ODSQL & API v2.1 Tutorial 2024

This document explains how to use the API of City of Melbourne Open Data (CoM). Only the HTTP (GET) method is supported, all API endpoints return JSON. Endpoints use [ODSQL](https://help.opendatasoft.com/apis/ods-explore-v2/#section/Opendatasoft-Query-Language-(ODSQL)).

A screenshot of a computer

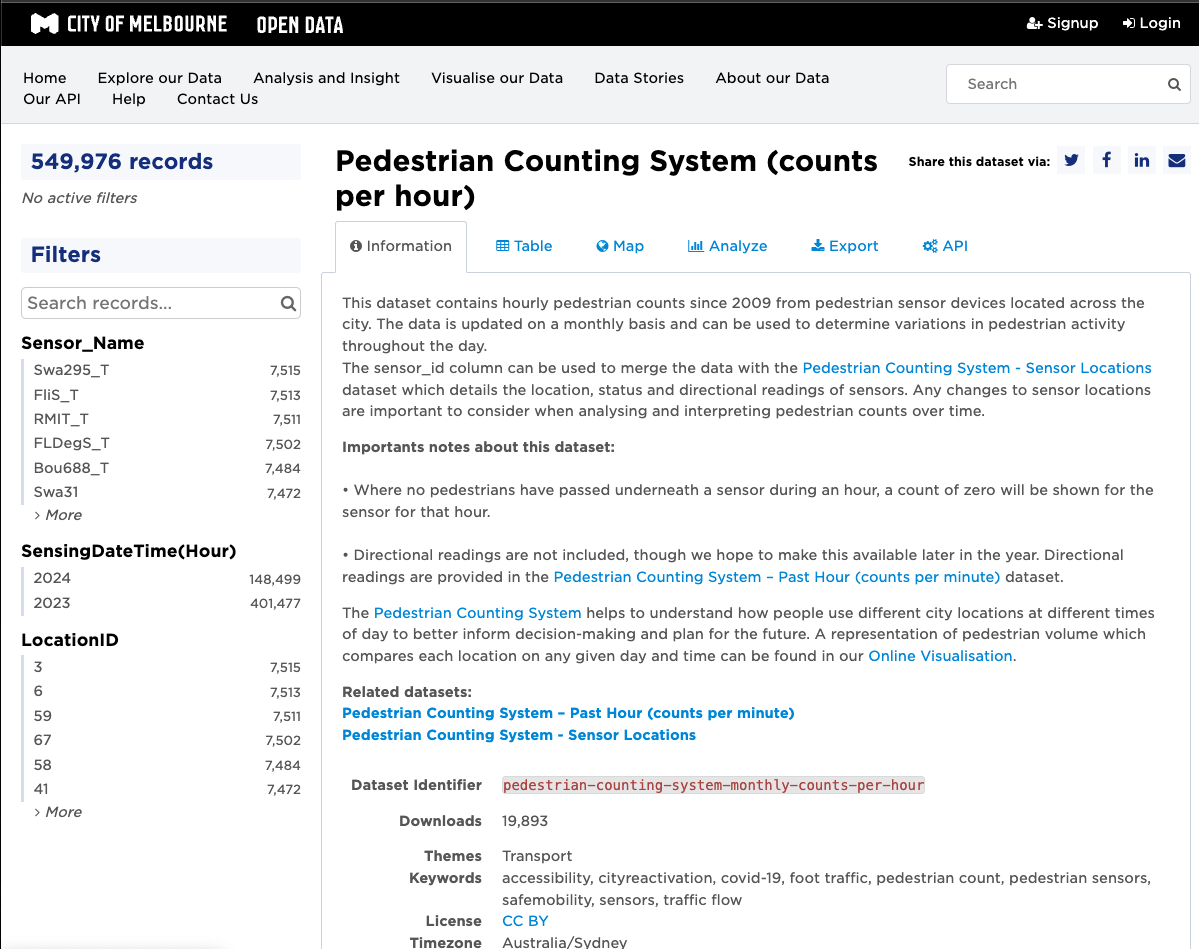
Description automatically generated

# Note

* These instructions only apply to **API v2.1** and the [City of Melbourne Open Data.](https://data.melbourne.vic.gov.au/api/explore/v2.1/console)
* `**records**` endpoint is subject to a [*limited number of returned records*](https://help.opendatasoft.com/apis/ods-explore-v2/#tag/Dataset/operation/getRecords)
* `**exports**` endpoints has no limitations!
* Each organization's API settings are different!

