```
[hadoop@ip-172-31-11-10 ~]$ vi timekpi.py
[hadoop@ip-172-31-11-10 ~]$ export SPARK_KAFKA_VERSION=0.10
[hadoop@ip-172-31-11-10 ~]$ spark-submit --packages org.apache.spark:spark-sql-kafka-0-10_2.11:2.4.5 timekpi.py
```

We first start a vi editor and write down our code the run the submit command as we can see in both the images

```
        StructField("quantity", DoubleType())
    ])))

# Parsing the Streaming data using from_json and schema
ord_Stream = orderRaw.select(from_json(col("value").cast("string"), jsonSchema).alias("data")).select("data.*")


# Deriving the Required new attributes using the UDF
DataFrame_Total_Items_Cost= ord_Stream \
    .withColumn("Total_Items", add_total_count(ord_Stream.items)) \
    .withColumn("Total_Cost", add_total_cost(ord_Stream.items)) \
    .withColumn("is_order", add_is_order_flg(ord_Stream.type)) \
    .withColumn("is_return", add_is_return_flg(ord_Stream.type)).select("invoice_no","country","timestamp","Total_Items", "Total_Cost","is_order", "is_return")

# Writing the Inetermediary data into Console
query = DataFrame_Total_Items_Cost  \
        .writeStream  \
        .outputMode("append")  \
        .format("console")  \
        .option("truncate", "false") \
        .start()

# Calculate time based KPIs
aggStreamByTime = DataFrame_Total_Items_Cost \
    .withWatermark("timestamp", "1 minute") \
    .groupBy(window("timestamp", "1 minute", "1 minute")) \
    .agg(sum("Total_Cost").alias("total_volume_of_sales"),count("invoice_no").alias("OPM"),avg("is_return").alias("avg_rate_of_return")).select("window", "OPM", "total_
volume_of_sales", "avg_rate_of_return")



# Writing the Time Based KPIs into HDFS
queryByTime= aggStreamByTime.writeStream \
        .format("json") \
        .outputMode("append") \
        .option("truncate", "false") \
        .option("path", "time-wise-data") \
        .option("checkpointLocation", "time-cp1") \
        .trigger(processingTime="1 minute") \
        .start()
```

```
d cache.
23/03/21 16:29:23 WARN Client: Same path resource file:///home/hadoop/.ivy2/jars/org.apache.kafka_kafka-clients-2.0.0.jar added multiple times to distributed cache.
23/03/21 16:29:23 WARN Client: Same path resource file:///home/hadoop/.ivy2/jars/org.spark-project.spark_unused-1.0.0.jar added multiple times to distributed cache.
23/03/21 16:29:23 WARN Client: Same path resource file:///home/hadoop/.ivy2/jars/org.lz4_lz4-java-1.4.0.jar added multiple times to distributed cache.
23/03/21 16:29:23 WARN Client: Same path resource file:///home/hadoop/.ivy2/jars/org.xerial.snappy_snappy-java-1.1.7.3.jar added multiple times to distributed cache.
23/03/21 16:29:23 WARN Client: Same path resource file:///home/hadoop/.ivy2/jars/org.slf4j_slf4j-api-1.7.16.jar added multiple times to distributed cache.
