
influxdb*client*

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- *Query*
- *Write*
 - *Batching*
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- *Gzip support*
- *Debugging*

1.1 Query

```
from influxdb_client import InfluxDBClient, Point
from influxdb_client.client.write_api import SYNCHRONOUS

bucket = "my-bucket"

client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org")

write_api = client.write_api(write_options=SYNCHRONOUS)
query_api = client.query_api()

p = Point("my_measurement").tag("location", "Prague").field("temperature", 25.3)

write_api.write(bucket=bucket, org="my-org", record=p)
```

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```

## using Table structure
tables = query_api.query('from(bucket:"my-bucket") |> range(start: -10m)')

for table in tables:
    print(table)
    for row in table.records:
        print(row.values)

## using csv library
csv_result = query_api.query_csv('from(bucket:"my-bucket") |> range(start: -10m)')
val_count = 0
for row in csv_result:
    for cell in row:
        val_count += 1

```

1.2 Write

The `WriteApi` supports synchronous, asynchronous and batching writes into InfluxDB 2.0. The data should be passed as an InfluxDB Line Protocol, Data Point or Observable stream.

The default instance of “WriteApi” use batching.

1.2.1 Batching

The batching is configurable by `write_options`:

Property	Description	Default Value
<code>batch_size</code>	the number of data points to collect in a batch	1000
<code>flush_interval</code>	the number of milliseconds before the batch is written	1000
<code>jitter_interval</code>	the number of milliseconds to increase the batch flush interval by a random amount	0
<code>retry_interval</code>	the number of milliseconds to retry unsuccessful write. The retry interval is used when the InfluxDB server does not specify “Retry-After” header.	1000

```

import rx
from rx import operators as ops

from influxdb_client import InfluxDBClient, Point, WriteOptions
from influxdb_client.client.write_api import SYNCHRONOUS

_client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org")
_write_client = _client.write_api(write_options=WriteOptions(batch_size=500,
                                                            flush_interval=10_000,
                                                            jitter_interval=2_000,
                                                            retry_interval=5_000))

"""
Write Line Protocol
"""

```

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```

_write_client.write("my-bucket", "my-org", "h2o_feet,location=coyote_creek water_
↳level=1.0 1")
_write_client.write("my-bucket", "my-org", ["h2o_feet,location=coyote_creek water_
↳level=2.0 2",
                                          "h2o_feet,location=coyote_creek water_
↳level=3.0 3"])

"""
Write Data Point
"""
_write_client.write("my-bucket", "my-org", Point("h2o_feet").tag("location", "coyote_
↳creek").field("water_level", 4.0).time(4))
_write_client.write("my-bucket", "my-org", [Point("h2o_feet").tag("location", "coyote_
↳creek").field("water_level", 5.0).time(5),
                                          Point("h2o_feet").tag("location", "coyote_
↳creek").field("water_level", 6.0).time(6)])

"""
Write Observable stream
"""
_data = rx \
    .range(7, 11) \
    .pipe(ops.map(lambda i: "h2o_feet,location=coyote_creek water_level={0}.0 {0}".
↳format(i)))

_write_client.write("my-bucket", "my-org", _data)

"""
Close client
"""
_write_client.__del__()
_client.__del__()

```

1.2.2 Asynchronous client

Data are writes in an asynchronous HTTP request.

```

from influxdb_client import InfluxDBClient
from influxdb_client.client.write_api import ASYNCHRONOUS

client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org")
write_client = client.write_api(write_options=ASYNCHRONOUS)

...

client.__del__()

```

1.2.3 Synchronous client

Data are writes in a synchronous HTTP request.

```

from influxdb_client import InfluxDBClient
from influxdb_client.client.write_api import SYNCHRONOUS

client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org")
write_client = client.write_api(write_options=SYNCHRONOUS)

...

client.__del__()

