

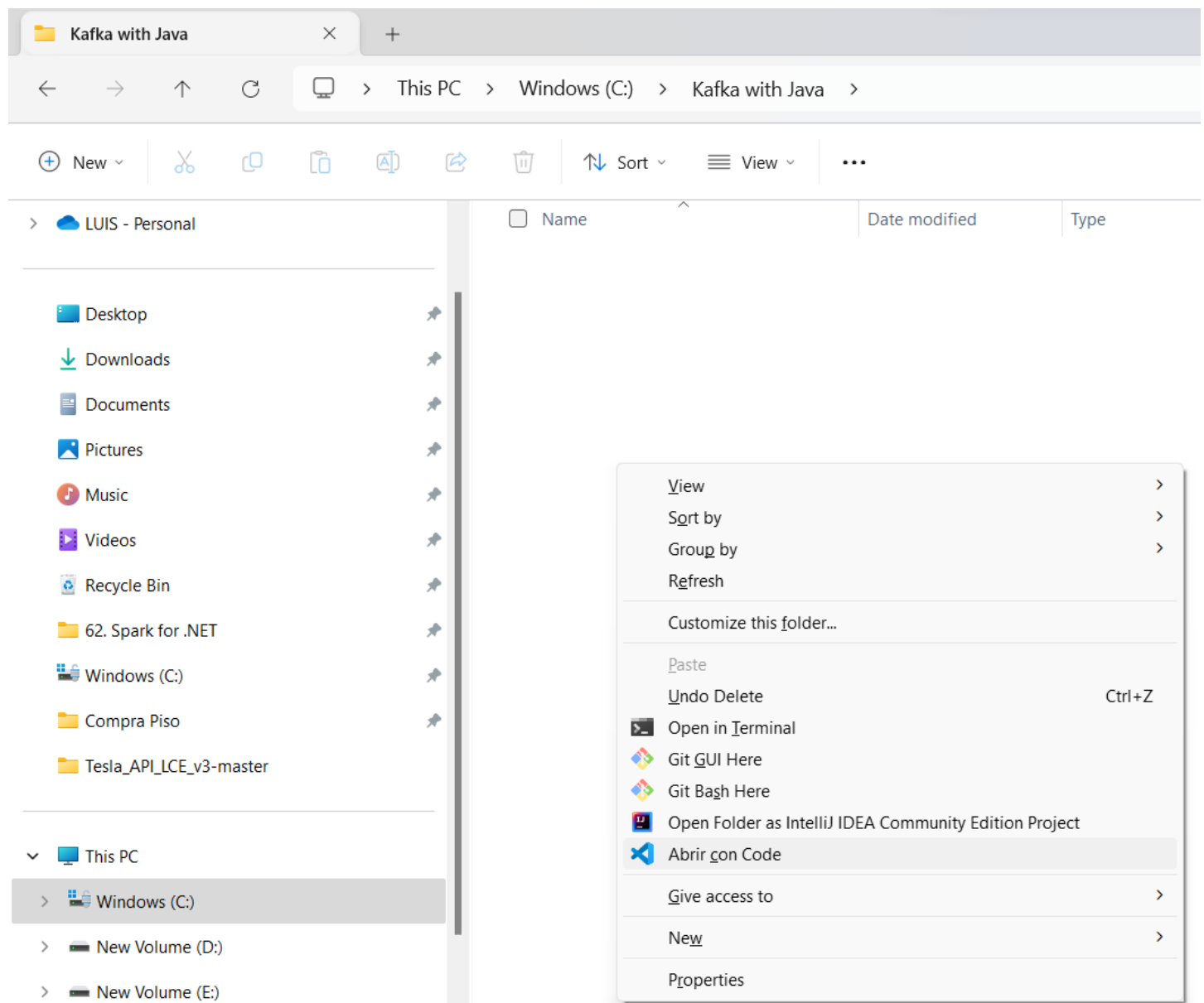
# Kafka Java Producer application

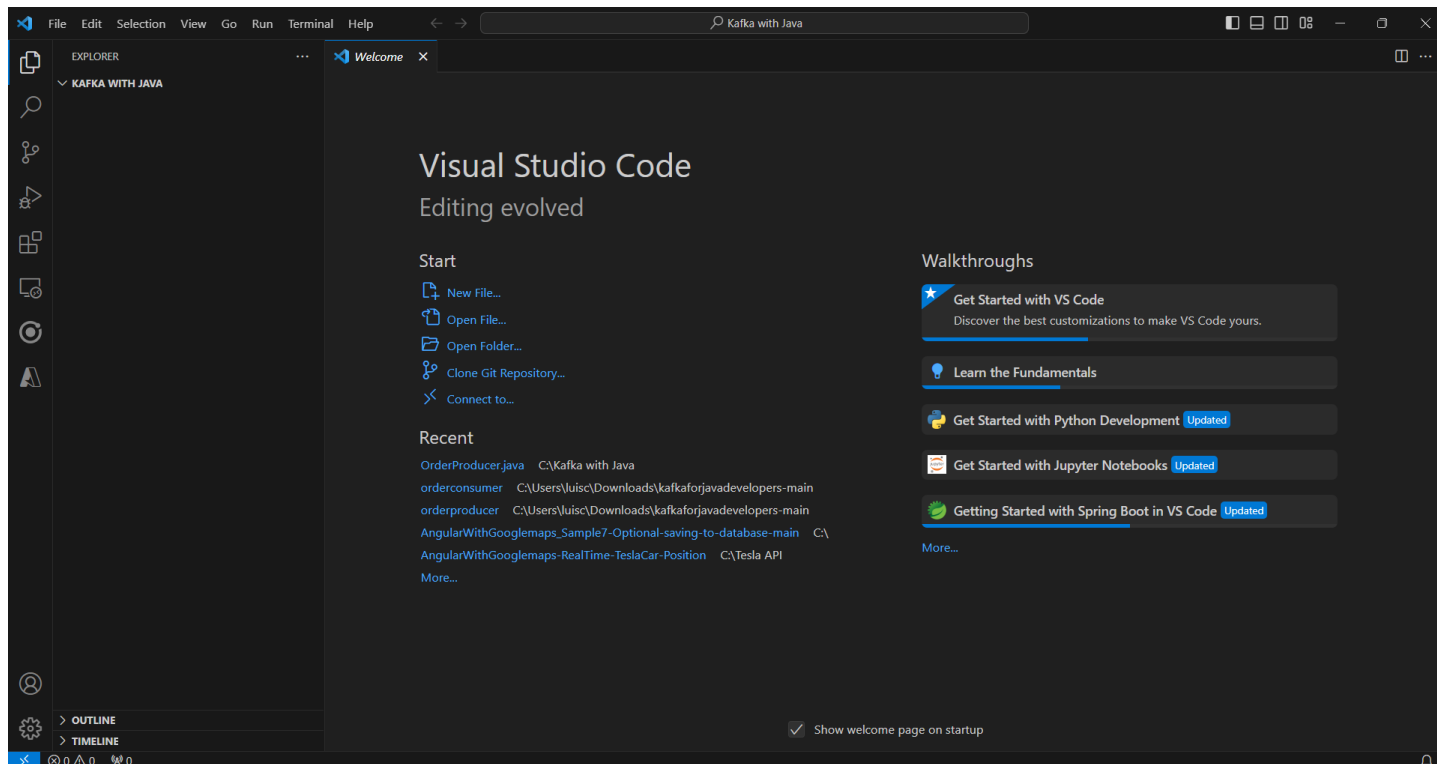
[https://github.com/luiscoco/Kafka\\_Java\\_Producer/](https://github.com/luiscoco/Kafka_Java_Producer/)