23/03/21 16:29:24 INFO Client: Uploading resource file:/mnt/tmp/spark-44ble33b-6da4-483c-9d83-280b2f68890f/__spark_conf__8821677852790902781.zip -> hdfs://ip-172-31-11-
10.ec2.internal:8020/user/hadoop/.sparkStaging/application_1679415453838_0004/__spark_conf__.zip
23/03/21 16:29:24 INFO SecurityManager: Changing view acls to: hadoop
23/03/21 16:29:24 INFO SecurityManager: Changing modify acls to: hadoop
23/03/21 16:29:24 INFO SecurityManager: Changing view acls groups to:
23/03/21 16:29:24 INFO SecurityManager: Changing modify acls groups to:
23/03/21 16:29:24 INFO SecurityManager: SecurityManager: authentication disabled; ui acls disabled; users  with view permissions: Set(hadoop); groups with view permissi
ons: Set(); users  with modify permissions: Set(hadoop); groups with modify permissions: Set()
23/03/21 16:29:25 INFO Client: Submitting application application_1679415453838_0004 to ResourceManager
23/03/21 16:29:25 INFO YarnClientImpl: Submitted application application_1679415453838_0004
23/03/21 16:29:25 INFO SchedulerExtensionServices: Starting Yarn extension services with app application_1679415453838_0004 and attemptId None
23/03/21 16:29:26 INFO Client: Application report for application_1679415453838_0004 (state: ACCEPTED)
23/03/21 16:29:26 INFO Client:
         client token: N/A
         diagnostics: AM container is launched, waiting for AM container to Register with RM
         ApplicationMaster host: N/A
         ApplicationMaster RPC port: -1
         queue: default
         start time: 1679416165685
         final status: UNDEFINED
         tracking URL: http://ip-172-31-11-10.ec2.internal:20888/proxy/application_1679415453838_0004/
         user: hadoop
23/03/21 16:29:27 INFO Client: Application report for application_1679415453838_0004 (state: ACCEPTED)
23/03/21 16:29:28 INFO Client: Application report for application_1679415453838_0004 (state: ACCEPTED)
23/03/21 16:29:29 INFO Client: Application report for application_1679415453838_0004 (state: ACCEPTED)
23/03/21 16:29:30 INFO Client: Application report for application_1679415453838_0004 (state: ACCEPTED)
```

We can see our code is running good and we didn't encountered any error so far.

```
-------------------------------------------
Batch: 1
-------------------------------------------
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items|Total_Cost|is_order|is_return|
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|154132553840681|United Kingdom|2023-03-21 16:30:06|2.08       |20.8      |1       |0        |
+--------------+--------------+-------------------+-----------+----------+--------+---------+

-------------------------------------------
Batch: 2
-------------------------------------------
+--------------+--------------+-------------------+-----------------+----------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items      |Total_Cost|is_order|is_return|
+--------------+--------------+-------------------+-----------------+----------+--------+---------+
|154132553840682|United Kingdom|2023-03-21 16:30:08|22.91            |25.86     |1       |0        |
|154132553840683|United Kingdom|2023-03-21 16:30:15|4.82             |18.65     |1       |0        |
|154132553840684|United Kingdom|2023-03-21 16:30:16|18.58            |35.21     |1       |0        |
|154132553840685|United Kingdom|2023-03-21 16:30:16|20.04            |169.95    |1       |0        |
|154132553840686|United Kingdom|2023-03-21 16:30:30|4.359999999999999|42.72     |1       |0        |
|154132553840687|United Kingdom|2023-03-21 16:30:31|12.34            |31.36     |1       |0        |
|154132553840688|United Kingdom|2023-03-21 16:30:32|16.61            |43.19     |1       |0        |
|154132553840689|United Kingdom|2023-03-21 16:30:33|3.6              |3.6       |1       |0        |
|154132553840690|United Kingdom|2023-03-21 16:30:39|16.86            |122.56    |1       |0        |
|154132553840691|United Kingdom|2023-03-21 16:30:44|11.41            |67.21     |1       |0        |
|154132553840692|United Kingdom|2023-03-21 16:30:56|4.2              |21.0      |1       |0        |
|154132553840693|EIRE          |2023-03-21 16:30:59|2.08             |17.49     |1       |0        |
|154132553840694|United Kingdom|2023-03-21 16:31:00|4.26             |23.51     |1       |0        |
|154132553840695|United Kingdom|2023-03-21 16:31:02|2.08             |24.96     |0       |1        |
+--------------+--------------+-------------------+-----------------+----------+--------+---------+
```

Our output for time based kpi is ready now.

