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# Tableau Prep Geocoding using the Script step and Python

# What is an **API**?



Client application

API

Server

# Data formats when working with APIs

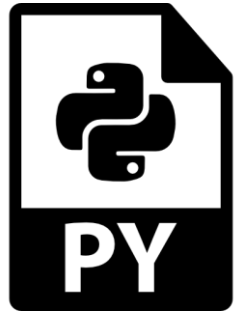
**XML** – Extensible markup language

**JSON** – JavaScript Object Notation

The example of the response in JSON format on the right shows that the data is stored in **name** and **value** pairs.

```
{
  "status": 200,
  "result": [
    {
      "query": "OX49 5NU",
      "result": {
        "postcode": "OX49 5NU",
        "quality": 1,
        "eastings": 464447,
        "northings": 195647,
        "country": "England",
        "nhs_ha": "South Central",
        "longitude": -1.069752,
        "latitude": 51.655929,
        "european_electoral_region": "South East",
        "primary_care_trust": "Oxfordshire",
        "region": "South East",
        "lsoa": "South Oxfordshire 011B",
        "msoa": "South Oxfordshire 011",
        "incode": "5NU",
        "outcode": "OX49",
      }
    }
  ]
}
```

# Connecting to APIs in Tableau Prep



Python script



Script step in your Tableau Prep flow

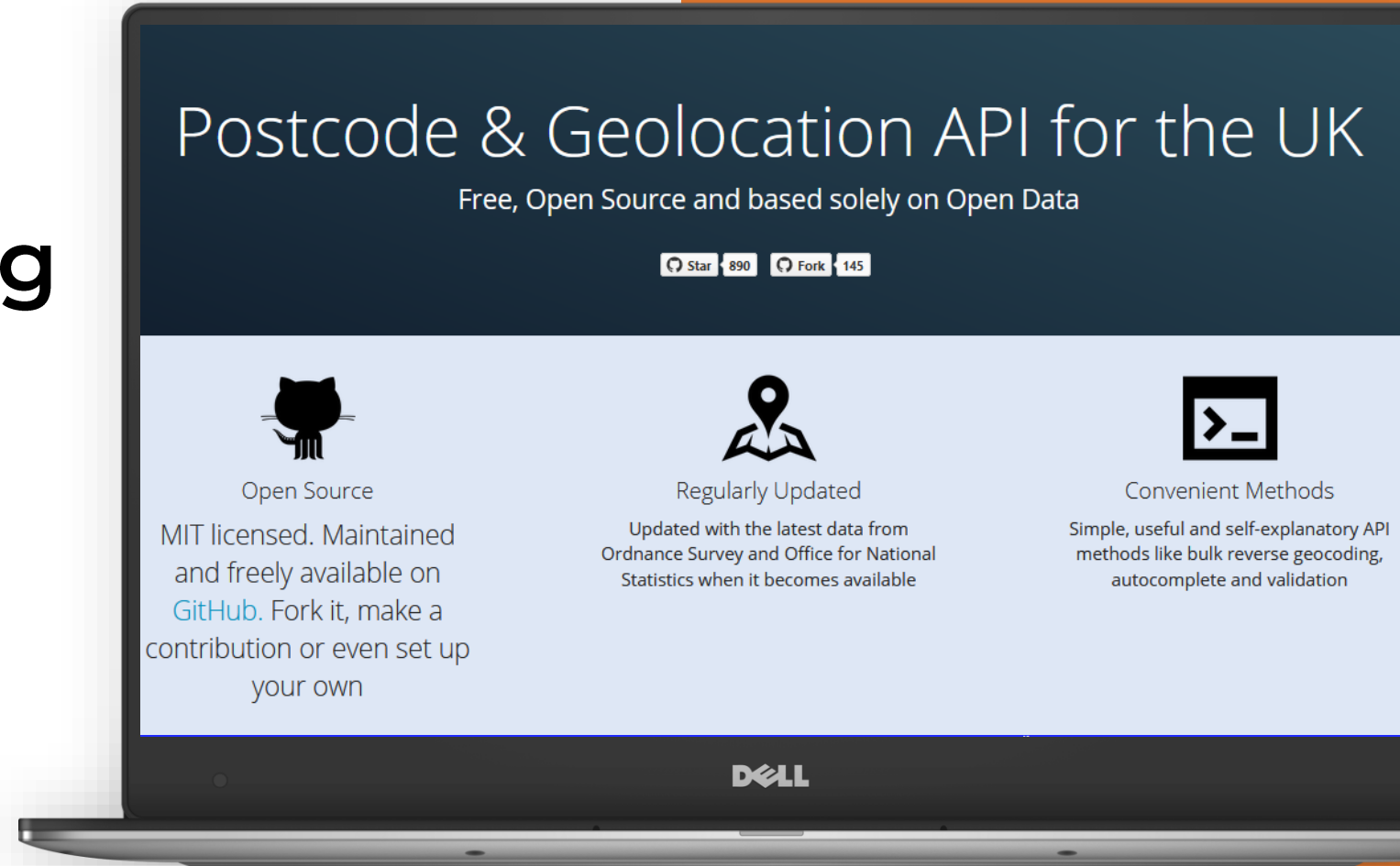


TabPy server



# Geocoding in Tableau Prep using the **Postcodes.io** API

**postcodes.io**



**Step 1. Read the **API's documentation****

**Step 2. Understand the structure of the **URL****

`POST api.postcodes.io/postcodes`

**Step 3. Write your **Python script****

<https://github.com/anyalitica/geocoding-api-tableau-prep>

**Step 4. Install and launch **TabPy server****

**Step 5. Connect **Tableau Prep & TabPy server****

**Step 6. Add the **Script step** in your Tableau Prep flow**

# Other **APIs and libraries** for geocoding



## **Google Maps API**

Using **Geolocation** Python library: <https://pypi.org/project/geolocation-python/>