```

1.2.4 How to efficiently import large dataset

- sources - import_data_set.py

```

"""
Import VIX - CBOE Volatility Index - from "vix-daily.csv" file into InfluxDB 2.0

https://datahub.io/core/finance-vix#data
"""

from collections import OrderedDict
from csv import DictReader
from datetime import datetime

import rx
from rx import operators as ops

from influxdb_client import InfluxDBClient, Point, WriteOptions

def parse_row(row: OrderedDict):
    """Parse row of CSV file into Point with structure:

        financial-analysis,type=ily close=18.47,high=19.82,low=18.28,open=19.82_
↪1198195200000000000

    CSV format:
        Date,VIX Open,VIX High,VIX Low,VIX Close\n
        2004-01-02,17.96,18.68,17.54,18.22\n
        2004-01-05,18.45,18.49,17.44,17.49\n
        2004-01-06,17.66,17.67,16.19,16.73\n
        2004-01-07,16.72,16.75,15.5,15.5\n
        2004-01-08,15.42,15.68,15.32,15.61\n
        2004-01-09,16.15,16.88,15.57,16.75\n
        ...

    :param row: the row of CSV file
    :return: Parsed csv row to [Point]
    """
    return Point("financial-analysis") \
        .tag("type", "vix-daily") \
        .field("open", float(row['VIX Open'])) \
        .field("high", float(row['VIX High'])) \
        .field("low", float(row['VIX Low'])) \
        .field("close", float(row['VIX Close'])) \
        .time(datetime.strptime(row['Date'], '%Y-%m-%d'))

```

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```

"""
Converts vix-daily.csv into sequence of datad point
"""
data = rx \
    .from_iterable(DictReader(open('vix-daily.csv', 'r'))) \
    .pipe(ops.map(lambda row: parse_row(row)))

client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org",
    ↪ debug=True)

"""
Create client that writes data in batches with 500 items.
"""
write_api = client.write_api(write_options=WriteOptions(batch_size=500, jitter_
    ↪ interval=1_000))

"""
Write data into InfluxDB
"""
write_api.write(org="my-org", bucket="my-bucket", record=data)
write_api.__del__()

"""
Querying max value of CBOE Volatility Index
"""
query = 'from(bucket:"my-bucket")' \
    ' |> range(start: 0, stop: now())' \
    ' |> filter(fn: (r) => r._measurement == "financial-analysis")' \
    ' |> max()'
result = client.query_api().query(org="my-org", query=query)

"""
Processing results
"""
print()
print("=== results ===")
print()
for table in result:
    for record in table.records:
        print('max {0:5} = {1}'.format(record.get_field(), record.get_value()))

"""
Close client
"""
client.__del__()

```

1.3 Gzip support

InfluxDBClient does not enable gzip compression for http requests by default. If you want to enable gzip to reduce transfer data's size, you can call:

```
from influxdb_client import InfluxDBClient
```

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```
_db_client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org", enable_gzip=True)
```

1.4 Debugging

For debug purpose you can enable verbose logging of http requests. Both request header and body will be logged to standard output.

```
_client = InfluxDBClient(url="http://localhost:9999", token="my-token", debug=True, org="my-org")
```

- *InfluxDBClient*
- *QueryApi*
- *WriteApi*
- *BucketsApi*
- *LabelsApi*
- *OrganizationsApi*
- *UsersApi*
- *TasksApi*

2.1 InfluxDBClient

class `influxdb_client.InfluxDBClient` (*url*, *token*, *debug=None*, *timeout=10000*, *enable_gzip=False*, *org: str = None*)
influxdb_client.InfluxDBClient is client for HTTP API defined in <https://github.com/influxdata/influxdb/blob/master/http/swagger.yml>.

Parameters

- **url** – InfluxDB server API url (ex. <http://localhost:9999>).
- **token** – auth token
- **debug** – enable verbose logging of http requests
- **timeout** – default http client timeout
- **enable_gzip** – Enable Gzip compression for http requests. Currently only the “Write” and “Query” endpoints supports the Gzip compression.

- **org** – organization name (used as a default in query and write API)

authorizations_api () → influxdb_client.client.authorizations_api.AuthorizationsApi
Creates the Authorizations API instance.

Returns authorizations api

buckets_api () → influxdb_client.client.bucket_api.BucketsApi
Creates the Bucket API instance.

Returns buckets api

close ()
Shut downs the client

health () → influxdb_client.domain.health_check.HealthCheck
Get the health of an instance.

Returns HealthCheck

labels_api () → influxdb_client.client.labels_api.LabelsApi
Creates the Labels API instance.

Returns labels api

organizations_api () → influxdb_client.client.organizations_api.OrganizationsApi
Creates the Organizations API instance.

