObject`

Latest Datapoint Response Object.

**to\_json()**

Returns data as a json object

**to\_ndarray()**

Returns data as a numpy array

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.RawResponse` (*internal\_representation*)Bases: `cognite.v04.dto.CogniteDataObject`

Raw Response Object.

**to\_json()**

Returns data as a json object

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.RawRow` (*key, columns*)Bases: `object`

DTO for a row in a raw database.

The Raw API is a simple key/value-store. Each row in a table in a raw database consists of a unique row key and a set of columns.

**key**

*str* – Unique key for the row.

**columns**

*int* – A key/value-map consisting of the values in the row.

**repr\_json()**

**class** `cognite.v04.dto.TagMatchingResponse` (*internal\_representation*)

Bases: `cognite.v04.dto.CogniteDataObject`

Tag Matching Response Object.

In addition to the standard output formats this data object also has a `to_list()` method which returns a list of names of the tag matches.

**to\_json()**

Returns data as a json object

**to\_list** (*first\_matches\_only=True*)

Returns a list representation of the matches.

**Parameters** `first_matches_only` (*bool*) – Boolean determining whether or not to return only the top match for each tag.

**Returns** list of matched tags.

**Return type** list

**to\_pandas()**

Returns data as a pandas dataframe

**class** `cognite.v04.dto.TimeSeries` (*tag\_id*, *is\_string=False*, *metadata=None*, *unit=None*, *asset\_id=None*, *description=None*, *security\_categories=None*, *step=None*)

Bases: `object`

Data Transfer Object for a timeseries.

**Parameters**

- **tag\_id** (*str*) – Unique ID of time series.
- **is\_string** (*bool*) – Whether the time series is string valued or not.
- **metadata** (*dict*) – Metadata.
- **unit** (*str*) – Physical unit of the time series.
- **asset\_id** (*int*) – Asset that this time series belongs to.
- **description** (*str*) – Description of the time series.
- **security\_categories** (*list(int)*) – Security categories required in order to access this time series.
- **step** (*bool*) – Whether or not the time series is a step series.

**class** `cognite.v04.dto.TimeSeriesResponse` (*internal\_representation*)

Bases: `cognite.v04.dto.CogniteDataObject`

Time series Response Object

**to\_json()**

Returns data as a json object

**to\_pandas** ()

Returns data as a pandas dataframe

**class** `cognite.v04.dto.TimeseriesWithDatapoints` (*tagId*, *datapoints*)

Bases: `object`

Data transfer object for a timeseries with datapoints.

**tag\_id**

*str* – Unique ID of time series.

**datapoints**

*List[v04.dto.Datapoint]* – List of datapoints in the timeseries.

## 6.4 Raw

Raw Module

This module mirrors the Raw API. It allows the user to handle raw data.

<https://doc.cognitedata.com/0.4/#Cognite-API-Cloud-Raw>

`cognite.v04.raw.create_databases` (*database\_names: list*, *api\_key=None*, *project=None*)

Creates databases in the Raw API and returns the created databases.

### Parameters

- **database\_names** (*list*) – A list of databases to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v04.dto.RawResponse`

`cognite.v04.raw.create_rows` (*database\_name: str = None*, *table\_name: str = None*,  
*rows: List[cognite.v04.dto.RawRow] = None*, *api\_key=None*,  
*project=None*, *ensure\_parent=False*, *use\_gzip=False*)

Creates tables in the given Raw API database.

### Parameters

- **database\_name** (*str*) – The database to create rows in.
- **table\_name** (*str*) – The table names to create rows in.
- **rows** (*list [v04.dto.RawRow]*) – The rows to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **ensure\_parent** (*bool*) – Create database/table if it doesn't exist already
- **use\_gzip** (*bool*) – Compress content using gzip

**Returns** An empty response

`cognite.v04.raw.create_tables` (*database\_name: str = None*, *table\_names: list = None*,  
*api\_key=None*, *project=None*)

Creates tables in the given Raw API database.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_names** (*list*) – The table names to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.RawResponse*

```
cognite.v04.raw.delete_databases(database_names: list, recursive: bool = False,
                                api_key=None, project=None)
```

Deletes databases in the Raw API.

**Parameters**

- **database\_names** (*list*) – A list of databases to delete.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

```
cognite.v04.raw.delete_rows(database_name: str = None, table_name: str = None,
                             rows: List[cognite.v04.dto.RawRow] = None, api_key=None,
                             project=None)
```

Deletes rows in the Raw API.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_name** (*str*) – The table name where the rows are at.
- **rows** (*list*) – The rows to delete.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

```
cognite.v04.raw.delete_tables(database_name: str = None, table_names: list = None,
                              api_key=None, project=None)
```

Deletes databases in the Raw API.

