

KAFKA - ASSIGNMENT

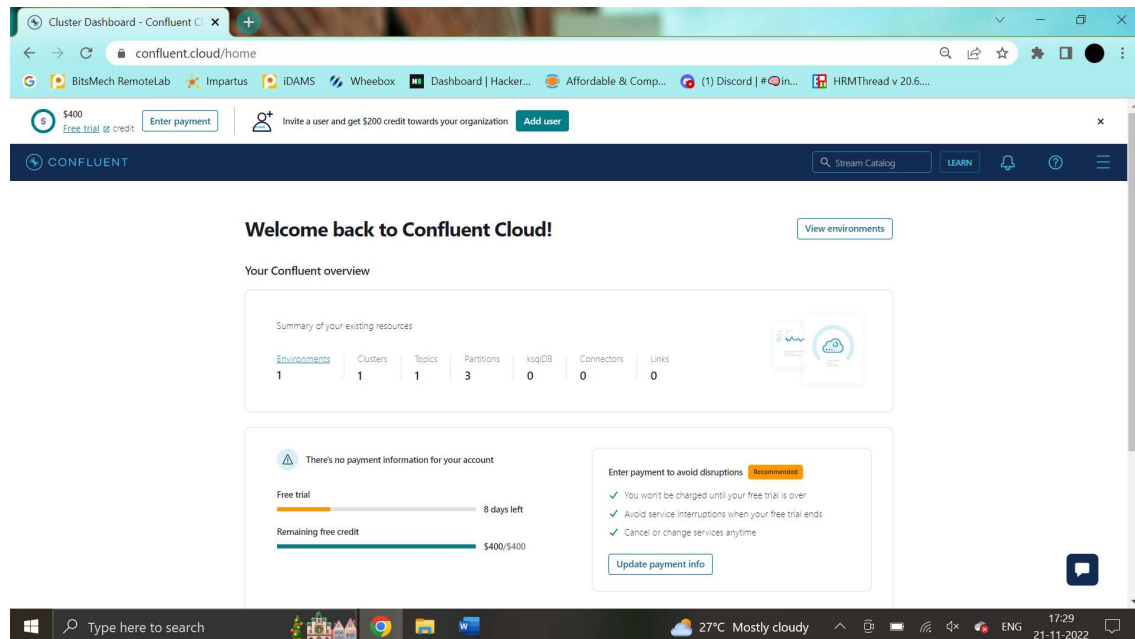
download restaurant data from below mentioned link

Download Data Link -> https://github.com/shashank-mishra219/Confluent-Kafka-Setup/blob/main/restaurant_orders.csv

Complete the given below task to finish this assignment.

