Retrieving Building Snapshot ID

SEED project

December 17, 2015

Contents

1 Introduction

The document records the implementation of the PM template file converter with the following main tasks:

- Converting legacy excel files downloaded from EnergyStar PM website to the proposed excel template.
- Reading a folder containing the excel files with the template.
- Uploading PM files to SEED (optional)
- Querying SEED database to retrieve buildingsnapshot_id and cononical_building id
- Converting template data to the json data format

2 Flow Diagram with PM excel template

2.1 Excel template

The excel template consists of the following fields:

Street Address corresponding to the "Address Line 1" in BEDES, "This address represents a complete street address, including street number, street name, prefixes, suffixes, modifiers, and unit number."`https://bedes.lbl.gov/bedes-online/address-line-1`

Project Name the name of the building, corresponding to the "Name" (Name identifying the premises. This could be the name of the complex, the building, or the space within a building, such as a classroom number) or "Project" (Identifier used to specify a certain project.)`https://bedes.lbl.gov/bedes-online/identifier-label`

Portfolio Manager ID corresponding to the "Portfolio Manager Property" in BEDES ("A unique ID assigned by EPA's Portfolio Manager program to each property. This is a unique ID assigned by EPA to each premises. A premises can be a portion of a building, a single building, or a campus of buildings. If the property is a campus of buildings and each building is benchmarked, individual buildings will also be assigned individual IDs, and the ID for the campus is referred to as the Parent Property ID.").`https://bedes.lbl.gov/bedes-online/identifier-label`

Note, this field is not be available for energy records for buildings that haven't been created in EnergyStar Portfolio Manager. It is used for holding the information from

existing raw PM tables downloaded from EnergyStar. It can be used as a key field for searching SEED database and retrieving buildingsnapshot_id

Portfolio Manager Meter ID corresponding to the "Meter" field in BEDES ("Identifier containing relevant meter information")`https://bedes.lbl.gov/bedes-online/identifier-label`

Meter Type Corresponding to the field of "Resource" in BEDES ("Type of energy resource fuel. This can be applied at the premises or individual system or equipment level.")`https://bedes.lbl.gov/bedes-online/resource`

Start Date Corresponding to the field of "Interval Start Date" in BEDES ("The start date that marks the beginning of the time interval for a value. Format for the date can be found in Metadata's "Date Format")`https://bedes.lbl.gov/bedes-online/interval-start-date`

End Date Corresponding to the field of "Interval End Date" in BEDES ("The end date that marks the ending of the time interval for a value. Format for the date can be found in Metadata's "Date Format")`https://bedes.lbl.gov/bedes-online/interval-end-date`

Usage/Quantity Corresponding to the field of "Power Metric Value" in BEDES ("Value of the measurement of associated power metric")`https://bedes.lbl.gov/bedes-online/power-metric-value`

Usage Units Corresponding to "Unit Of Measure" in BEDES ("Unit of measurement for the data value.")`https://bedes.lbl.gov/bedes-online/unit-measure`

Cost Corresponding to the field of "Cost" in BEDES ("Cost to related the project or measure. Must be associated with "Cost Attribution" and "Interval Period", if necessary.")

	A	B	C	D	E	F	G	H	I	J
1	Street Address	Project Name	Portfolio Manager ID	Portfolio Manager Meter ID	Meter Type	Start Date	End Date	Usage/Quantity	Usage Units	Cost ($)
2	5000 Forbes Ave	test project	4674008	16873474	Natural Gas	11/1/2014 0:00:00	12/1/2014 0:00:00	100000	kBtu (thousand Btu)	9000