**Parameters**

- **database\_name** (*str*) – The database to create tables in.
- **table\_names** (*list*) – The table names to create.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

```
cognite.v04.raw.get_databases(limit: int = None, cursor: str = None, api_key=None,
                              project=None)
```

Returns a RawObject containing a list of raw databases.

**Parameters**

- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.RawResponse*

```
cognite.v04.raw.get_row(database_name: str = None, table_name: str = None, row_key: str = None,
                        api_key=None, project=None)
```

Returns a RawResponse Object containing a list of rows.

#### Parameters

- **database\_name** (*str*) – The database name to retrieve rows from.
- **table\_name** (*str*) – The table name to retrieve rows from.
- **row\_key** (*str*) – The key of the row to fetch.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.RawResponse*

```
cognite.v04.raw.get_rows(database_name: str = None, table_name: str = None, limit: int = None,
                         cursor: str = None, api_key=None, project=None)
```

Returns a RawResponse Object containing a list of rows.

#### Parameters

- **database\_name** (*str*) – The database name to retrieve rows from.
- **table\_name** (*str*) – The table name to retrieve rows from.
- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.RawResponse*

```
cognite.v04.raw.get_tables(database_name: str = None, limit: int = None, cursor: str = None,
                           api_key=None, project=None)
```

Returns a RawObject containing a list of tables in a raw database.

#### Parameters

- **database\_name** (*str*) – The database name to retrieve tables from.
- **limit** (*int*) – A limit on the amount of results to return.
- **cursor** (*str*) – A cursor can be provided to navigate through pages of results.

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.RawResponse*

## 6.5 Tagmatching

Tag Matching Module

This module mirrors the Tag Matching API. It allows the user to search for tag id matches.

<https://doc.cognitedata.com/0.4/#Cognite-API-Tag-Matching>

```
cognite.v04.tagmatching.tag_matching(tag_ids, fuzzy_threshold=0, platform=None,
                                     **kwargs)
```

Returns a TagMatchingObject containing a list of matched tags for the given query.

This method takes an arbitrary string as argument and performs fuzzy matching with a user defined threshold toward tag ids in the system.

### Parameters

- **tag\_ids** (*list*) – The tag\_ids to retrieve matches for.
- **fuzzy\_threshold** (*int*) – The threshold to use when searching for matches. A fuzzy threshold of 0 means you only want to accept perfect matches. Must be  $\geq 0$ .
- **platform** (*str*) – The platform to search on.

### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** *v04.dto.TagMatchingResponse*

## 6.6 Timeseries

Timeseries Module

This module mirrors the Timeseries API. It allows you to fetch data from the api and output it in various formats.

<https://doc.cognitedata.com/0.4/#Cognite-API-Time-series>

```
cognite.v04.timeseries.get_datapoints(tag_id, aggregates=None, granularity=None,
                                       start=None, end=None, **kwargs)
```

Returns a DatapointsObject containing a list of datapoints for the given query.

This method will automate paging for the user and return all data for the given time period.

### Parameters

- **tag\_id** (*str*) – The tag\_id to retrieve data for.

- **aggregates** (*list*) – The list of aggregate functions you wish to apply to the data. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.

#### Keyword Arguments

- **protobuf** (*bool*) – Download the data using the binary protobuf format. Only applicable when getting raw data. Defaults to True.
- **processes** (*int*) – Number of download processes to run in parallel. Defaults to number returned by `cpu_count()`.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v04.dto.DatapointsResponse`

`cognite.v04.timeseries.get_datapoints_frame` (*tag\_ids, aggregates, granularity, start=None, end=None, \*\*kwargs*)

Returns a pandas dataframe of datapoints for the given tag\_ids all on the same timestamps.

This method will automate paging for the user and return all data for the given time period.

#### Parameters

- **tag\_ids** (*list*) – The list of tag\_ids to retrieve data for. Each tag\_id can be either a string containing the tag\_id or a dictionary containing the tag\_id and a list of specific aggregate functions.
- **aggregates** (*list*) – The list of aggregate functions you wish to apply to the data for which you have not specified an aggregate function. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is N[timeunit]-ago where timeunit is w,d,h,m,s. E.g. ‘2d-ago’ will get everything that is up to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.
- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.

- **project** (*str*) – Project name.
- **processes** (*int*) – Number of download processes to run in parallel. Defaults to number returned by `cpu_count()`.

**Returns** A pandas dataframe containing the datapoints for the given `tag_ids`. The datapoints for all the `tag_ids` will all be on the same timestamps.