Returns organizations api

query_api () → influxdb_client.client.query_api.QueryApi
Creates a Query API instance

Returns Query api instance

ready () → influxdb_client.domain.ready.Ready
Gets The readiness of the InfluxDB 2.0.

Returns Ready

tasks_api () → influxdb_client.client.tasks_api.TasksApi
Creates the Tasks API instance.

Returns tasks api

users_api () → influxdb_client.client.users_api.UsersApi
Creates the Users API instance.

Returns users api

write_api (*write_options*=<influxdb_client.client.write_api.WriteOptions object>) → influxdb_client.client.write_api.WriteApi
Creates a Write API instance

Parameters **write_options** – write api configuration

Returns write api instance

2.2 QueryApi

class influxdb_client.**QueryApi** (*influxdb_client*)
Initializes query client.

Parameters **influxdb_client** – influxdb client

query (*query*: str, *org*=None, *dialect*={*annotations*: ['datatype', 'group', 'default'], *comment_prefix*: '#', *date_time_format*: 'RFC3339', *delimiter*: ',', *header*: True}) → List[influxdb_client.client.flux_table.FluxTable]
Synchronously executes the Flux query and return result as a List['FluxTable']

Parameters

- **query** – the Flux query
- **org** – organization name (optional if already specified in InfluxDBClient)
- **dialect** – csv dialect format

Returns

query_csv (*query*: str, *org*=None, *dialect*: influxdb_client.domain.dialect.Dialect = {*annotations*: ['datatype', 'group', 'default'], *comment_prefix*: '#', *date_time_format*: 'RFC3339', *delimiter*: ',', *header*: True})
Executes the Flux query and return results as a CSV iterator. Each iteration returns a row of the CSV file.

Parameters

- **query** – a Flux query
- **org** – organization name (optional if already specified in InfluxDBClient)
- **dialect** – csv dialect format

Returns The returned object is an iterator. Each iteration returns a row of the CSV file (which can span multiple input lines).

query_raw (*query*: str, *org*=None, *dialect*={*annotations*: ['datatype', 'group', 'default'], *comment_prefix*: '#', *date_time_format*: 'RFC3339', *delimiter*: ',', *header*: True})
Synchronously executes the Flux query and return result as raw unprocessed result as a str

Parameters

- **query** – a Flux query
- **org** – organization name (optional if already specified in InfluxDBClient)
- **dialect** – csv dialect format

Returns str

2.3 WriteApi

```
class influxdb_client.WriteApi (influxdb_client, write_options: influxdb_client.client.write_api.WriteOptions = <influxdb_client.client.write_api.WriteOptions object>)
```

write (*bucket*: str, *org*: str, *record*: Union[str, List[str], influxdb_client.client.write.point.Point, List[Point], rx.core.observable.observable.Observable], *write_precision*: influxdb_client.domain.write_precision.WritePrecision = 'ns') → None
Writes time-series data into influxdb.

Parameters

- **org** (*str*) – specifies the destination organization for writes; take either the ID or Name interchangeably; if both orgID and org are specified, org takes precedence. (required)
- **bucket** (*str*) – specifies the destination bucket for writes (required)

- **write_precision** (*WritePrecision*) – specifies the precision for the unix timestamps within the body line-protocol
- **record** – Points, line protocol, RxPY Observable to write

2.4 BucketsApi

class influxdb_client.**BucketsApi** (*influxdb_client*)

create_bucket (*bucket=None, bucket_name=None, org_id=None, retention_rules=None, description=None*) → influxdb_client.domain.bucket.Bucket
Create a bucket # noqa: E501

Parameters

- **bucket** (*Bucket*) – bucket to create (required)
- **bucket_name** – bucket name
- **description** – bucket description
- **org_id** – org_id
- **bucket_name** – bucket name
- **retention_rules** – retention rules array or single BucketRetentionRules

Returns Bucket If the method is called asynchronously, returns the request thread.

delete_bucket (*bucket*)
Delete a bucket # noqa: E501

Parameters **bucket** – bucket id or Bucket

Returns Bucket If the method is called asynchronously, returns the request thread.

find_bucket_by_id (*id*)
Find bucket by ID

Parameters **id** –

Returns

find_bucket_by_name (*bucket_name*)
Find bucket by name

Parameters **bucket_name** – bucket name

Returns Bucket

find_buckets ()
Gets all buckets

class influxdb_client.domain.**Bucket** (*links=None, id=None, name=None, description=None, org_id=None, rp=None, created_at=None, updated_at=None, retention_rules=None, labels=None*)

NOTE: This class is auto generated by OpenAPI Generator. Ref: <https://openapi-generator.tech>

Do not edit the class manually.