## Create a new Java application with VSCode

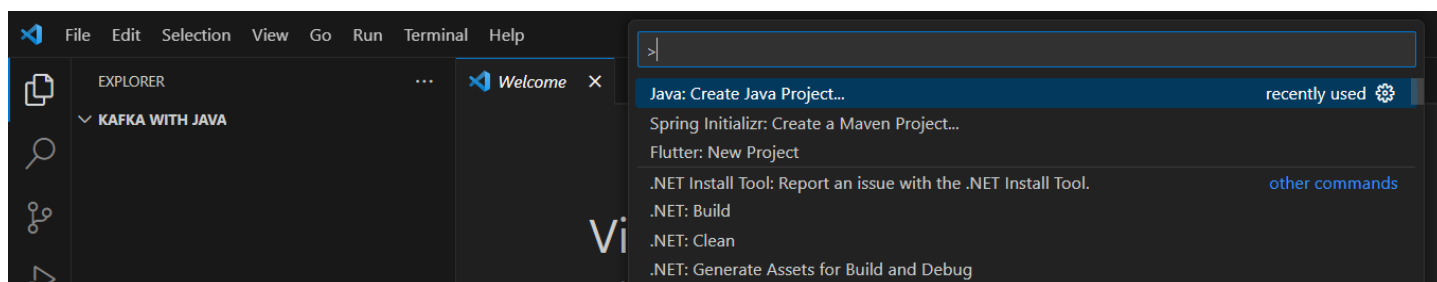
We create a new folder to place the Java application.

We right click inside the folder and we select the option **Open with VSCode**.