```
[hadoop@ip-172-31-11-10 ~]$ hadoop fs -ls time-wise-data
Found 27 items
drwxr-xr-x   - hadoop hadoop          0 2023-03-21 16:43 time-wise-data/_spark_metadata
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:41 time-wise-data/part-00000-1aea9ff7-e221-45d0-abe8-e12c013a38d5-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:39 time-wise-data/part-00000-3c236c17-42b6-4757-a79d-27fc59aec435-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:31 time-wise-data/part-00000-3eb32dc4-8a56-4c17-aeca-ce6feaaf157f-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:42 time-wise-data/part-00000-4976fab1-9f88-4ae5-a09a-b7d1b775b55e-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:37 time-wise-data/part-00000-52d4c1e0-1ff0-48bb-9545-2628f4e12c2f-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:35 time-wise-data/part-00000-5bae644f-27f4-411c-ab63-17cf47733afe-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:29 time-wise-data/part-00000-661508ld-e8b9-490d-b802-d0076736fcf7-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:32 time-wise-data/part-00000-6d41ad87-330f-4086-8a33-ca6f802a413c-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:40 time-wise-data/part-00000-74308367-dde9-4784-8d5d-c5c4b4c110ac-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:33 time-wise-data/part-00000-9f903d62-7c67-496c-a614-fa66d3dbb37e-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:34 time-wise-data/part-00000-a7834e51-e9d8-47e3-857e-b132cc02174b-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:30 time-wise-data/part-00000-a989f00d-b5e3-445b-adb4-f59c4ba5ffc5-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:38 time-wise-data/part-00000-c62176lb-3c45-403d-ad8e-37e88d0e3910-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:43 time-wise-data/part-00000-d2b73737-4c44-42de-8afe-7d324282e867-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 16:36 time-wise-data/part-00000-d63cdb93-e33e-4fc6-8cdd-0ded33f8d64b-c000.json
-rw-r--r--   1 hadoop hadoop        157 2023-03-21 16:35 time-wise-data/part-00007-02f105a4-a753-46f4-8587-b2e1d6dc266b-c000.json
-rw-r--r--   1 hadoop hadoop        147 2023-03-21 16:42 time-wise-data/part-00020-a426d97c-4bc3-4923-b884-201f9d1fe2a5-c000.json
-rw-r--r--   1 hadoop hadoop        158 2023-03-21 16:34 time-wise-data/part-00044-d15150a3-a952-4443-bae7-8286283b4226-c000.json
-rw-r--r--   1 hadoop hadoop        150 2023-03-21 16:41 time-wise-data/part-00070-4b40d736-aedd-407a-ab18-f7e3eeddf8a7-c000.json
-rw-r--r--   1 hadoop hadoop        157 2023-03-21 16:37 time-wise-data/part-00074-6f5a055d-7975-45ea-9fcd-c9c8e9c3ddc0-c000.json
-rw-r--r--   1 hadoop hadoop        158 2023-03-21 16:35 time-wise-data/part-00134-4a6c5973-a4c4-4fd3-b1a1-ba7e4b3fc124-c000.json
-rw-r--r--   1 hadoop hadoop        157 2023-03-21 16:39 time-wise-data/part-00151-b9d82f22-194b-49e3-bede-d170831d256d-c000.json
-rw-r--r--   1 hadoop hadoop        145 2023-03-21 16:38 time-wise-data/part-00175-35eedd71-af82-4fc8-aecd-0918868a0e6e-c000.json
-rw-r--r--   1 hadoop hadoop        146 2023-03-21 16:40 time-wise-data/part-00183-45da55a2-9671-4772-8996-5634caf2aefb-c000.json
-rw-r--r--   1 hadoop hadoop        146 2023-03-21 16:43 time-wise-data/part-00190-4c3ea46f-9224-4f4a-a5ab-7deea834ccf8-c000.json
-rw-r--r--   1 hadoop hadoop        157 2023-03-21 16:34 time-wise-data/part-00199-adddb8e5-1c2e-494e-8062-7f6b26e70ad9-c000.json
[hadoop@ip-172-31-11-10 ~]$
```

And here is our files which is stored in the Json format.