Bucket - a model defined in OpenAPI

created_at
Gets the created_at of this Bucket. # noqa: E501

Returns The created_at of this Bucket. # noqa: E501

Return type datetime

description

Gets the description of this Bucket. # noqa: E501

Returns The description of this Bucket. # noqa: E501

Return type str

id

Gets the id of this Bucket. # noqa: E501

Returns The id of this Bucket. # noqa: E501

Return type str

labels

Gets the labels of this Bucket. # noqa: E501

Returns The labels of this Bucket. # noqa: E501

Return type list[Label]

links

Gets the links of this Bucket. # noqa: E501

Returns The links of this Bucket. # noqa: E501

Return type BucketLinks

name

Gets the name of this Bucket. # noqa: E501

Returns The name of this Bucket. # noqa: E501

Return type str

org_id

Gets the org_id of this Bucket. # noqa: E501

Returns The org_id of this Bucket. # noqa: E501

Return type str

retention_rules

Gets the retention_rules of this Bucket. # noqa: E501

rules to expire or retain data. No rules means data never expires. # noqa: E501

Returns The retention_rules of this Bucket. # noqa: E501

Return type list[BucketRetentionRules]

rp

Gets the rp of this Bucket. # noqa: E501

Returns The rp of this Bucket. # noqa: E501

Return type str

to_dict ()

Returns the model properties as a dict

to_str ()

Returns the string representation of the model

updated_at

Gets the updated_at of this Bucket. # noqa: E501

Returns The updated_at of this Bucket. # noqa: E501

Return type datetime

2.5 LabelsApi

class influxdb_client.LabelsApi (influxdb_client)

The client of the InfluxDB 2.0 that implements Labels HTTP API endpoint.

clone_label (cloned_name: str, label: influxdb_client.domain.label.Label) → influxdb_client.domain.label.Label
Creates the new instance of the label as a copy existing label.

Parameters

- **cloned_name** – new label name
- **label** – existing label

Returns cloned Label

create_label (name: str, org_id: str, properties: Dict[str, str] = None) → influxdb_client.domain.label.Label
Creates a new label.

Parameters

- **name** – label name
- **org_id** – organization id
- **properties** – optional label properties

Returns created label

delete_label (label: Union[str, influxdb_client.domain.label.Label])
Deletes the label.

Parameters **label** – label id or Label

find_label_by_id (label_id: str)
Retrieves the label by id.

Parameters **label_id** –

Returns Label

find_label_by_org (org_id) → List[influxdb_client.domain.label.Label]
Gets the list of all labels for given organization.

Parameters **org_id** – organization id

Returns list of labels

find_labels () → List[influxdb_client.domain.label.Label]
Gets all available labels.

Returns labels

update_label (label: influxdb_client.domain.label.Label)
Updates an existing label name and properties.

Parameters `label` – label

Returns the updated label

2.6 OrganizationsApi

class `influxdb_client.OrganizationsApi` (`influxdb_client`)

The client of the InfluxDB 2.0 that implements Organizations HTTP API endpoint.

class `influxdb_client.domain.Organization` (`links=None`, `id=None`, `name=None`, `description=None`, `created_at=None`, `updated_at=None`, `status='active'`)

NOTE: This class is auto generated by OpenAPI Generator. Ref: <https://openapi-generator.tech>

Do not edit the class manually.

Organization - a model defined in OpenAPI

created_at

Gets the created_at of this Organization. # noqa: E501

Returns The created_at of this Organization. # noqa: E501

Return type `datetime`

description

Gets the description of this Organization. # noqa: E501

Returns The description of this Organization. # noqa: E501

Return type `str`

id

Gets the id of this Organization. # noqa: E501

Returns The id of this Organization. # noqa: E501

Return type `str`

links

Gets the links of this Organization. # noqa: E501

Returns The links of this Organization. # noqa: E501

Return type `OrganizationLinks`

name

Gets the name of this Organization. # noqa: E501

Returns The name of this Organization. # noqa: E501

Return type `str`

status

Gets the status of this Organization. # noqa: E501

if inactive the organization is inactive. # noqa: E501

Returns The status of this Organization. # noqa: E501

Return type `str`

to_dict ()

