# Retrieving Building Snapshot ID

SEED project

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## Contents

# 1 Introduction

The document records the process of retrieving the building snapshot id and canonical building id from SEED database.

# 2 Outline

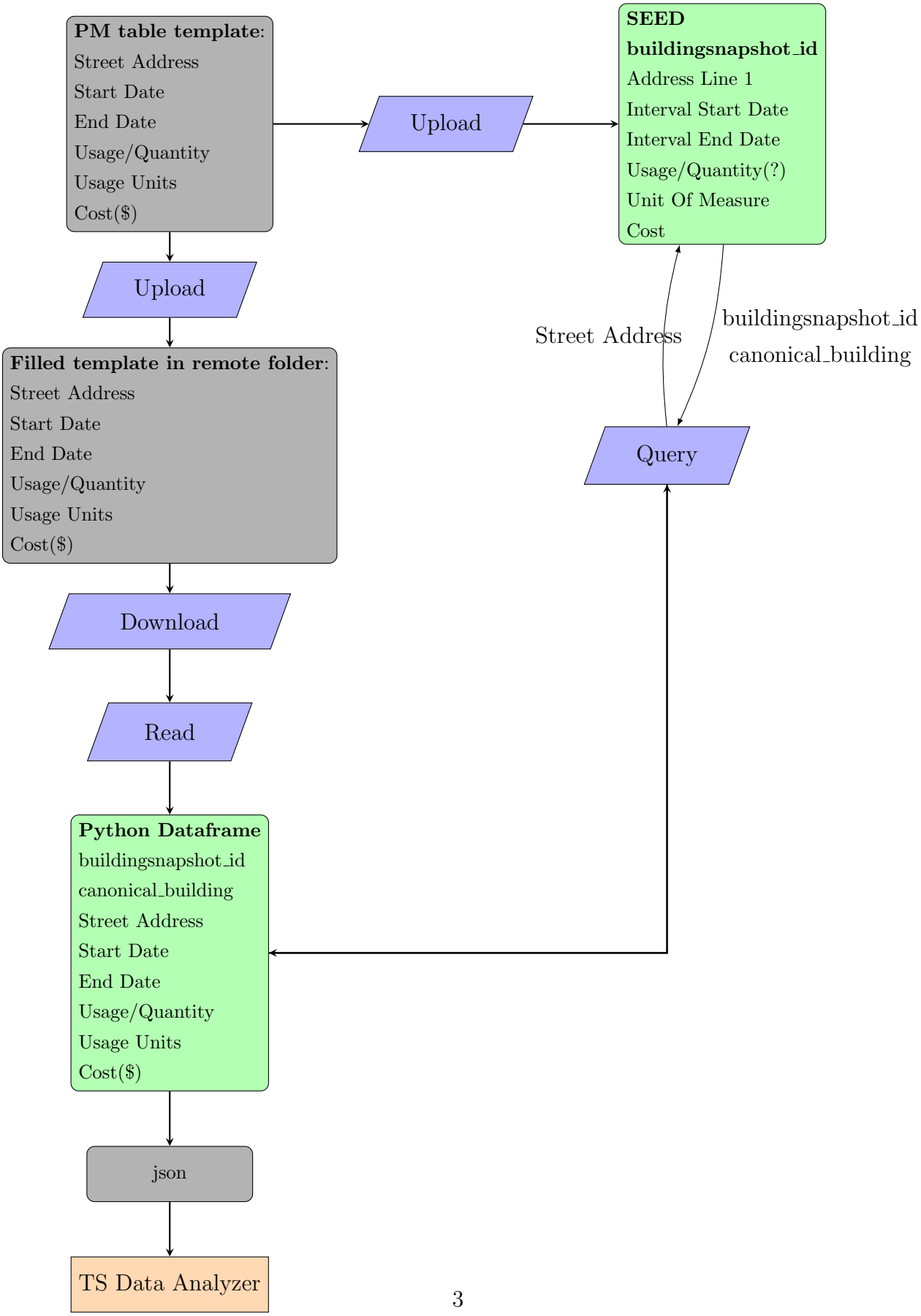
## 2.1 With template excel file

### 2.1.1 Pseudo Code

```
User:
Fill out the PM template table with their building information
Upload tables some remote folder (for us to download)
Upload tables to SEED database (making sure there is an ID created)

We:
Download the remote folder that contains the tables with the specified format.
For each table in the folder:
    Read the table into a data frame (Python pandas dataframe)
    //note: since the table is not uploaded to EnergyStar PM,
    //the Portfolio Manager ID might not be available
    Get a set (dictionary key), A, of addresses from the PM table
    Create an empty dictionary D (initializing all entries to None)
        for each address a in the set A:
            make a QUERY to SEED database with (address, Portfolio Manager ID)
                if address identifies a building b is in SEED database
                    get the building snapshot id: s_id
                    make a QUERY with the s_id to get the canonical id (SEED.BuildingSnapshot.c
                    D[a] = {buildingsnapshot_id: s_id,
                            canonical_building: c_id}
                else
                    D[a] = None
    Insert the c_id, s_id to the dataframe
    convert the dataframe to json format
```

### 2.1.2 Diagram


PM table template:
Street Address
Start Date
End Date
Usage/Quantity
Usage Units
Cost($)
Upload
SEED
buildingsnapshot_id
Address Line 1
Interval Start Date
Interval End Date
Usage/Quantity(?)
Unit Of Measure
Cost
Upload
Street Address
buildingsnapshot_id
canonical_building
Filled template in remote folder:
Street Address
Start Date
End Date
Usage/Quantity
Usage Units
Cost($)
Query
Download
Read
Python Dataframe
buildingsnapshot_id
canonical_building
Street Address
Start Date
End Date
Usage/Quantity
Usage Units
Cost($)
json
TS Data Analyzer