```
[hadoop@ip-172-31-11-10 ~]$ vi coutry_kpi.py
[hadoop@ip-172-31-11-10 ~]$ spark-submit --packages org.apache.spark:spark-sql-kafka-0-10_2.11:2.4.5 coutry_kpi.py
```

We first start a vi editor and write down our code the run the submit command as we can see in both the images

```
      StructField("title", StringType()),
      StructField("unit_price", DoubleType()),
      StructField("quantity", DoubleType())
   ])))

# Parsing the Streaming data using from_json and schema
ord_Stream = orderRaw.select(from_json(col("value").cast("string"), jsonSchema).alias("data")).select("data.*")


# Deriving the Required new attributes using the UDF
DataFrame_Total_Items_Cost= ord_Stream \
    .withColumn("Total_Items", add_total_count(ord_Stream.items)) \
    .withColumn("Total_Cost", add_total_cost(ord_Stream.items)) \
    .withColumn("is_order", add_is_order_flg(ord_Stream.type)) \
    .withColumn("is_return", add_is_return_flg(ord_Stream.type)).select("invoice_no","country","timestamp","Total_Items", "Total_Cost","is_order", "is_return")

# Writing the Intermediary data into Console
query = DataFrame_Total_Items_Cost  \
        .writeStream  \
        .outputMode("append")  \
        .format("console")  \
        .option("truncate", "false") \
        .start()

aggStreamByCountry= DataFrame_Total_Items_Cost \
        .withWatermark("timestamp", "1 minute") \
        .groupBy(window("timestamp", "1 minute", "1 minute"), "country") \
        .agg(sum("Total_Cost").alias("total_volume_of_sales"),count("invoice_no").alias("OPM"),avg("is_return").alias("avg_rate_of_return")).select("window","country",
"OPM", "total_volume_of_sales", "avg_rate_of_return")



# Writing the Country Based KPIs into HDFS
queryByCountry = aggStreamByCountry.writeStream \
        .format("json") \
        .outputMode("append") \
        .option("truncate", "false") \
        .option("path", "time-country-wise-kpi") \
```

```
23/03/21 16:57:28 INFO SecurityManager: Changing view acls groups to:
23/03/21 16:57:28 INFO SecurityManager: Changing modify acls groups to:
23/03/21 16:57:28 INFO SecurityManager: SecurityManager: authentication disabled; ui acls disabled; users  with view permissions: Set(hadoop); groups with view permissi
ons: Set(); users  with modify permissions: Set(hadoop); groups with modify permissions: Set()
23/03/21 16:57:30 INFO Client: Submitting application application_1679415453838_0005 to ResourceManager
23/03/21 16:57:30 INFO YarnClientImpl: Submitted application application_1679415453838_0005
23/03/21 16:57:30 INFO SchedulerExtensionServices: Starting Yarn extension services with app application_1679415453838_0005 and attemptId None
23/03/21 16:57:31 INFO Client: Application report for application_1679415453838_0005 (state: ACCEPTED)
23/03/21 16:57:31 INFO Client:
        client token: N/A
        diagnostics: AM container is launched, waiting for AM container to Register with RM
        ApplicationMaster host: N/A
        ApplicationMaster RPC port: -1
        queue: default
        start time: 1679417850051
        final status: UNDEFINED
        tracking URL: http://ip-172-31-11-10.ec2.internal:20888/proxy/application_1679415453838_0005/
        user: hadoop
23/03/21 16:57:32 INFO Client: Application report for application_1679415453838_0005 (state: ACCEPTED)
23/03/21 16:57:33 INFO Client: Application report for application_1679415453838_0005 (state: ACCEPTED)
23/03/21 16:57:34 INFO Client: Application report for application_1679415453838_0005 (state: ACCEPTED)
23/03/21 16:57:35 INFO Client: Application report for application_1679415453838_0005 (state: RUNNING)
23/03/21 16:57:35 INFO Client:
        client token: N/A
        diagnostics: N/A
        ApplicationMaster host: 172.31.11.10
        ApplicationMaster RPC port: -1
        queue: default
        start time: 1679417850051
        final status: UNDEFINED
        tracking URL: http://ip-172-31-11-10.ec2.internal:20888/proxy/application_1679415453838_0005/
        user: hadoop
23/03/21 16:57:35 INFO YarnClientSchedulerBackend: Application application_1679415453838_0005 has started running.
23/03/21 16:57:35 INFO Utils: Successfully started service 'org.apache.spark.network.netty.NettyBlockTransferService' on port 37901.
23/03/21 16:57:35 INFO NettyBlockTransferService: Server created on ip-172-31-11-10.ec2.internal:37901
23/03/21 16:57:35 INFO BlockManager: Using org.apache.spark.storage.RandomBlockReplicationPolicy for block replication policy
23/03/21 16:57:35 INFO BlockManagerMaster: Registering BlockManager BlockManagerId(driver, ip-172-31-11-10.ec2.internal, 37901, None)
23/03/21 16:57:35 INFO BlockManagerMasterEndpoint: Registering block manager ip-172-31-11-10.ec2.internal:37901 with 1028.8 MB RAM, BlockManagerId(driver, ip-172-31-11-
10.ec2.internal, 37901, None)
23/03/21 16:57:35 INFO BlockManagerMaster: Registered BlockManager BlockManagerId(driver, ip-172-31-11-10.ec2.internal, 37901, None)
23/03/21 16:57:35 INFO BlockManager: external shuffle service port = 7337
23/03/21 16:57:35 INFO BlockManager: Initialized BlockManager: BlockManagerId(driver, ip-172-31-11-10.ec2.internal, 37901, None)
23/03/21 16:57:35 INFO YarnClientSchedulerBackend: Add WebUI Filter. org.apache.hadoop.yarn.server.webproxy.amfilter.AmIpFilter, Map(PROXY_HOSTS -> ip-172-31-11-10.ec2.