Returns the model properties as a dict

to_str()
Returns the string representation of the model

updated_at
Gets the updated_at of this Organization. # noqa: E501

Returns The updated_at of this Organization. # noqa: E501

Return type datetime

2.7 UsersApi

class influxdb_client.**UsersApi** (influxdb_client)

class influxdb_client.domain.**User** (id=None, oauth_id=None, name=None, status='active', links=None)

NOTE: This class is auto generated by OpenAPI Generator. Ref: <https://openapi-generator.tech>

Do not edit the class manually.

User - a model defined in OpenAPI

id
Gets the id of this User. # noqa: E501

Returns The id of this User. # noqa: E501

Return type str

links
Gets the links of this User. # noqa: E501

Returns The links of this User. # noqa: E501

Return type UserLinks

name
Gets the name of this User. # noqa: E501

Returns The name of this User. # noqa: E501

Return type str

oauth_id
Gets the oauth_id of this User. # noqa: E501

Returns The oauth_id of this User. # noqa: E501

Return type str

status
Gets the status of this User. # noqa: E501

if inactive the user is inactive. # noqa: E501

Returns The status of this User. # noqa: E501

Return type str

to_dict()
Returns the model properties as a dict

to_str()
Returns the string representation of the model

2.8 TasksApi

`class influxdb_client.TasksApi (influxdb_client)`

`cancel_run (task_id: str, run_id: str)`

Cancel a currently running run. :param task_id: :param run_id:

`find_tasks (**kwargs)`

List tasks.

Parameters

- **name** (*str*) – only returns tasks with the specified name
- **after** (*str*) – returns tasks after specified ID
- **user** (*str*) – filter tasks to a specific user ID
- **org** (*str*) – filter tasks to a specific organization name
- **org_id** (*str*) – filter tasks to a specific organization ID
- **limit** (*int*) – the number of tasks to return

Returns Tasks

`get_logs (task_id: str) → List[influxdb_client.domain.log_event.LogEvent]`

Retrieve all logs for a task. :param task_id: task id

`get_run (task_id: str, run_id: str) → influxdb_client.domain.run.Run`

Get run record for specific task and run id :param task_id: task id :param run_id: run id :return: Run for specified task and run id

`get_runs (task_id, **kwargs) → List[influxdb_client.domain.run.Run]`

Retrieve list of run records for a task

Parameters

- **task_id** – task id
- **after** (*str*) – returns runs after specified ID
- **limit** (*int*) – the number of runs to return
- **after_time** (*datetime*) – filter runs to those scheduled after this time, RFC3339
- **before_time** (*datetime*) – filter runs to those scheduled before this time, RFC3339

`retry_run (task_id: str, run_id: str)`

Retry a task run. :param task_id: task id :param run_id: run id

`run_manually (task_id: str, scheduled_for: <module 'datetime' from
'/home/docs/.pyenv/versions/3.6.8/lib/python3.6/datetime.py'> = None)`

Manually start a run of the task now overriding the current schedule.

Parameters

- **task_id** –
- **scheduled_for** – planned execution

```
class influxdb_client.domain.Task (id=None, type=None, org_id=None, org=None,
                                   name=None, description=None, status=None, labels=None,
                                   authorization_id=None, flux=None, every=None, cron=None,
                                   offset=None, latest_completed=None, created_at=None,
                                   updated_at=None, links=None)
```

NOTE: This class is auto generated by OpenAPI Generator. Ref: <https://openapi-generator.tech>

Do not edit the class manually.