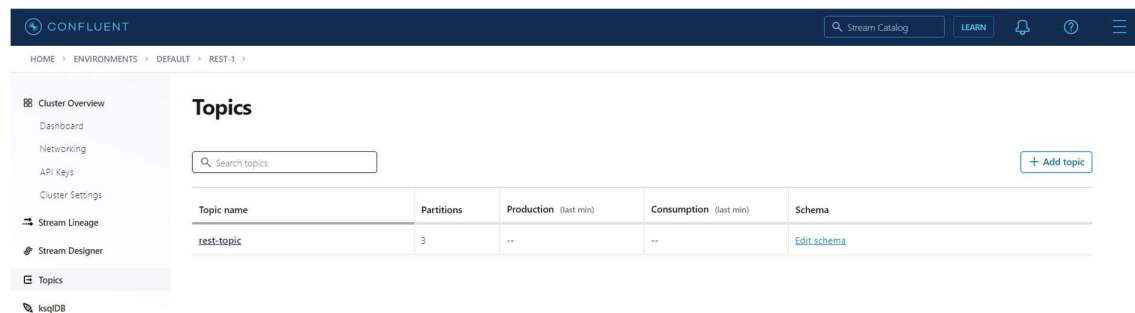
1. Setup Confluent Kafka Account

Confluent cloud account home page



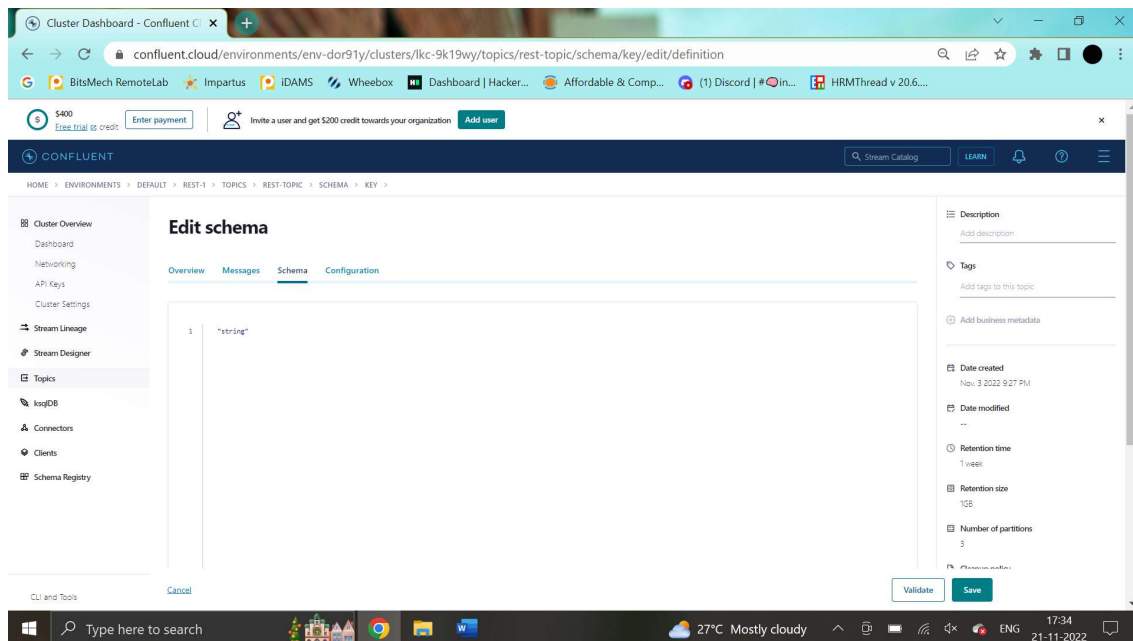
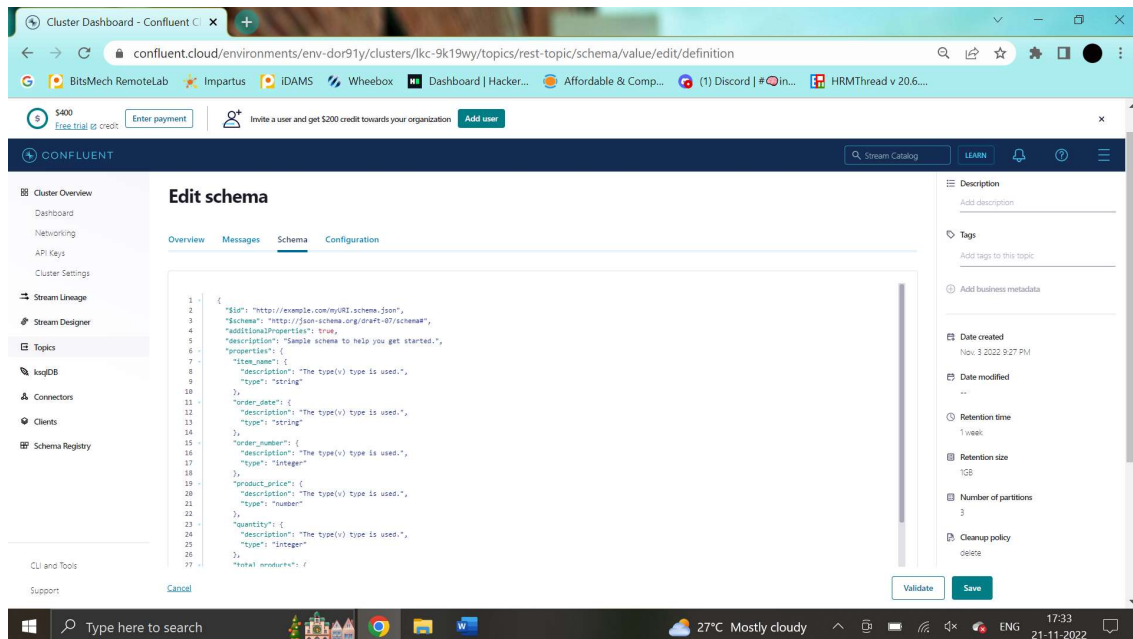
2. Create one kafka topic named as "restaurent-take-away-data" with 3 partitions

Created topic named with "rest-topic" with 3 partitions



3. Setup key (string) & value (json) schema in the confluent schema registry

Schema setup done using key as string and values as json with in confluent schema registry



4. Write a kafka producer program (python or any other language) to read data records from restaurent data csv file,

make sure schema is not hardcoded in the producer code, read the latest version of schema and schema_str from schema registry and use it for data serialization.

