PyBD Documentation

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Contents:

A Python API to access the Bazean Postgres database

CHAPTER 1

Example Usage

A simple Python script that gets the production data from 10 wells from the state of Texas operated by XOM:

```
from pybd import PyBD

db = PyBD(user='bazean_postgres_username', password='bazean_postgres_password')
db.set_fetch_size(10)
locations = db.get_well_locations_by_ticker_and_state('XOM', 'TX')

oil_production = []
for api in locations['apis'].values:
   df = db.get_production_from_api(api)
   oil_production += df['oil']
```

CHAPTER 2

API Documentation

class pybd.**PyBD**(*user=None*, *password=None*, *subdomain='premium'*, *schema='public'*)

Class for querying Bazean database.

Parameters

- **user** (*str*) – Bazean database username, defaults to use the environment variable *BAZEAN_POSTGRES_USERNAME* if assigned
- **password** (*str*) – Bazean database password, defaults to use the environment variable *BAZEAN_POSTGRES_PASSWORD* if assigned
- **subdomain** (*str*) – URL subdomain, default is "premium"
- **schema** (*str*) – Postgres schema, default is "public"

get(*table*, *columns*, ***kwargs*)

General function to construct SQL query statement and retrieve columns of data

Parameters

- **table** (*str*) – SQL table name
- **columns** (*tuple of str*) – A tuple of column names to select
- ****kwargs** – Arbitrary number of keyword arguments of the form *key=value*. These would be expected to construct the *WHERE* portion of the SQL statement with a logical *AND* operation. For example:

```
db = PyBD()
db.get('production_all', ('apis',),
       state='KS',
       api='15001016610000')
```

and would result in the query string:

```
SELECT apis FROM production_all WHERE state='KS' AND api=
↪'15001016610000'
```

In this simple case, the function would return a list *[['15001016610000']]*.

Returns Nested list of returned columns of data from the SQL query.

Return type (list)

get_production_from_api(*api*)
Returns the total production histories for a given API number

Parameters **api** (*str*) – API number for requested well production histories

Returns Pandas DataFrame.

Return type (DataFrame)

get_tickers_by_state(*state*)
Returns the stock tickers (actual or assigned) of companies that operate/own wells in a given state.

Parameters **state** (*str*) – The two letter postal code of a state, i.e. "TX" or "NM"

Returns A list containing the stock tickers. Missing entries query entries with *None* are ommitted.

Return type (list of str)

get_well_locations_by_ticker_and_state(*ticker*, *state*)
Returns the latitude, longitude and API number of wells

Parameters

- **ticker** (*str*) – Company stock ticker, i.e. "XOM"
- **state** (*str*) – The two letter postal code of a state, i.e. "TX" or "NM"

Returns Pandas DataFrame

Return type (DataFrame)

set_fetch_size(*value*)
Sets the fetch size for database query methods i.e. *get_* methods

Parameters **value** (int or *'all'*) – fetch size, default is 50.

CHAPTER 3

Indices and tables

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