Task - a model defined in OpenAPI

authorization_id

Gets the authorization_id of this Task. # noqa: E501

The ID of the authorization used when this task communicates with the query engine. # noqa: E501

Returns The authorization_id of this Task. # noqa: E501

Return type str

created_at

Gets the created_at of this Task. # noqa: E501

Returns The created_at of this Task. # noqa: E501

Return type datetime

cron

Gets the cron of this Task. # noqa: E501

A task repetition schedule in the form ‘* * * * *’; parsed from Flux. # noqa: E501

Returns The cron of this Task. # noqa: E501

Return type str

description

Gets the description of this Task. # noqa: E501

An optional description of the task. # noqa: E501

Returns The description of this Task. # noqa: E501

Return type str

every

Gets the every of this Task. # noqa: E501

A simple task repetition schedule; parsed from Flux. # noqa: E501

Returns The every of this Task. # noqa: E501

Return type str

flux

Gets the flux of this Task. # noqa: E501

The Flux script to run for this task. # noqa: E501

Returns The flux of this Task. # noqa: E501

Return type str

id

Gets the id of this Task. # noqa: E501

Returns The id of this Task. # noqa: E501

Return type `str`

labels

Gets the labels of this Task. # noqa: E501

Returns The labels of this Task. # noqa: E501

Return type `list[Label]`

latest_completed

Gets the latest_completed of this Task. # noqa: E501

Timestamp of latest scheduled, completed run, RFC3339. # noqa: E501

Returns The latest_completed of this Task. # noqa: E501

Return type `datetime`

links

Gets the links of this Task. # noqa: E501

Returns The links of this Task. # noqa: E501

Return type `TaskLinks`

name

Gets the name of this Task. # noqa: E501

The name of the task. # noqa: E501

Returns The name of this Task. # noqa: E501

Return type `str`

offset

Gets the offset of this Task. # noqa: E501

Duration to delay after the schedule, before executing the task; parsed from flux, if set to zero it will remove this option and use 0 as the default. # noqa: E501

Returns The offset of this Task. # noqa: E501

Return type `str`

org

Gets the org of this Task. # noqa: E501

The name of the organization that owns this Task. # noqa: E501

Returns The org of this Task. # noqa: E501

Return type `str`

org_id

Gets the org_id of this Task. # noqa: E501

The ID of the organization that owns this Task. # noqa: E501

Returns The org_id of this Task. # noqa: E501

Return type `str`

status

Gets the status of this Task. # noqa: E501

Returns The status of this Task. # noqa: E501

Return type `TaskStatusType`

to_dict()

Returns the model properties as a dict

to_str()

Returns the string representation of the model

type

Gets the type of this Task. # noqa: E501

The type of task, this can be used for filtering tasks on list actions. # noqa: E501

Returns The type of this Task. # noqa: E501

Return type str

updated_at

Gets the updated_at of this Task. # noqa: E501

Returns The updated_at of this Task. # noqa: E501

Return type datetime

InfluxDB 2.0 python client library. The library covers InfluxDB 2.0

InfluxDB 2.0 client features

- **Querying data**
 - using the Flux language
 - into csv, raw data, `flux_table` structure
- **Writing data using**
 - Line Protocol
 - Data Point
 - RxPY Observable
 - Not implemented yet - write user types using decorator - write Pandas DataFrame
- **InfluxDB 2.0 API client for management**
 - the client is generated from the `swagger` by using the `openapi-generator`
 - organizations & users management
 - buckets management
 - tasks management
 - authorizations
 - health check

InfluxDB python library uses [RxPY](#) - The Reactive Extensions for Python (RxPY).

Python 3.6 or later is required.

4.1 pip install

The python package is hosted on Github, you can install latest version directly:

```
pip3 install git+https://github.com/influxdata/influxdb-client-python.git
```

Then import the package:

```
import influxdb_client
```

4.2 Setuptools

Install via Setuptools.

```
python setup.py install --user
```

(or `sudo python setup.py install` to install the package for all users)

Please follow the *Installation* and then run the following:

```
from influxdb_client import InfluxDBClient, Point
from influxdb_client.client.write_api import SYNCHRONOUS

bucket = "my-bucket"

client = InfluxDBClient(url="http://localhost:9999", token="my-token", org="my-org")

write_api = client.write_api(write_options=SYNCHRONOUS)
query_api = client.query_api()

p = Point("my_measurement").tag("location", "Prague").field("temperature", 25.3)

write_api.write(bucket=bucket, org="my-org", record=p)

## using Table structure
tables = query_api.query('from(bucket:"my-bucket") |> range(start: -10m)')

for table in tables:
    print(table)
    for row in table.records:
        print (row.values)

## using csv library
csv_result = query_api.query_csv('from(bucket:"my-bucket") |> range(start: -10m)')
val_count = 0
for row in csv_result:
    for cell in row:
        val_count += 1
```


CHAPTER 6

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