Reading CSV data

```
80
81
82 def get_order_instance(file_path):
83     df=pd.read_csv(file_path)
84     orders=list[Order]=[]
85     for data in df.values:
86         order=order(dict(zip(columns,data)))
87         orders.append(order)
88     yield order
```

Reading schema from Schema registry

```
119
120 def main(topic):
121
122
123     schema_registry_conf = schema_config()
124     schema_registry_client = SchemaRegistryClient(schema_registry_conf)
125     schema_str = schema_registry_client.get_latest_version('rest-topic-value').schema.schema_str
126     string_serializer = StringSerializer('utf-8')
127     json_serializer = JsonSerializer(schema_str, schema_registry_client, order_to_dict)
128
129     producer = Producer(sasl_conf())
130
131     print("Producing user records to topic {}. ^C to exit.".format(topic))
132     while True:
133         # Serve on_delivery callbacks from previous calls to produce()
134         producer.poll(0.0)
135         try:
136             for order in get_order_instance(file_path=FILE_PATH):
```

Click link for Complete producer code - [Link](#)

Producing messages to topic

```

C:\Users\DELL_ Command Prompt
User record b'6c84ebcd-9b9c-4193-8940-cd7214ebc415' successfully produced to rest-topic [1] at offset 113623
User record b'2c377e32-5042-4bf1-9d05-f9aa2ba34e4' successfully produced to rest-topic [0] at offset 112919
User record b'79423d00-0765-4a8a-af3e-8e21dfcc057b' successfully produced to rest-topic [0] at offset 112920
User record b'cf76296d-405e-4e29-948d-5195a94b364e' successfully produced to rest-topic [2] at offset 113672
User record b'4fd0951e-62ae-4929-a222-a0b6bd62d727' successfully produced to rest-topic [2] at offset 113673
User record b'828e7d12-f0be-44e4-9b73-45e8c7f78d38' successfully produced to rest-topic [2] at offset 113674
User record b'a6888257-7c74-42f1-9680-cd8618317ff5' successfully produced to rest-topic [2] at offset 113675
User record b'0db61e91-a84a-4369-b014-f0d660543521' successfully produced to rest-topic [2] at offset 113676
User record b'8bed9590-cefe-41e3-8cce-b2a79587aa8' successfully produced to rest-topic [1] at offset 113624
User record b'3243495b-b63a-4302-9000-900090909090' successfully produced to rest-topic [2] at offset 112921
User record b'4f1322bf-1424-4d6f-82bd-6bdc615f80db' successfully produced to rest-topic [0] at offset 112921
User record b'1c72e8b6-9eb4-4725-95f6-924f8886394c' successfully produced to rest-topic [0] at offset 112922
User record b'2e6dd2c1-de07-4f9c-bc82-0a39d3c72be7' successfully produced to rest-topic [2] at offset 113677
User record b'97ed4169-ec82-406d-9490-cbf63f0e80b3' successfully produced to rest-topic [2] at offset 113678
User record b'020fee3e-0433-40fd-ad96-4704438ca987' successfully produced to rest-topic [2] at offset 113679
User record b'd1f2616d-d6d1-4d40-8287-5966cc72e637' successfully produced to rest-topic [2] at offset 113680
User record b'28c8b86e-9bc1-4b44-8522-a0452ad7e53a' successfully produced to rest-topic [0] at offset 112923
User record b'd570dbd4-e2bd-44e4-b256-7e7dd46a137' successfully produced to rest-topic [0] at offset 112924
User record b'155c6c0-012c-4d4d-b3f1-d02b009f75e2' successfully produced to rest-topic [0] at offset 112925
User record b'fdba100f-f0a2-4b38-9f69-57e0255e7d69' successfully produced to rest-topic [1] at offset 113626
User record b'a7aaccc8-beda-4798-b6d5-f834d04a657f' successfully produced to rest-topic [0] at offset 112926
User record b'132d4cec-eb4d-4831-bc21-f187f525302f' successfully produced to rest-topic [0] at offset 112927
User record b'2f85a3d6-37f8-461f-8e0b-6e13971045' successfully produced to rest-topic [0] at offset 112928
User record b'67cf885c-896d-42ed-83a1-c82db5b25810' successfully produced to rest-topic [1] at offset 113627
User record b'cf010165-9a04-41d9-863e-2ed6a09146c' successfully produced to rest-topic [1] at offset 113628
User record b'770b839d-2322-4cc2-bfbc-405d2b9b738' successfully produced to rest-topic [0] at offset 112929
User record b'b4c72cfb-c6b3-4f1d-bc7f-95923351799' successfully produced to rest-topic [0] at offset 112930
User record b'b6c51a24-cb88-45cc-8234-25a087720824' successfully produced to rest-topic [0] at offset 112931
User record b'a71910b1-b368-4417-9683-728934ca6117' successfully produced to rest-topic [1] at offset 113629
User record b'7d743260-07c7-4a39-89da-09f2d2cd18f' successfully produced to rest-topic [1] at offset 113630
User record b'9b9f310a-84a4-4b1e-b374-f6f06d44da596' successfully produced to rest-topic [1] at offset 113631
User record b'8e9f46b5-9163-443f-b6bf-7675cdcb2db' successfully produced to rest-topic [1] at offset 113632
User record b'ebac8b23-a25f-4b78-b1bc-bd64d1f538be' successfully produced to rest-topic [1] at offset 113633
User record b'b7785ef5-7463-4615-a4fe-f8cb4a553bb' successfully produced to rest-topic [1] at offset 113634
User record b'950873ba-9478-4f40-bd94-a9a95968a609' successfully produced to rest-topic [2] at offset 113681
User record b'f50671c-03fa-4f00-8dfe-f5628314136' successfully produced to rest-topic [0] at offset 112932
User record b'445774f0-1f45-bfca-b704f6a7299' successfully produced to rest-topic [0] at offset 112933
User record b'3a582017-c69e-45e3-a9a3-295947583759' successfully produced to rest-topic [0] at offset 112934
User record b'cc5ee003-6f92-4021-476d-86c9f664993' successfully produced to rest-topic [1] at offset 113635
C:\Users\DELL_