*Some parts of the documentation, such as loop acquisition. The government may ban it in subsequent updates, and it does not apply to team' API keys with advanced permissions. For commercial enterprises, loop acquisition is likely to be disabled and may be defaulted by the system as an attack or illegal request.*

# Explore Datasets



Dataset [Pedestrian Counting System (counts per hour)](https://data.melbourne.vic.gov.au/explore/dataset/pedestrian-counting-system-monthly-counts-per-hour/api/)

# Appy for Personal API Key

***Do not share your API key, keep it secret.***

[Instructions on applying for a API key](https://github.com/Chameleon-company/MOP-Code/blob/master/datascience/documentation/City%20of%20Melbourne%20Open%20Data%20and%20Personal%20API%20Key.pdf)

# API Keys

文本

描述已自动生成

*DO NOT EXPOSE YOUR API KEY – IT IS A SECURITY RISK!*

### Option 1. Remove API KEY Before Publishing

*Risky you could forget!*

A screenshot of a computer program

Description automatically generated

### Option 2. Pull API key from Separate File (Locally or GitHub)

*A screenshot of a phone

Description automatically generated*A screenshot of a computer program

Description automatically generated

Load Dependencies and load Cloud (Google Collab)

### Option 3. Using Google Cloud Secret Manager

*A screen shot of a computer screen

Description automatically generated*

## Pre-fill parameters (*Optional: filtering)*

*Opendatasoft Query Language (ODSQL) allows you to filter datasets or records and build aggregations.*

[*https://help.opendatasoft.com/apis/ods-explore-v2/#section/Opendatasoft-Query-Language-(ODSQL)*](https://help.opendatasoft.com/apis/ods-explore-v2/#section/Opendatasoft-Query-Language-(ODSQL))

Using the Console you can prefill your parameters and create a GET curl request, you can then use Python HTTP Request (Import requests) library to call API by interacting via HTTP methods.

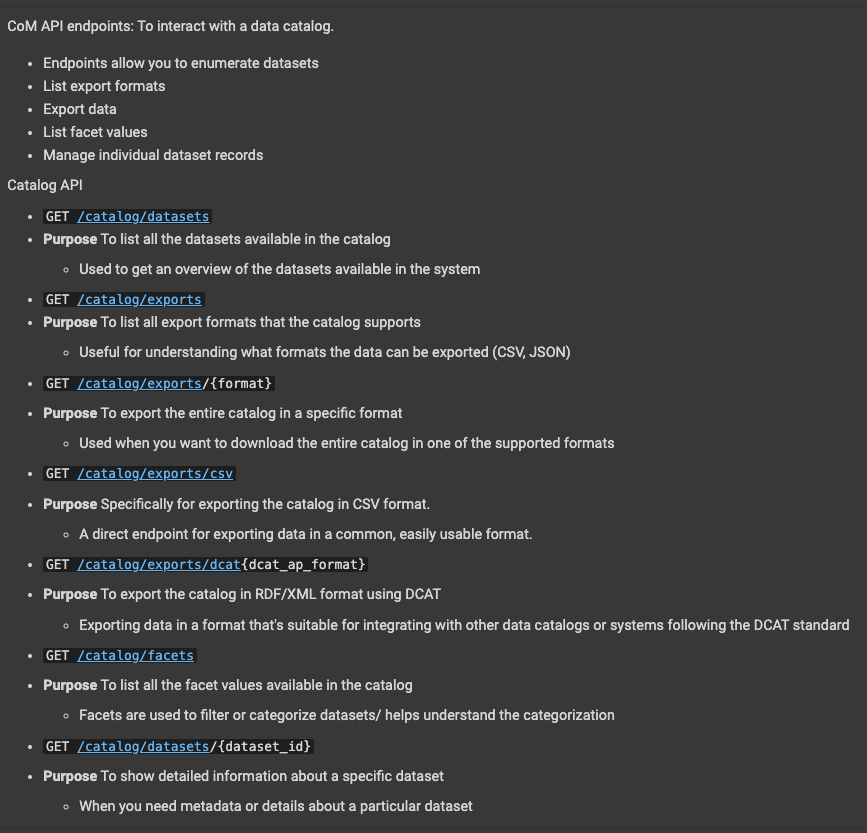
[*https://data.melbourne.vic.gov.au/api/explore/v2.1/console*](https://data.melbourne.vic.gov.au/api/explore/v2.1/console)

A white background with black text

Description automatically generatedA screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated



A screenshot of a computer

Description automatically generated

# *1. exports* API (Endpoint)

*\*Preferred method by CoM as it has no limitations*

### Example: Single Request for CSV file

*GET/Catalog/exports*

##### `GET [https://data.melbourne.vic.gov.au/api/catalog/datasets/pedestrian-counting-system-monthly-counts-per-hour`](https://data.melbourne.vic.gov.au/api/catalog/exports%60)

*This can take a little while as you are pulling the whole dataset*

Feel free to add a [progress bar](https://www.geeksforgeeks.org/progress-bars-in-python/) etc

***A screenshot of a computer program

Description automatically generated***

***A screenshot of a computer

Description automatically generated***

## Additional examples exports endpoint

***Catalog (API to enumerate datasets)*** or ***Dataset (API to work on records)***

### Example: Catalog API to enumerate datasets

*GET/Catalog/datasets*

##### `GET [https://data.melbourne.vic.gov.au/api/catalog/datasets`](https://data.melbourne.vic.gov.au/api/catalog/datasets%60)

