OPSWAT

Generate a simple program to scan a file against our metadefender.opswat.com API. OPSWAT online product documentation contains details of our publicly available API along with sample code that shows how to scan a file.

Since it is costly to multi-scan a file, we would like you to implement a hash lookup prior to deciding to upload a file, then retrieve results and display them.

Please read through the documentation and sample code found at https://docs.opswat.com/mdcloud/integrations/public-apis & https://docs.opswat.com/mdcloud/metadefender-cloud-api-v4/ref to perform the following logic:

1. Calculate the hash of a given file (i.e. samplefile.txt)
2. Perform a hash lookup against metadefender.opswat.com and see if there are previously cached results for the file
3. If results are found, skip to step 6
4. If results are not found, upload the file and receive a "data_id"
5. Repeatedly pull on the "data_id" to retrieve results
6. Display results in format below (SAMPLE OUTPUT)
7. You should also have some basic error handling for common HTTP results

   It is not necessary to account for every idiosyncrocy of the API.

   You can show any errors to the standard error and exit the application.

SAMPLE INPUT COMMAND:

```
    upload_file samplefile.txt
```

SAMPLE OUTPUT:

```
    filename: samplefile.txt
    overall_status: Clean
    engine: Ahnlab
    threat_found: SomeBadMalwareWeFound
    scan_result: 1
    def_time: 2017-12-05T13:54:00.000Z
    engine: Cyren
    threat_found: Clean
    scan_result: 0
    def_time: 2017-12-05T17:43:00.000Z
    <repeats for each engine>
```

What you will need/helpful hints
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You will need to register for a free account at portal.opswat.com.

This will create an account and generate a trial apikey for metadefender.opswat.com.

The apikey should be displayed in the Dashboard section under MetaDefender Cloud once you login to your portal account.

Please note this apikey has rate limiting which you may encounter, this is normal.

Pay particular attention to the following

- https://docs.opswat.com/mdcloud/integrations/api-authentication-mechanisms
- https://docs.opswat.com/mdcloud/metadefender-cloud-api-v4/ref#tag-file-scanning
- https://docs.opswat.com/mdcloud/metadefender-cloud-api-v4/ref#file-lookupbydataid
- https://docs.opswat.com/mdcloud/metadefender-cloud-api-v4/ref#hash-lookup

What we are looking to see
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Smart component choices, we don't expect you to write a JSON parser or reinvent an HTTP client.

Clean and well documented code.

Any language choice is fine but should be something easily installed and evaluated.

A publicly available GIT repo that should contain all your code minus your apikey, we will be providing our own key when we test it out ourselves.

A cleanly written and descriptive README that instructs us how to build and execute your project.

We will be testing your project on a clean Ubuntu 20.04 VM or latest Visual Studio 2022 Windows machine.

You can use whatever language or 3rd party library you want, but it should build and execute out of the box on the VM, so test accordingly.