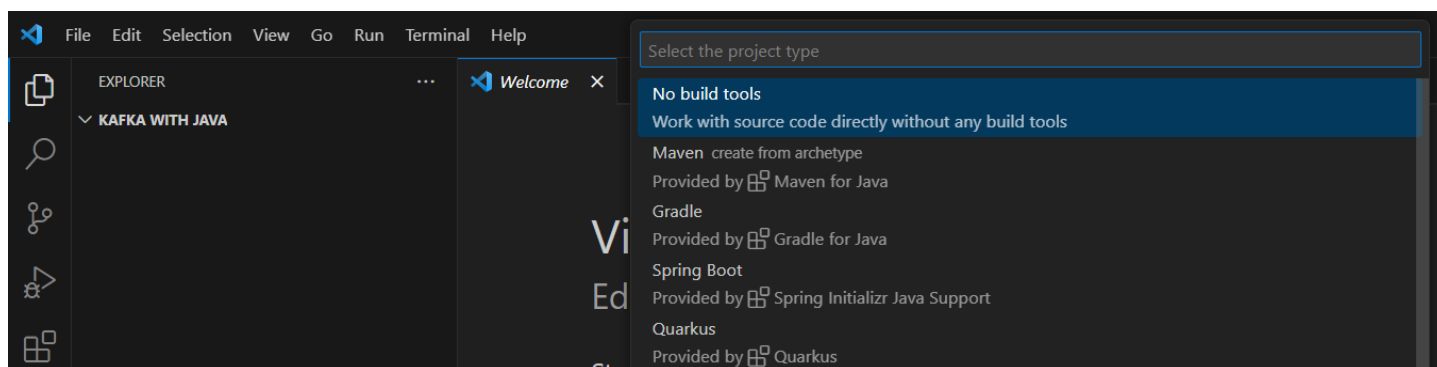




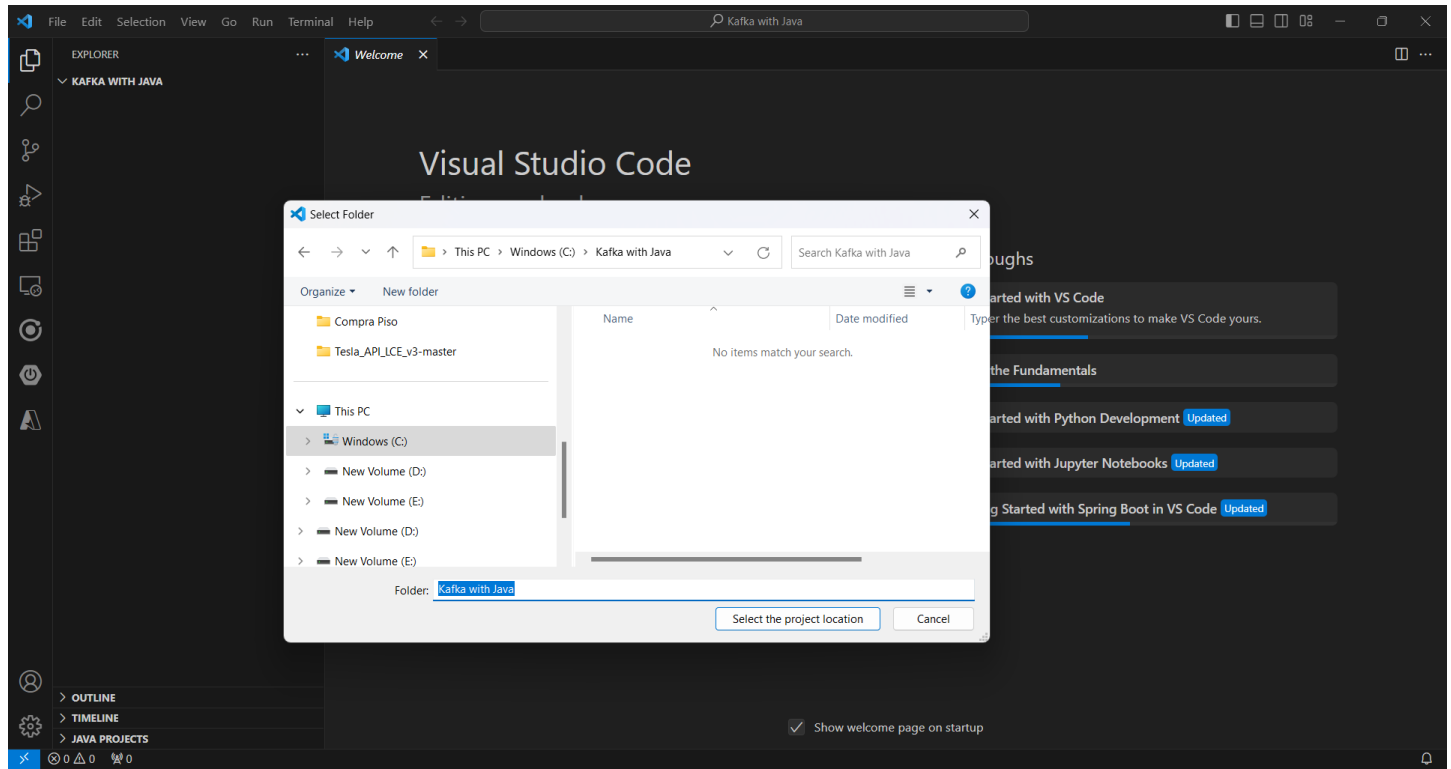
We press the keys **Ctrl+Shift+P** to create a new Java application in VSCode



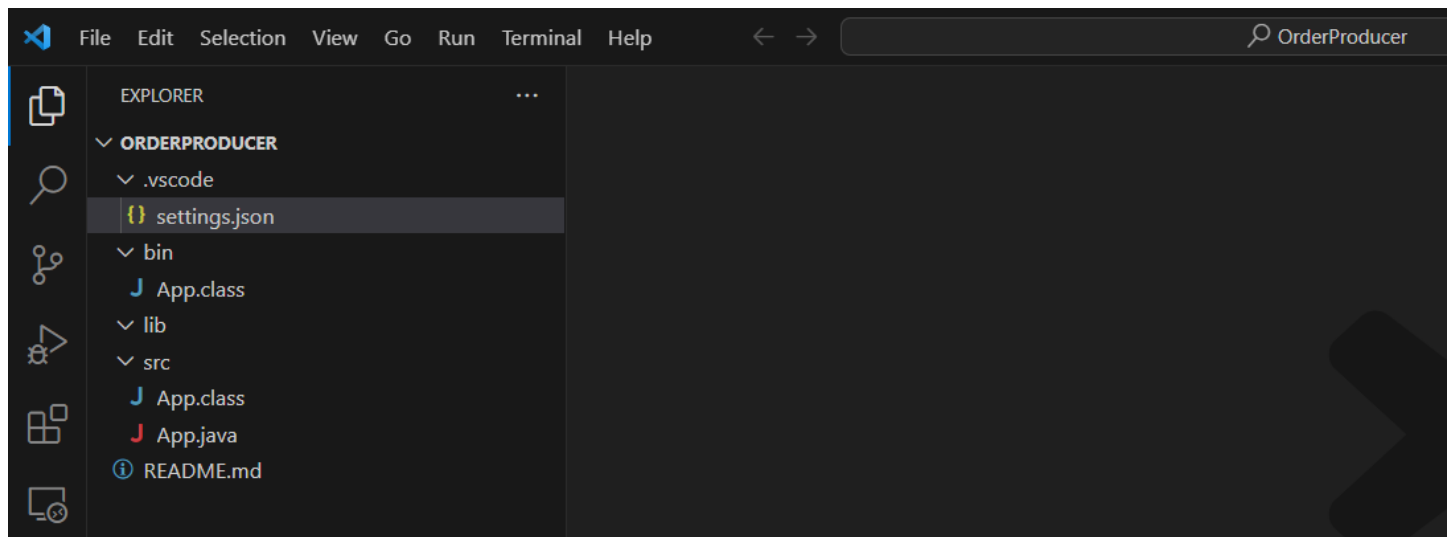
We select the first option **No build tools**