## **Open Cage API**

<https://opencagedata.com/>



## **Various geocoding services, including OpenStreetMap**

Use **geopy** Python library: <https://pypi.org/project/geopy/>

# Learn more about integrating Tableau Prep & Python



**Read** about using Python scripts in Tableau Prep flow

[https://help.tableau.com/current/prep/en-us/prep\\_scripts.htm](https://help.tableau.com/current/prep/en-us/prep_scripts.htm)



**Read** TabPy documentation

[github.com/tableau/TabPy](https://github.com/tableau/TabPy)



**Practice** with public APIs

[github.com/public-apis/public-apis](https://github.com/public-apis/public-apis)



**Watch** Jack Perry's video on TabPy & Tableau Prep Conductor

[youtube.com/watch?v=QGj-xXgO8Qs](https://youtube.com/watch?v=QGj-xXgO8Qs)



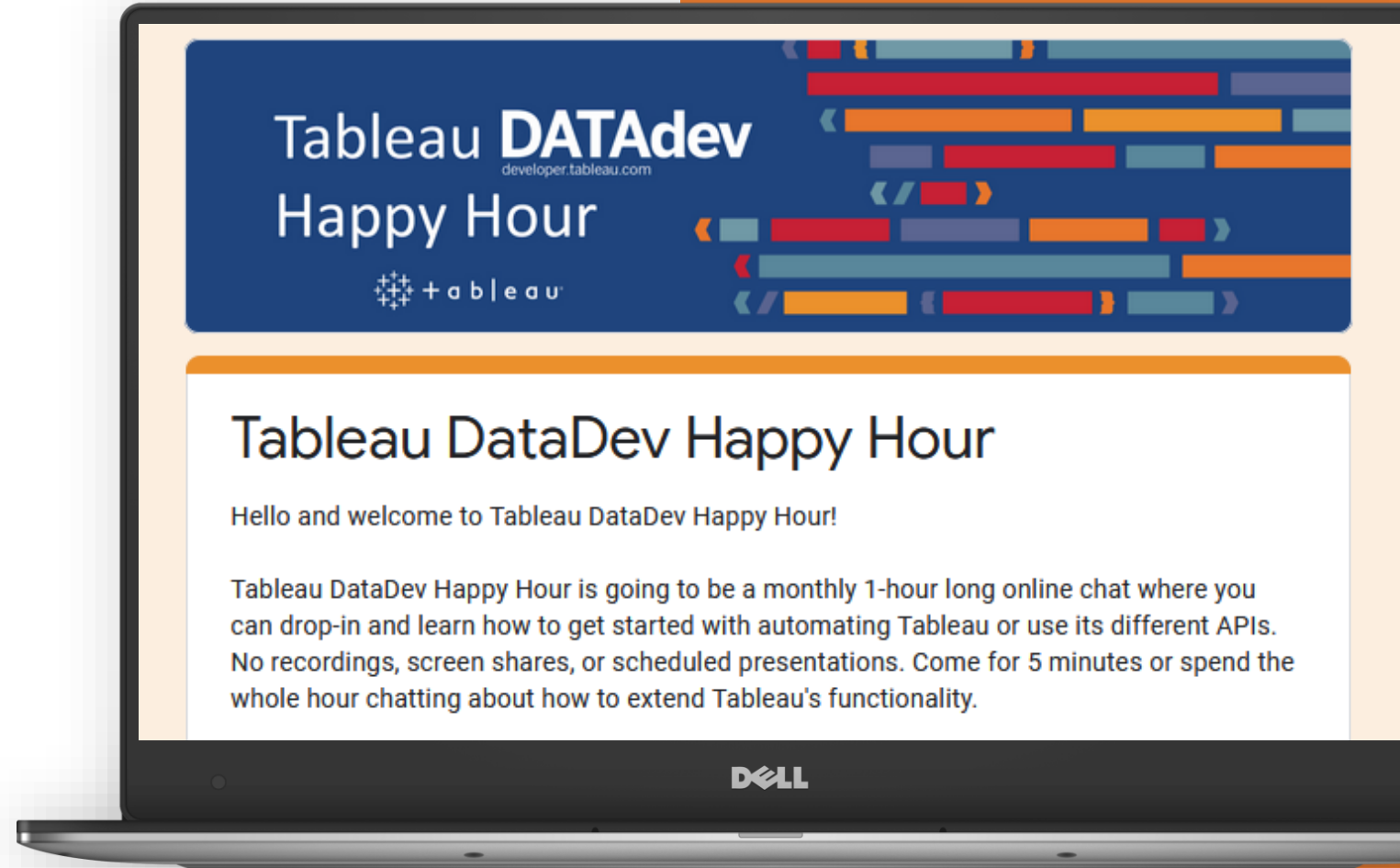
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# Get in touch!



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# Thank you!