Figure 1: Template excel file

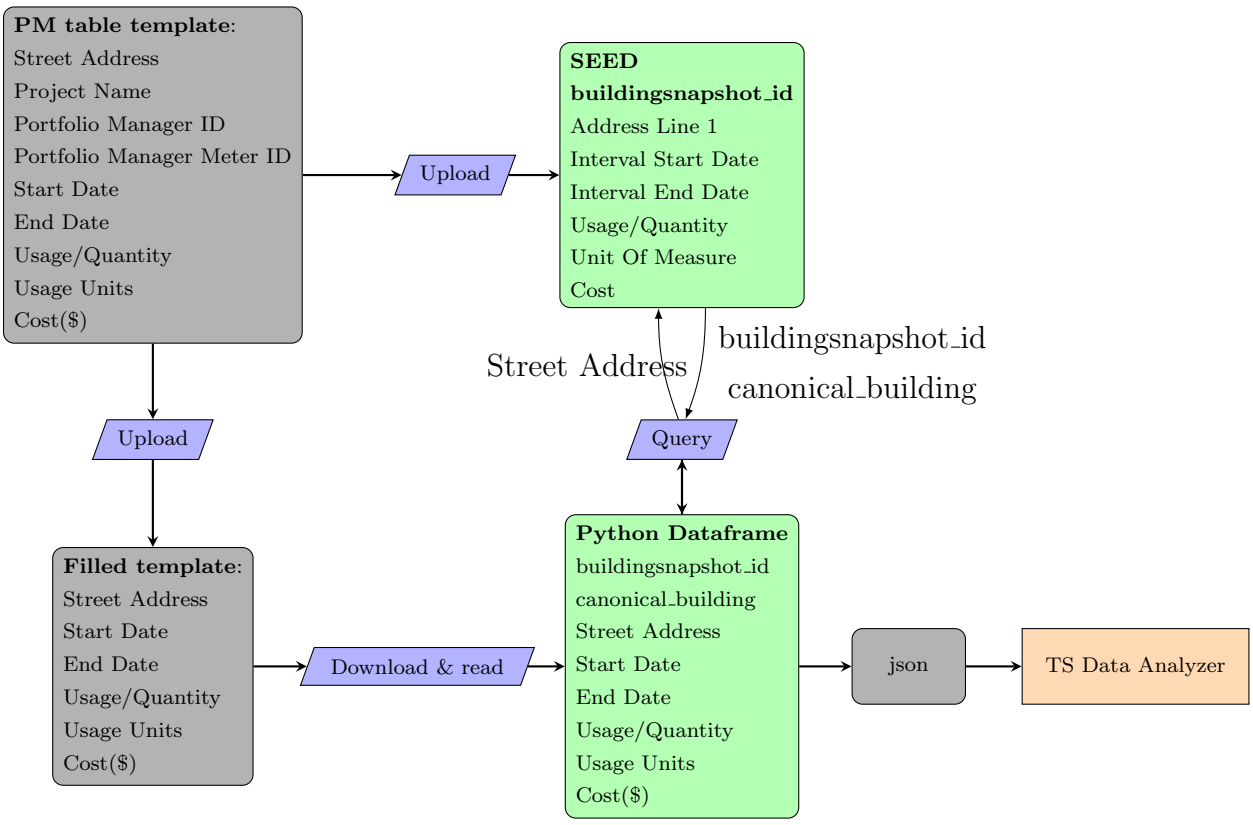
2.2 Pseudo Code

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

```
//Note: this step can be omitted, if the SEED platform provide some internal
//place to hold the table so that we can download from this internal folder.
Upload tables to some remote folder (for us to download)

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: If the table is not uploaded to EnergyStar PM,
    //the Portfolio Manager ID might not be available,
    //for tables converted from PM raw table, these fields are available
    //the assumption: each address uniquely identifies a building
    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,
                if address identifies a building b is in SEED database
                    //SEED.BuildingSnapshot.id
                    get the building snapshot id: s_id
                    make a QUERY with s_id to get c_id
                    //SEED.BuildingSnapshot.canonical_building
                    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
```

2.2.1 Diagram



2.3 Retrieving Building Snapshot ID

Wrote a query.py file to query SEED test database and retrieve

3 PM Excel file to template file converter

Wrote a PM2template.py file to convert EnergyStar PM file to the excel template

4 Modified flow chart