Now we select the folder where to place the new Java application

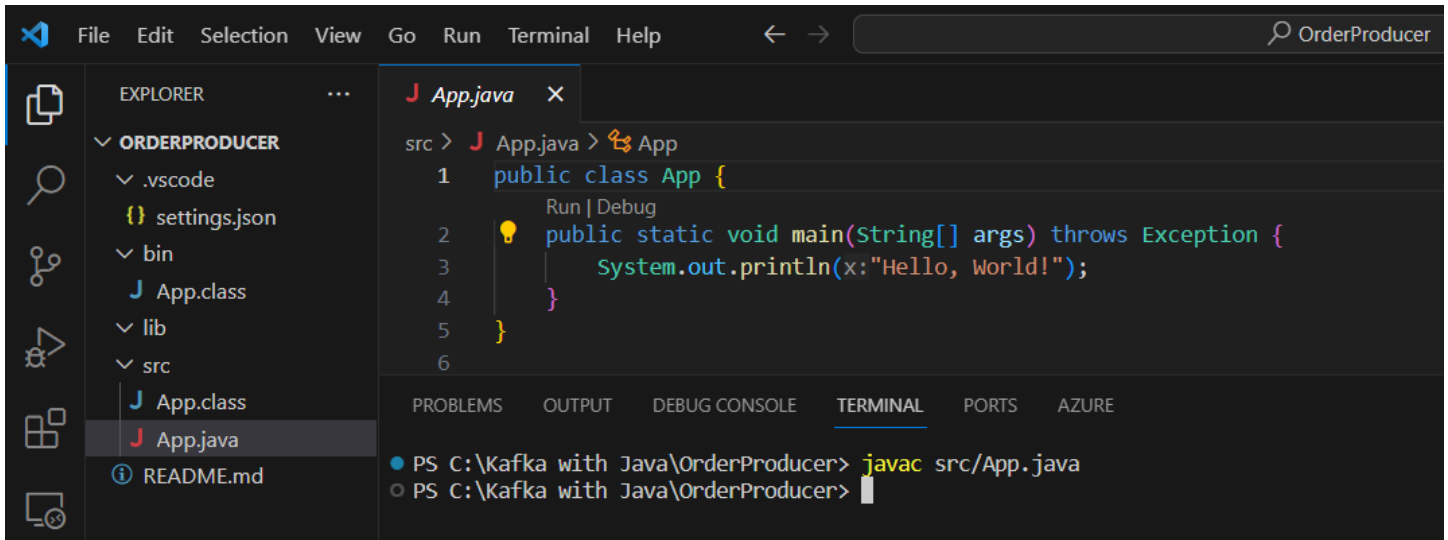


We set the new Java application name **OrderProducer**. The new Java application is created:



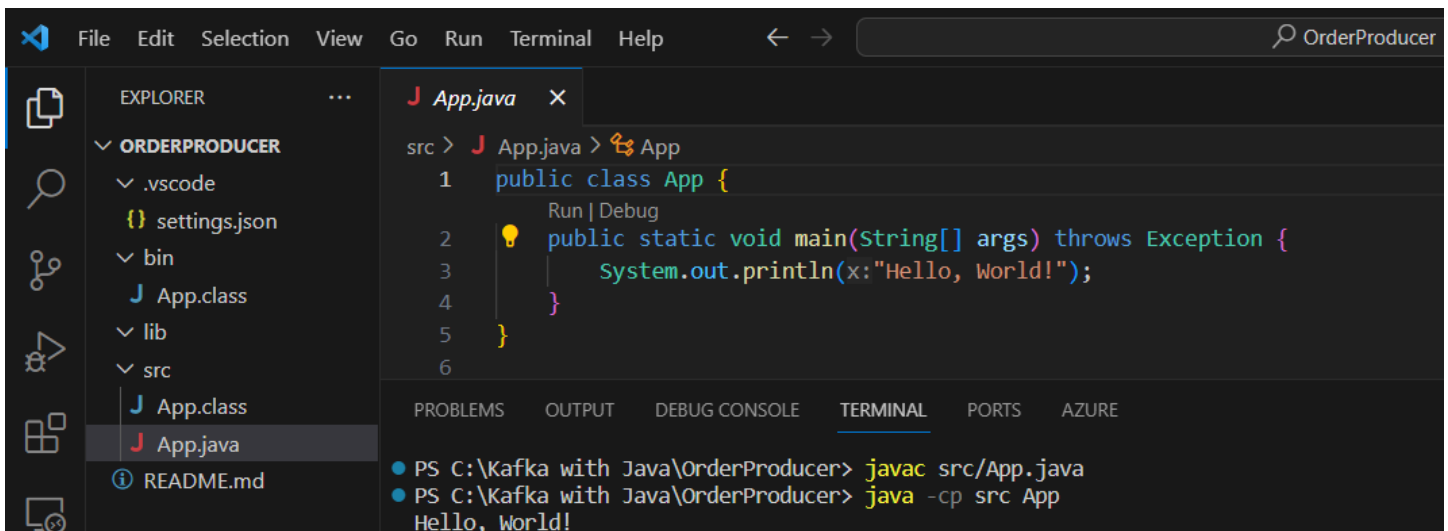
We run this command to **compile the application** and generate the **App.class** file

```
C:\Kafka with Java\OrderProducer> javac src/App.java
```



For running the application we type the command:

```
C:\Kafka with Java\OrderProducer> java -cp src App
```