internal, PROXY_URI_BASES -> http://ip-172-31-11-10.ec2.internal:20888/proxy/application_1679415453838_0005), /proxy/application_1679415453838_0005
```

We can see our code is running good and we didn't encountered any error so far.

```
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items|Total_Cost|is_order|is_return|
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|154132553841057|United Kingdom|2023-03-21 17:08:33|4.25       |12.75     |1       |0        |
|154132553841058|United Kingdom|2023-03-21 17:08:42|7.66       |31.21     |1       |0        |
|154132553841059|United Kingdom|2023-03-21 17:08:52|7.2        |22.85     |1       |0        |
|154132553841060|United Kingdom|2023-03-21 17:08:55|4.15       |24.95     |1       |0        |
+--------------+--------------+-------------------+-----------+----------+--------+---------+

-------------------------------------------
Batch: 8
-------------------------------------------
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items|Total_Cost|is_order|is_return|
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|154132553841061|United Kingdom|2023-03-21 17:09:21|2.1        |2.1       |1       |0        |
+--------------+--------------+-------------------+-----------+----------+--------+---------+

-------------------------------------------
Batch: 9
-------------------------------------------
+--------------+--------------+-------------------+------------------+------------------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items       |Total_Cost        |is_order|is_return|
+--------------+--------------+-------------------+------------------+------------------+--------+---------+
|154132553841062|Portugal      |2023-03-21 17:09:30|0.39              |0.78              |1       |0        |
|154132553841063|Germany       |2023-03-21 17:09:31|7.33              |50.72             |1       |0        |
|154132553841064|United Kingdom|2023-03-21 17:09:46|6.78              |16.05             |1       |0        |
|154132553841065|United Kingdom|2023-03-21 17:09:48|10.74             |86.25             |1       |0        |
|154132553841066|United Kingdom|2023-03-21 17:09:51|10.33             |83.78999999999999 |1       |0        |
|154132553841067|United Kingdom|2023-03-21 17:10:00|15.38             |53.2600000000000005|0       |1        |
|154132553841068|United Kingdom|2023-03-21 17:10:05|1.65              |3.3               |1       |0        |
|154132553841069|United Kingdom|2023-03-21 17:10:07|4.1499999999999995|17.9              |1       |0        |
+--------------+--------------+-------------------+------------------+------------------+--------+---------+

-------------------------------------------
Batch: 10
-------------------------------------------
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|invoice_no    |country       |timestamp          |Total_Items|Total_Cost|is_order|is_return|
+--------------+--------------+-------------------+-----------+----------+--------+---------+
|154132553841070|United Kingdom|2023-03-21 17:10:11|5.88       |17.53     |1       |0        |
|154132553841071|United Kingdom|2023-03-21 17:10:20|31.08      |66.1      |1       |0        |
+--------------+--------------+-------------------+-----------+----------+--------+---------+
```

Our output for time based kpi is ready now.