*Limit 10, this can be commented out*

A screen shot of a computer

Description automatically generated

### Example: Show dataset Information

*GET/Catalog/datasets/{dataset\_id}*

##### `GET [https://data.melbourne.vic.gov.au/api/catalog/datasets/pedestrian-counting-system-monthly-counts-per-hour`](https://data.melbourne.vic.gov.au/api/catalog/datasets/pedestrian-counting-system-monthly-counts-per-hour%60)

A screenshot of a computer

Description automatically generated

*Limit parameter controls the number of records or datasets returned in the response.*

### Example: Check Available export formats for dataset

*GET/Catalog/exports*

##### `GET [https://data.melbourne.vic.gov.au/api/catalog/datasets/pedestrian-counting-system-monthly-counts-per-hour`](https://data.melbourne.vic.gov.au/api/catalog/exports%60)

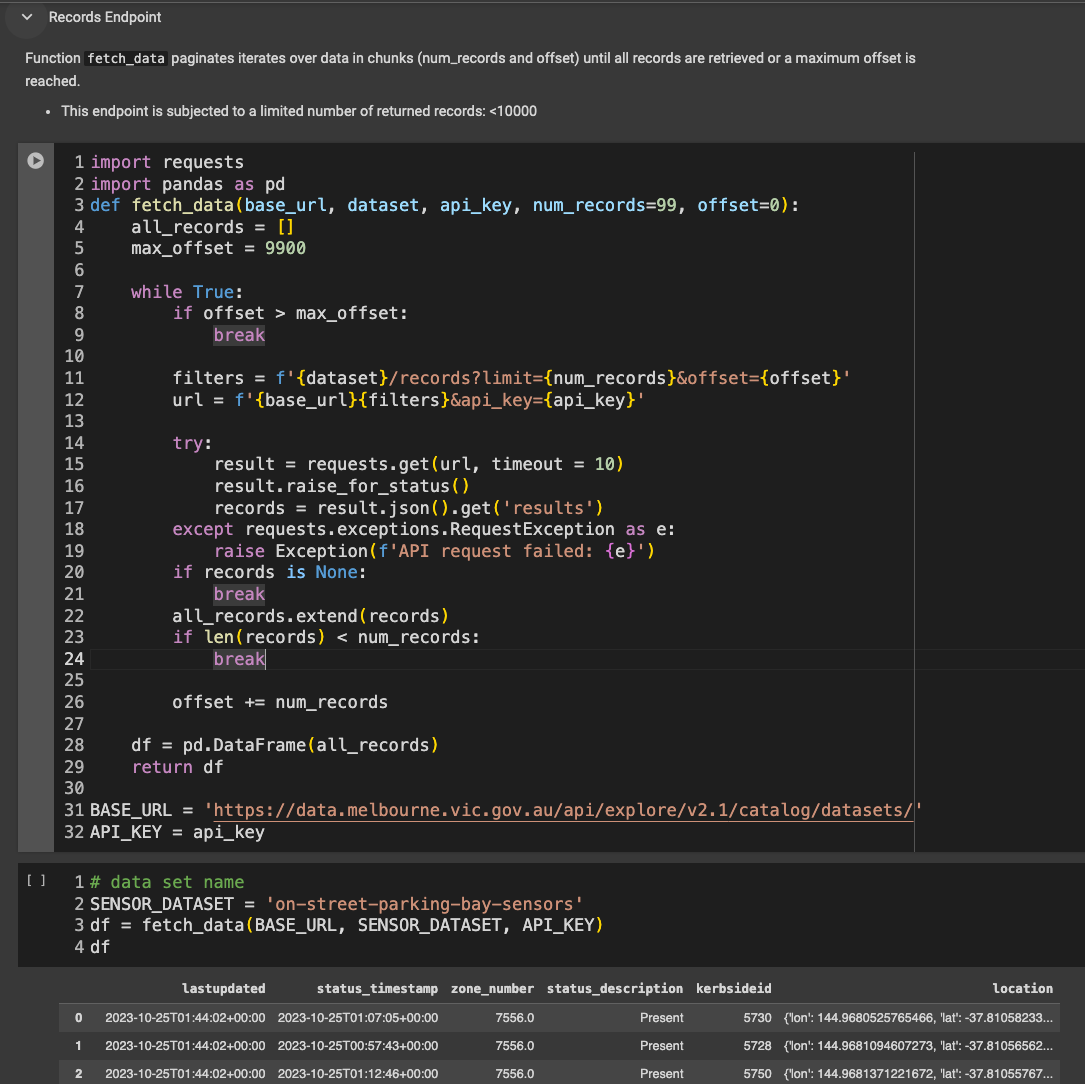
##### A screen shot of a computer Description automatically generated

# *2. records* API (Endpoint)

*\*Not preferred by CoM as it has limitations < 10000 records*

### Example: Function to iterate over data chunks using API until max offset reached

{dataset}/records?limit={num\_records}&offset={offset}



# Author

Te’ Claire 2024.v1