## Enter the Kafka producer Java application source code and compile and run it

Now we enter the Kafka Producer source code in VSCode

```
import org.apache.kafka.clients.producer.KafkaProducer;
import org.apache.kafka.clients.producer.Producer;
import org.apache.kafka.clients.producer.ProducerRecord;
import java.util.Properties;

public class KafkaProducerApp {
    public static void main(String[] args) {
        // Set up producer properties
        Properties properties = new Properties();
        properties.put("bootstrap.servers", "localhost:9092");
```

```

properties.put("key.serializer", "org.apache.kafka.common.serialization.StringSerializ
properties.put("value.serializer", "org.apache.kafka.common.serialization.StringSerial

// Create Kafka producer
Producer<String, String> producer = new KafkaProducer<>(properties);

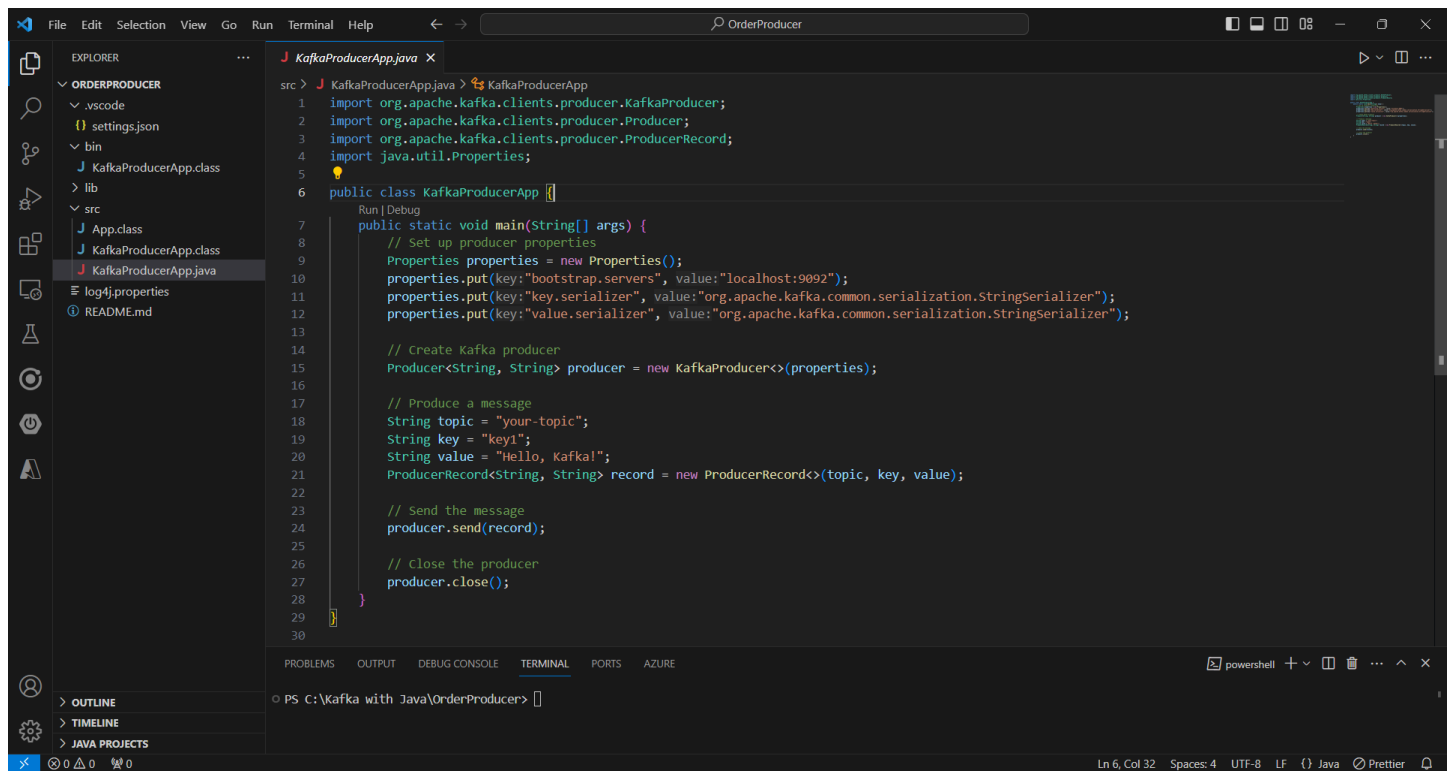
// Produce a message
String topic = "your-topic";
String key = "key1";
String value = "Hello, Kafka!";
ProducerRecord<String, String> record = new ProducerRecord<>(topic, key, value);

// Send the message
producer.send(record);

// Close the producer
producer.close();
}
}

