TWOSENSE.AI

Backend Engineer Coding Challenge

Overview

The Data Science team at *CyberCloudBlockchain.AI, Corp.* is working on a revolutionary new algorithm to predict the price of Bitcoin. To aid their efforts, they need immediate access to a collection of historical data from multiple data sources. Your task is to build a RESTful API that serves an aggregated dataset on demand.

Specification

The API should have one endpoint that takes 2 arguments: `start_date` and `end_date`. It should return an aggregated list of daily time series (one sample per day) for the specified time period from the following data sources.

Data Sources

Data	Source
Bitcoin price in USD	https://www.quandl.com/data/BCHAIN/MKPRU *
Bitcoin Total Output Volume	https://www.quandl.com/data/BCHAIN/TOUTV *
Number of Unique Bitcoin Addresses Used	https://www.quandl.com/data/BCHAIN/NADDU *
[OPTIONAL] Google searches for “bitcoin”	https://trends.google.com/trends/explore?q=bitcoin

* You can register for a free account on Quandl.com

Format

The data format returned by the API is up to you, as long as it can be easily reconstructed as a table/DataFrame in the following format:

date	btc_price	output_volume	unique_addresses	btc_trend
2012-01-01	6.32	351231	10002	21
2012-01-02	6.53	362497	10234	23
2012-01-03	6.48	398521	10562	30

Deployment

Your solution should be deployed via a Docker container running Python 2/3. Please provide the commands to build and run the container.

Deliverable

Please submit a package with the following:

- All source code
- Instructions on how to build and run the Docker container
- Example API call url (e.g. http://localhost:8080/api/data)

Note on performance

Since the API will be used by multiple users, your solution should reduce response times.