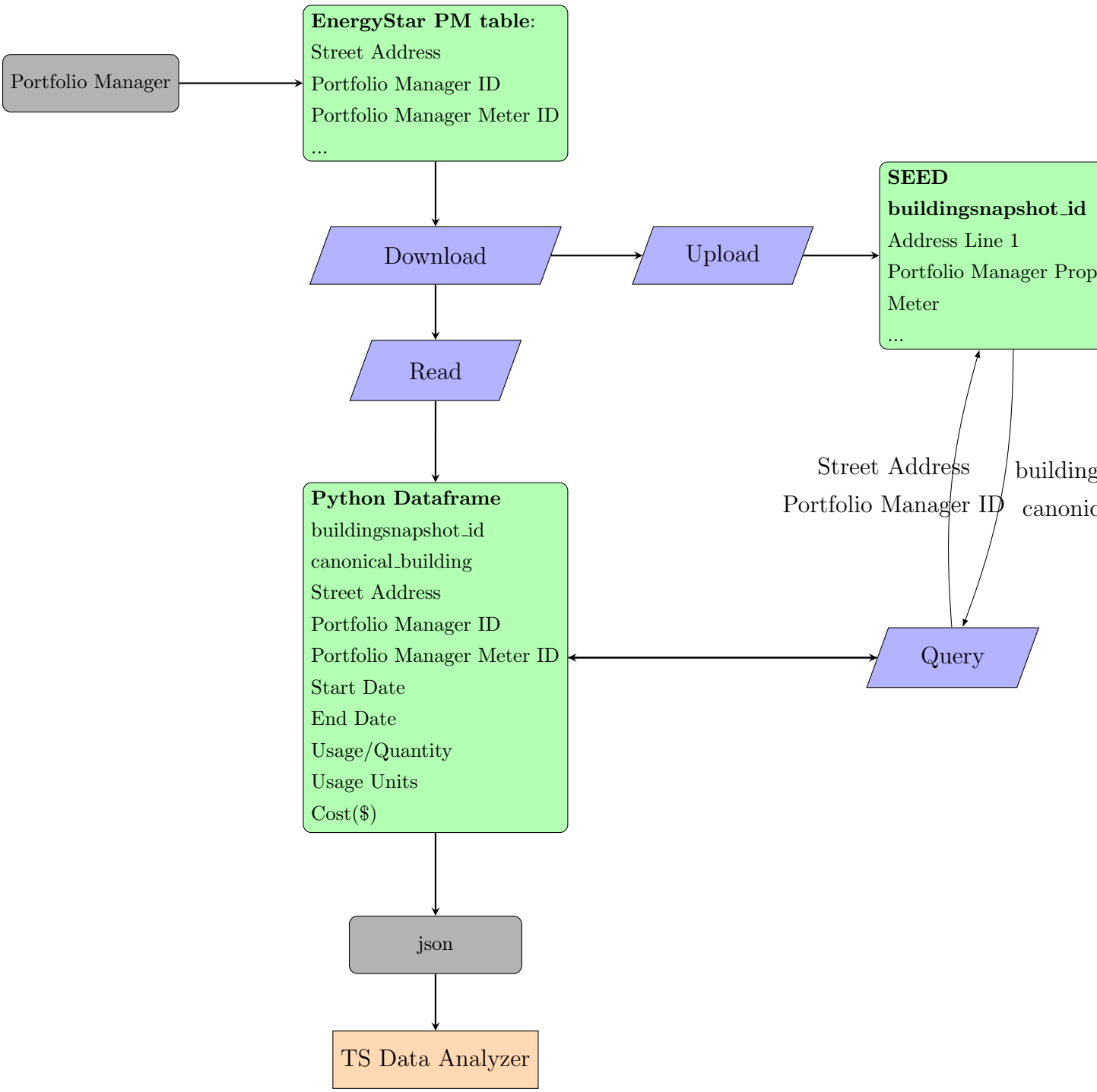
## 2.2 With PM excel file

### 2.2.1 Pseudo code

```
User:
Fill out EnergyStar PM table with their building information
Download the excel from EnergyStar
Upload tables to SEED database (making sure there is an ID created)

We:
Download the remote folder that contains the tables with the specified format.
For each table in the folder:
    Read the table into a data frame (Python pandas dataframe)
    Get a set (dictionary key), A, of (addresses, Portfolio Manager ID) pairs from the PM table
    Create an empty dictionary D (initializing all entries to None)
        for each address a in the set A:
            make a QUERY to SEED database with (address, Portfolio Manager ID)
                if (address, Portfolio Manager ID) identifies a building b is in SEED database
                    get the building snapshot id: s_id
                    make a QUERY with the s_id to get the canonical id (SEED.BuildingSnapshot.c
                    D[a] = {buildingsnapshot_id: s_id,
                            canonical_building: c_id}
                else
                    D[a] = None
    Insert the c_id, s_id to the dataframe
    convert the dataframe to json format
```

### 2.2.2 Diagram


Portfolio Manager
EnergyStar PM table:
Street Address
Portfolio Manager ID
Portfolio Manager Meter ID
...
Download
Upload
SEED
buildingsnapshot_id