```

Then we rename the application name to **KafkaProducerApp**



Now we create a new file called **log4j.properties** in the application root and we input the following code:

```

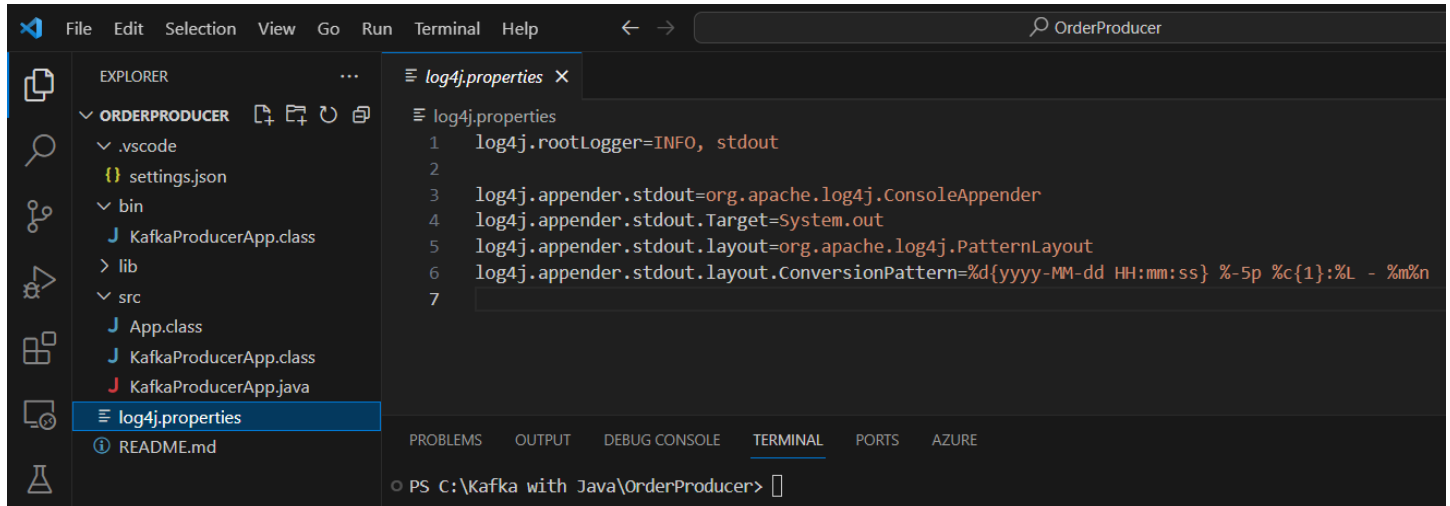
log4j.rootLogger=INFO, stdout

log4j.appender.stdout=org.apache.log4j.ConsoleAppender
log4j.appender.stdout.Target=System.out

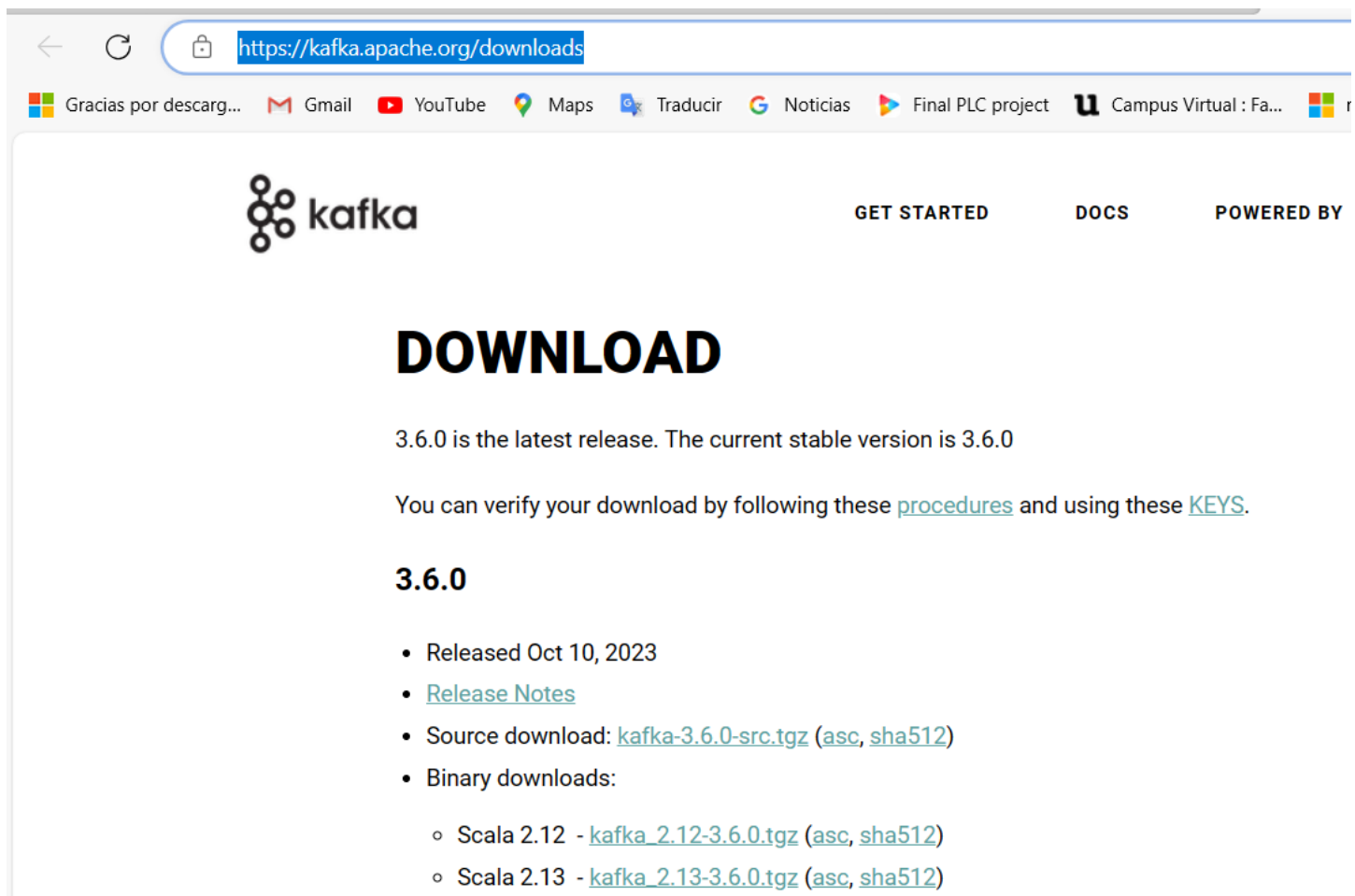
```

```
log4j.appender.stdout.layout=org.apache.log4j.PatternLayout
```

```
log4j.appender.stdout.layout.ConversionPattern=%d{yyyy-MM-dd HH:mm:ss} %-5p %c{1}:%L - %m%n
```



Then we download Kafka JAR files from Apache Kafka web page (<https://kafka.apache.org/downloads>), and we place the JAR files in the Kafka producer Java application **lib** folder



lib

< > ↑ ↺ > This PC > Windows (C:) > Kafka with Java > OrderProducer > lib

+ New ✂ Copy Paste Print Share Delete Sort View ...