```

6. Write kafka consumer code and create two copies of same consumer code and save it with different names (kafka_consumer_1.py & kafka_consumer_2.py), again make sure latest schema version and schema_str is not hardcoded in the consumer code, read it automatically from the schema registry to deserialize the data.

Now test two scenarios with your consumer code:

a.) Use "group.id" property in consumer config for both consumers and mention different group_ids in kafka_consumer_1.py & kafka_consumer_2.py, apply "earliest" offset property in both consumers and run these two consumers from two different terminals. Calculate how many records each consumer consumed and printed on the terminal

Created 2 consumer codes with different group ids as "groupid1" and "groupid2".

[illegible]

[illegible]

Messages consumed by consumer – 1 is 74818 Nos

Messages consumed by consumer – 2 is 74818 Nos

Click on link for consumer 1 code - [Link](#)

Click on link for consumer 2 code - [Link](#)

b.) Use "group.id" property in consumer config for both consumers and mention same group_ids in kafka_consumer_1.py & kafka_consumer_2.py, apply "earliest" offset property in both consumers and run these two consumers from two different terminals. Calculate how many records each consumer consumed and printed on the terminal

Now, used same group id for both consumers and consumed messages

No of records consumed by consumer 1 :24935
No of records consumed by consumer 1 :24935
No of records consumed by consumer 1 :24935
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No of records consumed by consumer 1 :24935

Type here to search

19°C Haze

ENG 23:56 20-11-2022

No of records consumed by consumer 2 :49802
No of records consumed by consumer 2 :49883
No of records consumed by consumer 2 :49883
No of records consumed by consumer 2 :49883
No of records consumed by consumer 2 :49883
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20-11-2022