Address Line 1
Portfolio Manager Prop
Meter
...
Read
Street Address
Portfolio Manager ID
building
canonic
Python Dataframe
buildingsnapshot_id
canonical_building
Street Address
Portfolio Manager ID
Portfolio Manager Meter ID
Start Date
End Date
Usage/Quantity
Usage Units
Cost($)
Query
json
TS Data Analyzer

# 3 Discussion

- Considering there might be buildings using the same address (one case is for *maybe all buildings in CMU are entered with the same "5000 Forbes Ave" address*) choose both "Address 1" and "Portfolio Manager ID" for retrieving the PM ID (Figure 1)

| A | B | C | D | E |
|---|---|---|---|---|
| **My Portfolio: yujie xu** | | | | |
| **12/03/2015 10:27 AM EST** | | | | |
| **Total Properties: 2** | | | | |
| | | | | |
| | | | | |
| **Property Name** | **Portfolio Manager ID** | **Street Address** | **Street Address 2** | **City/Municipality** |
| OSHER extension | 4674008 | 5000 Forbes Ave | | Pittsburge |
| test_hotel | 4697182 | 5000 Forbes Ave | | Pittsburge |
| | | | | |
| | | | | |

Figure 1: PM table that has a same address but different Portfolio Manager ID

- using "None" rather than "-1" is because of this documentation: "None is frequently used to represent the absence of a value"
- **Question:** Is it better to directly read from PM table rather than create a template? because when people uploaded the table to PM, the "Portfolio Manager ID" is generate