**Return type** `pandas.DataFrame`

---

**Note:** The `tag_ids` parameter can take a list of strings and/or dicts on the following formats:

```
Using strings:
    ['<tag_id1>', '<tag_id2>']

Using dicts:
    [{'tagId': '<tag_id1>', 'aggregates': ['<aggfunc1>', '<aggfunc2>']},
     {'tagId': '<tag_id2>', 'aggregates': []}]

Using both:
    ['<tagid1>', {'tagId': '<tag_id2>', 'aggregates': ['<aggfunc1>', '<aggfunc2>
→']}]
```

---

`cognite.v04.timeseries.get_latest` (*tag\_id*, *\*\*kwargs*)

Returns a `LatestDatapointObject` containing the latest datapoint for the given `tag_id`.

**Parameters** `tag_id` (*str*) – The `tag_id` to retrieve data for.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A data object containing the requested data with several getter methods with different output formats.

**Return type** `v04.dto.LatestDatapointsResponse`

`cognite.v04.timeseries.get_multi_tag_datapoints` (*datapoints\_queries*, *aggregates=None*,  
*granularity=None*, *start=None*,  
*end=None*, *\*\*kwargs*)

Returns a list of `DatapointsObjects` each of which contains a list of datapoints for the given timeseries.

This method will automate paging for the user and return all data for the given time period(s).

#### Parameters

- **datapoints\_queries** (*list[v04.dto.DatapointsQuery]*) – The list of `DatapointsQuery` objects specifying which timeseries to retrieve data for.
- **aggregates** (*list, optional*) – The list of aggregate functions you wish to apply to the data. Valid aggregate functions are: ‘average/avg, max, min, count, sum, interpolation/int, stepinterpolation/step’.
- **granularity** (*str*) – The granularity of the aggregate values. Valid entries are : ‘day/d, hour/h, minute/m, second/s’, or a multiple of these indicated by a number as a prefix e.g. ‘12hour’.
- **start** (*Union[str, int, datetime]*) – Get datapoints after this time. Format is `N[timeunit]-ago` where `timeunit` is `w,d,h,m,s`. E.g. ‘2d-ago’ will get everything that is up



to 2 days old. Can also send time in ms since epoch or a datetime object which will be converted to ms since epoch UTC.

- **end** (*Union[str, int, datetime]*) – Get datapoints up to this time. Same format as for start.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** A list of data objects containing the requested data with several getter methods with different output formats.

**Return type** `list(v04.dto.DatapointsResponse)`

```
cognite.v04.timeseries.get_timeseries (prefix=None, description=None, include_metadata=False, asset_id=None, path=None,
**kwargs)
```

Returns a TimeseriesObject containing the requested timeseries.

#### Parameters

- **prefix** (*str*) – List timeseries with this prefix in the name.
- **description** (*str*) – Filter timeseries that contains this string in its description.
- **include\_metadata** (*bool*) – Decide if the metadata field should be returned or not. Defaults to False.
- **asset\_id** (*int*) – Get timeseries related to this asset.
- **path** (*str*) – Get timeseries under this asset path branch.

#### Keyword Arguments

- **limit** (*int*) – Number of results to return.
- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.
- **autopaging** (*bool*) – Whether or not to automatically page through results. If set to true, limit will be disregarded. Defaults to False.

**Returns** A data object containing the requested timeseries with several getter methods with different output formats.

**Return type** `v04.dto.TimeSeriesResponse`

```
cognite.v04.timeseries.post_datapoints (tag_id, datapoints: List[cognite.v04.dto.Datapoint],
**kwargs)
```

Insert a list of datapoints.

#### Parameters

- **tag\_id** (*str*) – ID of timeseries to insert to.
- **datapoints** (*list[v04.dto.Datapoint]*) – List of datapoint data transfer objects to insert.

#### Keyword Arguments

- **api\_key** (*str*) – Your api-key.
- **project** (*str*) – Project name.

**Returns** An empty response.

`cognite.v04.timeseries.post_multi_tag_datapoints` (*timeseries\_with\_datapoints:*  
*List[cognite.v04.dto.TimeseriesWithDatapoints],*  
*\*\*kwargs*)

Insert data into multiple timeseries.

**Parameters** `timeseries_with_datapoints` (*List [v04.dto.TimeseriesWithDatapoints]*) – The timeseries with data to insert.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

`cognite.v04.timeseries.post_time_series` (*time\_series:* *List[cognite.v04.dto.TimeSeries],*  
*\*\*kwargs*)

Create a new time series.

**Parameters** `timeseries` (*list [v04.dto.TimeSeries]*) – List of time series data transfer objects to create.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

`cognite.v04.timeseries.update_time_series` (*time\_series:* *List[cognite.v04.dto.TimeSeries],*  
*\*\*kwargs*)

Update an existing time series.

For each field that can be updated, a null value indicates that nothing should be done.

**Parameters** `timeseries` (*list [v04.dto.TimeSeries]*) – List of time series data transfer objects to update.

**Keyword Arguments**

- `api_key` (*str*) – Your api-key.
- `project` (*str*) – Project name.

**Returns** An empty response.

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