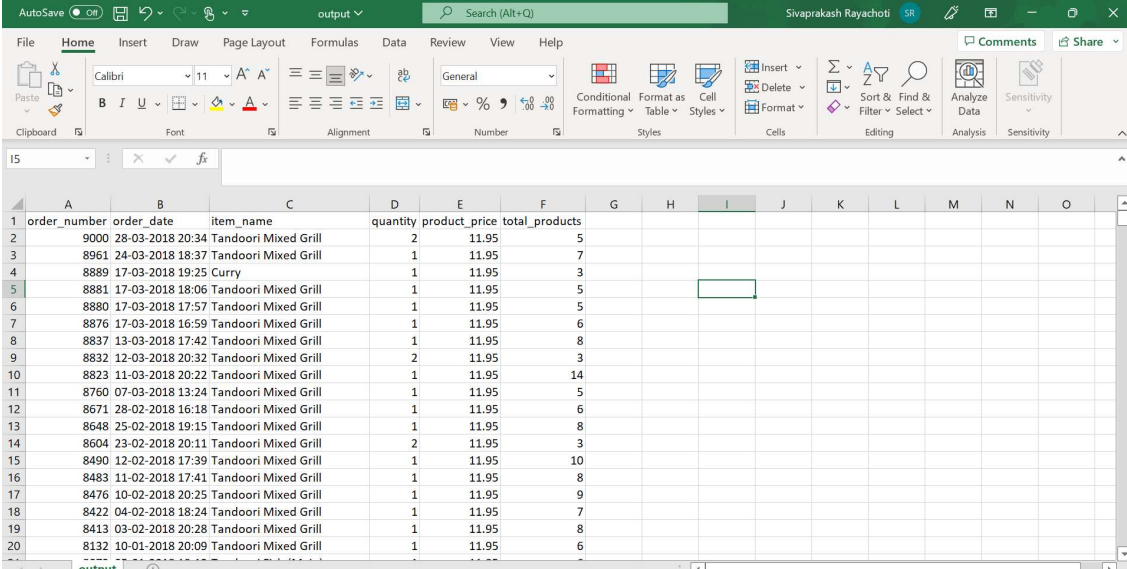
Messages consumed by consumer – 1 is 24935 Nos

Messages consumed by consumer – 2 is 49883 Nos

It is observed that messages being shared by both consumers

7. Once above questions are done, write another kafka consumer to read data from kafka topic and from the consumer code create one csv file "output.csv" and append consumed records output.csv file.

Consumer code updated with required code and after deploying following output obtained.



	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
	order_number	order_date	item_name	quantity	product_price	total_products									
1	9000	28-03-2018 20:34	Tandoori Mixed Grill	2	11.95	5									
2	8961	24-03-2018 18:37	Tandoori Mixed Grill	1	11.95	7									
3	8889	17-03-2018 19:25	Curry	1	11.95	3									
4	8881	17-03-2018 18:06	Tandoori Mixed Grill	1	11.95	5									
5	8880	17-03-2018 17:57	Tandoori Mixed Grill	1	11.95	5									
6	8876	17-03-2018 16:59	Tandoori Mixed Grill	1	11.95	6									
7	8837	13-03-2018 17:42	Tandoori Mixed Grill	1	11.95	8									
8	8832	12-03-2018 20:32	Tandoori Mixed Grill	2	11.95	3									
9	8823	11-03-2018 20:22	Tandoori Mixed Grill	1	11.95	14									
10	8760	07-03-2018 13:24	Tandoori Mixed Grill	1	11.95	5									
11	8671	28-02-2018 16:18	Tandoori Mixed Grill	1	11.95	6									
12	8648	25-02-2018 19:15	Tandoori Mixed Grill	1	11.95	8									
13	8604	23-02-2018 20:11	Tandoori Mixed Grill	2	11.95	3									
14	8490	12-02-2018 17:39	Tandoori Mixed Grill	1	11.95	10									
15	8483	11-02-2018 17:41	Tandoori Mixed Grill	1	11.95	8									
16	8476	10-02-2018 20:25	Tandoori Mixed Grill	1	11.95	9									
17	8422	04-02-2018 18:24	Tandoori Mixed Grill	1	11.95	7									
18	8413	03-02-2018 20:28	Tandoori Mixed Grill	1	11.95	8									
19	8132	10-01-2018 20:09	Tandoori Mixed Grill	1	11.95	6									

Click on link for consumer code - [Link](#)