```
[hadoop@ip-172-31-11-10 ~]$ hadoop fs -ls time-country-wise-kpl
Found 29 items
drwxr-xr-x   - hadoop hadoop          0 2023-03-21 17:16 time-country-wise-kpl/_spark_metadata
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:03 time-country-wise-kpl/part-00000-0a223ba4-3047-4915-a4fe-56ca65020456-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:09 time-country-wise-kpl/part-00000-104fcca7-0e31-4249-8300-18f2ded68454-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:08 time-country-wise-kpl/part-00000-209910d8-dc4e-427a-8805-44ee38032007-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:11 time-country-wise-kpl/part-00000-42a2a9f9-91ab-4f5b-8d15-3c27a3037862-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:05 time-country-wise-kpl/part-00000-7337e00f-3aca-411a-9947-27a9006e13e1-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:15 time-country-wise-kpl/part-00000-8b47bc62-6afe-4fe5-bdb8-678e2593ebd5-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:06 time-country-wise-kpl/part-00000-a642d0cb-65ef-4e44-b442-5f901596fef5-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:10 time-country-wise-kpl/part-00000-b503919a-2941-4ae1-acac-505eea5cd7f8-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:07 time-country-wise-kpl/part-00000-bdc8bb2c-7052-4ee0-8666-088d927d4511-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:14 time-country-wise-kpl/part-00000-c650b279-5a48-4328-8ae5-9c7848779b9d-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:16 time-country-wise-kpl/part-00000-c86542f8-5d03-4063-b07a-e5fb5aae6bc1-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:13 time-country-wise-kpl/part-00000-e06aaadf-45d6-46dd-baa9-e52911ceb931-c000.json
-rw-r--r--   1 hadoop hadoop          0 2023-03-21 17:12 time-country-wise-kpl/part-00000-f8885a8d-2c3a-496b-9aeb-d1c10d1dd045-c000.json
-rw-r--r--   1 hadoop hadoop        184 2023-03-21 17:12 time-country-wise-kpl/part-00008-9b7d283c-7740-49e8-aa87-0a977dec6abd-c000.json
-rw-r--r--   1 hadoop hadoop        162 2023-03-21 17:16 time-country-wise-kpl/part-00019-782ccfde-fd39-4733-afa7-2d34dd973f08-c000.json
-rw-r--r--   1 hadoop hadoop        185 2023-03-21 17:08 time-country-wise-kpl/part-00026-598c18da-0b57-4f9f-b7e8-5be8a31162e1-c000.json
-rw-r--r--   1 hadoop hadoop        171 2023-03-21 17:07 time-country-wise-kpl/part-00028-d000c605-81ad-4523-8579-272743fb1a38-c000.json
-rw-r--r--   1 hadoop hadoop        184 2023-03-21 17:15 time-country-wise-kpl/part-00030-8d1e2b90-0e77-453f-a7b2-e5309445127f-c000.json
-rw-r--r--   1 hadoop hadoop        184 2023-03-21 17:11 time-country-wise-kpl/part-00033-7cf6e8c6-25fe-4ba5-b0da-be9e42e55560-c000.json
-rw-r--r--   1 hadoop hadoop        173 2023-03-21 17:10 time-country-wise-kpl/part-00047-62893666-7618-494d-983d-0066ada5a6d1-c000.json
-rw-r--r--   1 hadoop hadoop        164 2023-03-21 17:12 time-country-wise-kpl/part-00058-f5dadc37-b5c0-4e7b-a4c1-92acd8736ded-c000.json
-rw-r--r--   1 hadoop hadoop        171 2023-03-21 17:09 time-country-wise-kpl/part-00064-98ed7c73-317b-4851-b88a-ff1156bbfbd1-c000.json
-rw-r--r--   1 hadoop hadoop        185 2023-03-21 17:13 time-country-wise-kpl/part-00068-9679287f-ccd4-4889-b914-494547d11fdd-c000.json
-rw-r--r--   1 hadoop hadoop        161 2023-03-21 17:16 time-country-wise-kpl/part-00090-e19f8026-9b1f-43d2-9630-c5f8f3072e47-c000.json
-rw-r--r--   1 hadoop hadoop        189 2023-03-21 17:14 time-country-wise-kpl/part-00096-04d3a708-a22f-49f6-b271-d8a4965b856b-c000.json
-rw-r--r--   1 hadoop hadoop        184 2023-03-21 17:16 time-country-wise-kpl/part-00167-d1c83b9b-e48b-4fd1-8998-0a2d9b574740-c000.json
-rw-r--r--   1 hadoop hadoop        164 2023-03-21 17:12 time-country-wise-kpl/part-00173-44bbf6d5-e3ac-4feb-8f94-fefcbdfbbc8c-c000.json
-rw-r--r--   1 hadoop hadoop        166 2023-03-21 17:09 time-country-wise-kpl/part-00186-d30f63e4-ec1c-4160-bcfa-253fc64ab1f6-c000.json
[hadoop@ip-172-31-11-10 ~]$
```

And here is our files which is stored in the Json format.