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Tesla\_API\_LCE\_v3-master

▼ This PC  
> Windows (C:)  
> New Volume (D:)  
> New Volume (E:)

<input type="checkbox"/> Name	Date modified	Type	Size
<input checked="" type="checkbox"/> activation-1.1.1	29/04/2023 15:35	Executable Jar File	68 KB
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<input checked="" type="checkbox"/> argparse4j-0.7.0	29/04/2023 15:34	Executable Jar File	89 KB
<input checked="" type="checkbox"/> audience-annotations-0.12.0	02/08/2023 5:07	Executable Jar File	21 KB
<input checked="" type="checkbox"/> caffeine-2.9.3	23/06/2023 7:05	Executable Jar File	891 KB
<input checked="" type="checkbox"/> checker-qual-3.19.0	23/06/2023 7:05	Executable Jar File	217 KB
<input checked="" type="checkbox"/> commons-beanutils-1.9.4	29/04/2023 15:16	Executable Jar File	242 KB
<input checked="" type="checkbox"/> commons-cli-1.4	29/04/2023 15:36	Executable Jar File	53 KB
<input checked="" type="checkbox"/> commons-collections-3.2.2	29/04/2023 15:16	Executable Jar File	575 KB
<input checked="" type="checkbox"/> commons-digester-2.1	29/04/2023 15:16	Executable Jar File	193 KB
<input checked="" type="checkbox"/> commons-io-2.11.0	29/04/2023 15:16	Executable Jar File	320 KB
<input checked="" type="checkbox"/> commons-lang3-3.8.1	29/04/2023 15:35	Executable Jar File	491 KB
<input checked="" type="checkbox"/> commons-logging-1.2	29/04/2023 15:16	Executable Jar File	61 KB
<input checked="" type="checkbox"/> commons-validator-1.7	29/04/2023 15:16	Executable Jar File	186 KB
<input checked="" type="checkbox"/> connect-api-3.6.0	29/09/2023 6:57	Executable Jar File	103 KB
<input checked="" type="checkbox"/> connect-basic-auth-extension-3.6.0	29/09/2023 6:57	Executable Jar File	20 KB
<input checked="" type="checkbox"/> connect-file-3.6.0	29/09/2023 6:57	Executable Jar File	18 KB
<input checked="" type="checkbox"/> connect-json-3.6.0	29/09/2023 6:57	Executable Jar File	34 KB
<input checked="" type="checkbox"/> connect-mirror-3.6.0	29/09/2023 7:00	Executable Jar File	127 KB

lib

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> LUIS - Personal

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> Windows (C:)

> New Volume (D:)

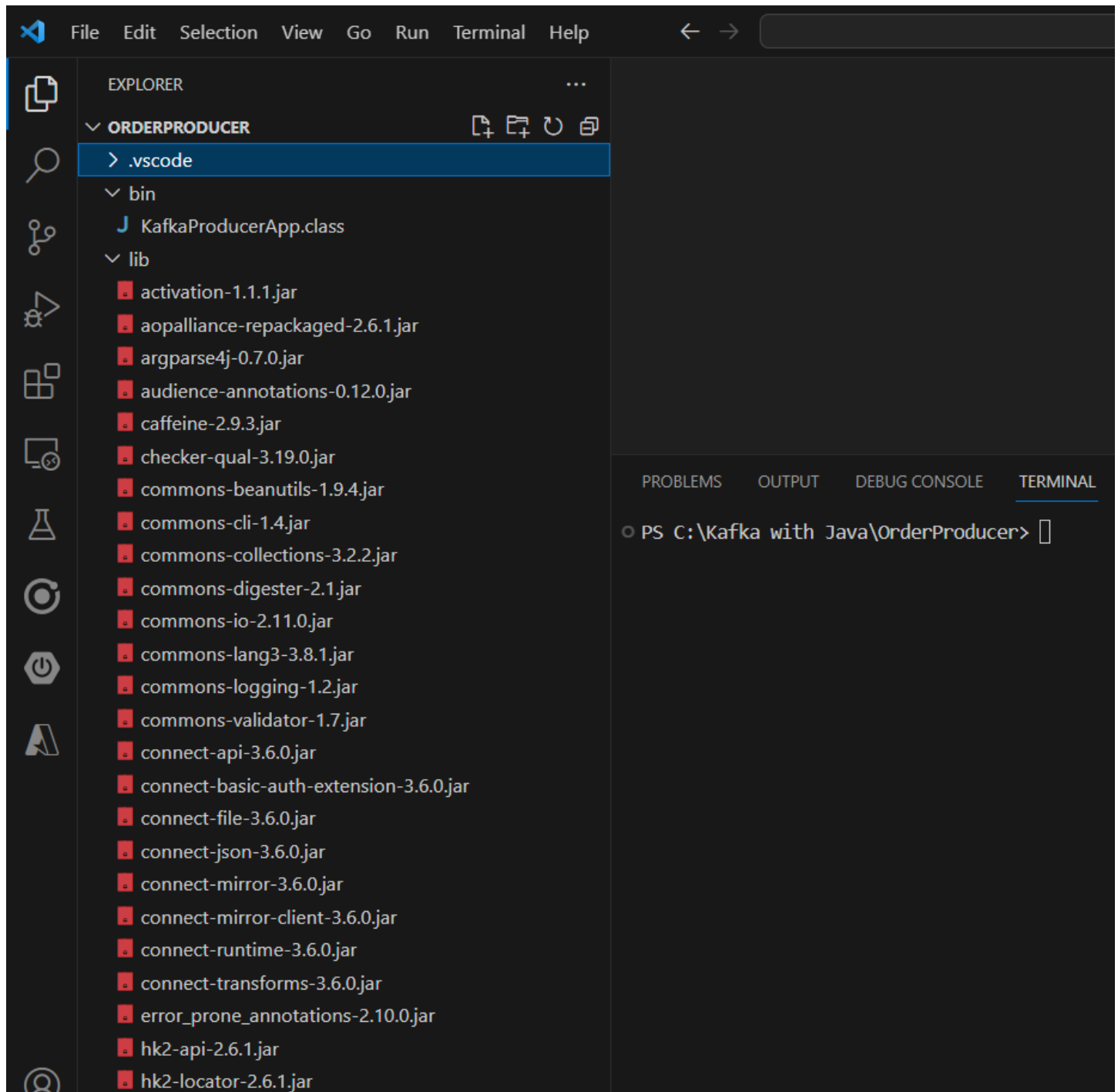
> New Volume (E:)

> New Volume (D:)

> New Volume (E:)

