Activity Tracking Services

#1 Prerequisite

1. Sync your fork and perform git pull
2. Python 3.X
3. Kafka
4. Cassandra
5. Visual Studio IDE

#2 Business Requirement

There are facial recognition cameras present at a retail chain Zoro. The camera is placed at the entrance of each outlet in every city. Once the camera detects a person, it produces activity-tracking data similar to the one below.

```
{
        'activity_id': 23456,
        'store_location': 'Bangalore',
        'person_detected': 'Saurav',
        'activity_type': 'ENTRY',
        'occurance_timestamp': '2022-11-02 04:35:26.975000+0000'
}

{
        'activity_id': 23457,
        'store_location': 'Bangalore',
        'person_detected': 'Saurav',
        'Activity_type': 'EXIT',
        'occurance_timestamp': '2022-11-02 04:35:26.975000+0000'
}
```

Create an application that can consume this information over the REST POST call, and submit the payload to a Kafka topic.

Create a Kafka consumer that will read this payload from the topic, connect to the Apache Cassandra database, and persist the data.

#3 Technical Requirement

1. Start Zookeeper and Kafka
2. Start Apache Cassandra
3. Create a Kafka topic named **activity_tracker_topic** with 1 partition and 1 replication factor.
4. Create an Apache Cassandra Keysapce called **activity_tracker_keyspace**.
5. Create a table in the above keyspace called **activity_tracker_table**
6. Model the table with the below details/columns
    a. activity_id - integer (Clustering Key)
    b. store_location - String (Partition Key)
    c. person_detected - String
    d. activity_type - String (Partition Key)
    e. occurance_timestamp - Timestamp
7. Create a Flask Application that acts as both producer and consumer refer this.
8. Create a POST endpoint that can consume the payload from the store Camera.
9. Publish the payload to the Kafka topic.
10. Create a Kafka consumer that will read the message from the topic, connect to the Cassandra database and save the data.

Add all your code to the below location
C:\workspace\flask-microservices-training\flask-kafka-cassandra-app\activity-tracking-service