



Vulnerability Assessment Walk-through example

This is an example of what you could do for analyzing geographic data in the UK to provide vulnerability insights combined with fuel consumption and weather data.

SIGN UP FOR A 30 DAY FREE TRIAL OF HEX

- Hex is a best of breed notebook tool.
- Go to www.tex.tech and get started for Free

INITIAL SETUP

In snowsight, navigate to the private exchange and get the following:



More Metrics Data for Hackathon

More Metrics · UK Publically Available Data

Postcode-level variables, split by age and sex were available from our open-source data sources. No-PII data. 100%...

☐ MORE_METRICS_DATA_FOR_HACKATHON · Installed 1 week ago

Free



Hourly Forecasts and Daily Summaries

The Met Office · UK Publically Available Data

Daily Summaries going back 12 years Hourly Forecasts for the last 3 years, We provide more data but for the purposes of the hack ...

☐ HOURLY_FORECASTS_AND_DAILY_SUMMARIES · Installed 4 days ago

Free



ONS Geographic Data

Office for National Statistics · UK Publically Available Data

The dataset contains the following: -Lower Layer Super Output Areas (2021) Boundaries EW BGC -Middle Layer Super Output...

Published 1 day ago

Free



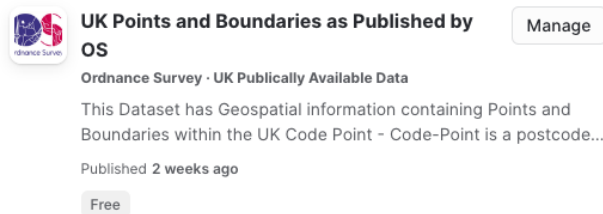
UK HOUSEHOLDS

The Ark · UK Publically Available Data

The UK Household File provides comprehensive and accurate information on properties and key characteristics on the people...

☐ UK_HOUSEHOLDS · Installed 1 week ago

Free



UK Points and Boundaries as Published by OS

Ordnance Survey · UK Publically Available Data

This Dataset has Geospatial information containing Points and Boundaries within the UK Code Point - Code-Point is a postcode...

Published 2 weeks ago

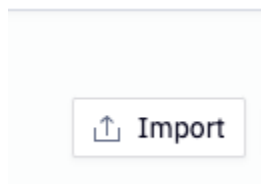
Free

In snowsight, import the sql file which is called [Initial_Setup.sql](#).

This will create views of data inside a new snowflake database. The views are located in a Private Exchange.

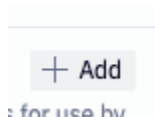
LOAD THE NOTEBOOK YAML FILE INTO HEX

In the workspace home page press Import



Upload the Yaml file provided. There will be a warning that the project connection cannot be imported. We will need to set this up.

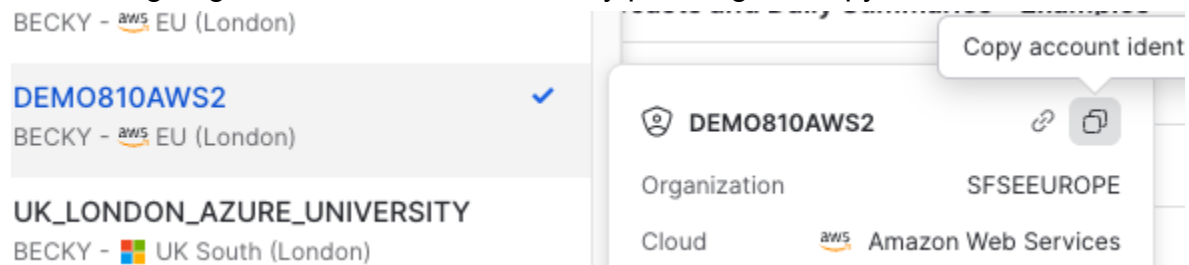
In data connections press add



Add a data connection and select Snowflake

In connection name, call it [Vulnerability Assessment Datasets](#)

In Snowsight, grab the account identifier by pressing the copy icon



Paste it in the Account Name field in Hex.

IMPORTANT - replace the '.' with a hyphen '-'

A screenshot of the Snowflake connection configuration form. The 'DATABASE' section is active, showing the 'Account name' field with the value 'SFSEEUROPE-DEMO810AWS2'. The 'Warehouse', 'Database', and 'Schema (Optional)' fields are empty. The 'AUTHENTICATION' section is partially visible at the bottom. A 'Proxy' checkbox is also present next to the account name field.

Populate the rest of the details and Create Connection.

Add a data connection > **Snowflake**

GENERAL

Name: Vulnerability Assessment Datasets

Description:

DATABASE

Account name: SFSEEUROPE-DEMO810AWS2 Proxy ☐

Warehouse: COMPUTE_WH

Database: "Vulnerability Assessment"

Schema (Optional): PUBLIC

AUTHENTICATION

Type: Username & Password

Username: BECKY

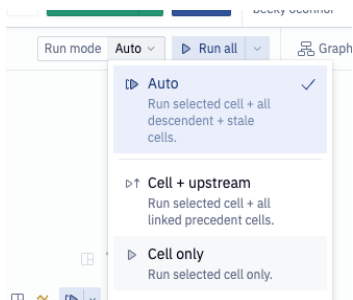
Password: *****

User role (optional):

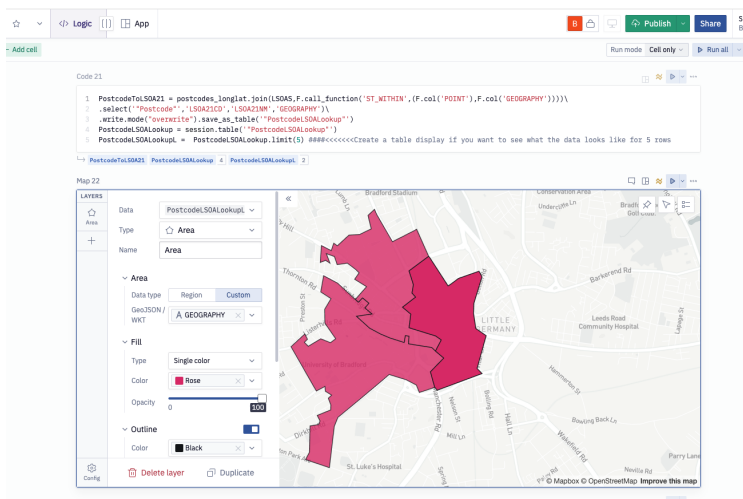
INTEGRATIONS

☐ dbt metadata [Learn more.](#)

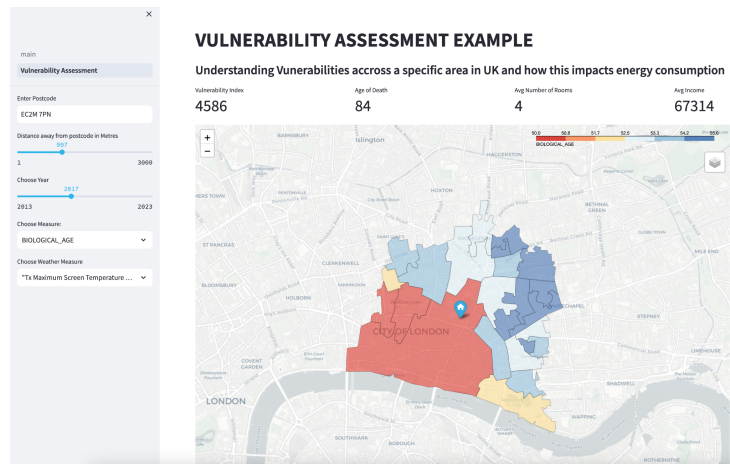
Next step - for learning purposes its best to load one step at a time - in hex, change the 'Run Mode' to Cell Only.



Now continue to follow the instructions in the hex notebook.



STREAMLIT APP



Copy the entire streamlit folder into a directory - TIP - I use VSCode as it allows me to easily leverage github and has the terminal, the working file as well as all associated directories in one place.

Populate the zcreds to your own credentials. You will need to rename it to creds.json. You may also need to change the path of the creds file within the vulnerability_assessment.py file.

TIP: For the app to work without changes, you will need to go through the hex workbook first as some of the tables have been derived from the workbook.

Install all the dependent libraries - you will see at the top of the Vulnerability_Assessment.py file, I have imported various libraries that will need to be installed. TIP - I tend to create an anaconda environment for this.

When done, - test using streamlit run main.py from the route directory

This will then pop up a new browser window containing the app.

You may use the code /extract some of it to use with your own ideas and/or use alternative datasets from the other providers.

GOOD LUCK!