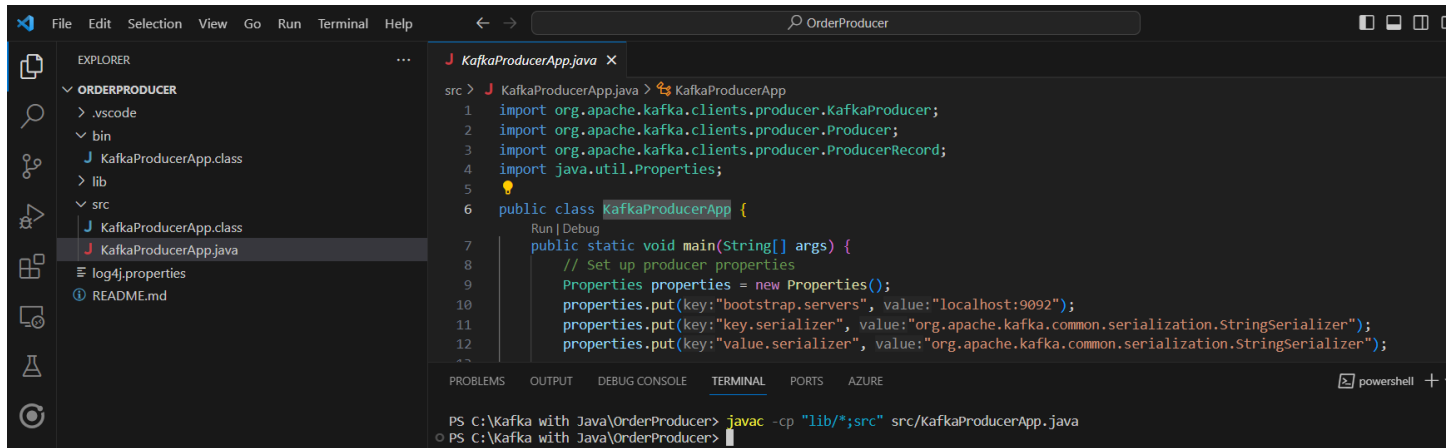
Name	Date modified	Type	Size
activation-1.1.1	29/04/2023 15:35	Executable Jar File	68 KB
aopalliance-repackaged-2.6.1	29/04/2023 15:35	Executable Jar File	27 KB
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commons-io-2.11.0	29/04/2023 15:16	Executable Jar File	320 KB
commons-lang3-3.8.1	29/04/2023 15:35	Executable Jar File	491 KB
commons-logging-1.2	29/04/2023 15:16	Executable Jar File	61 KB
commons-validator-1.7	29/04/2023 15:16	Executable Jar File	186 KB
connect-api-3.6.0	29/09/2023 6:57	Executable Jar File	103 KB
connect-basic-auth-extension-3.6.0	29/09/2023 6:57	Executable Jar File	20 KB
connect-file-3.6.0	29/09/2023 6:57	Executable Jar File	18 KB
connect-json-3.6.0	29/09/2023 6:57	Executable Jar File	34 KB
connect-mirror-3.6.0	29/09/2023 7:00	Executable Jar File	127 KB





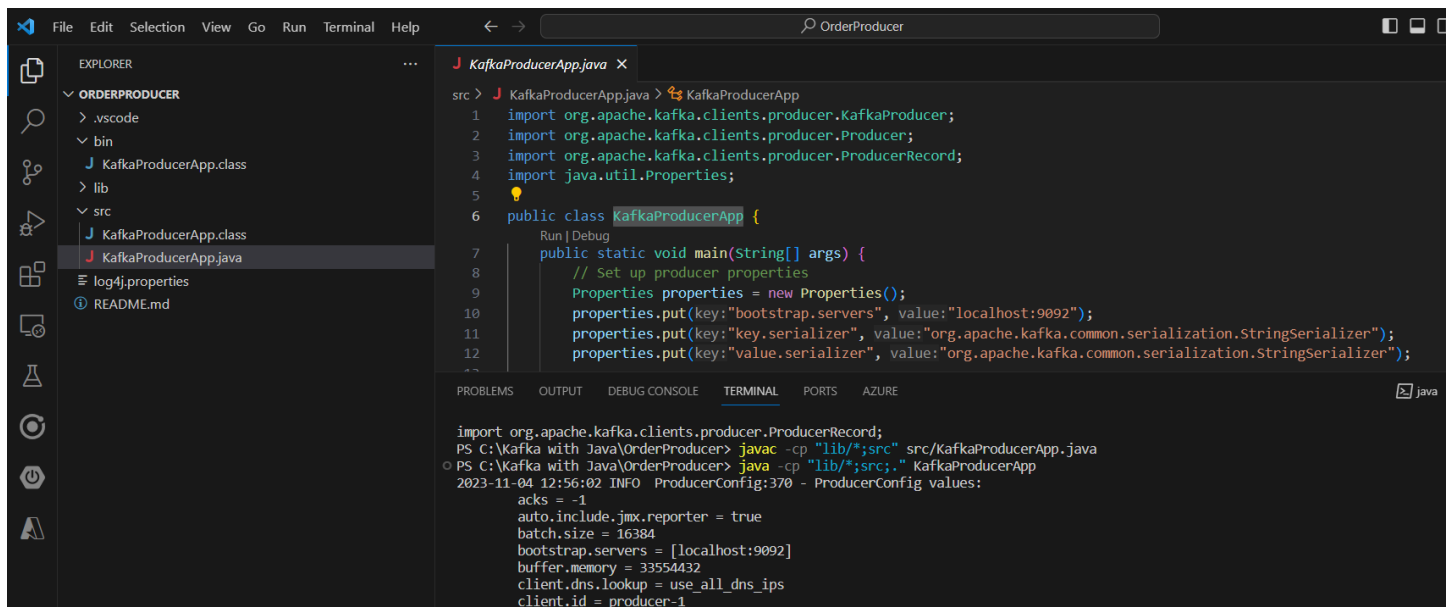
To compile the application with this command:

```
C:\Kafka with Java\OrderProducer> javac -cp "lib/*;src" src/KafkaProducerApp.java
```



Finally, we run the application with this command:

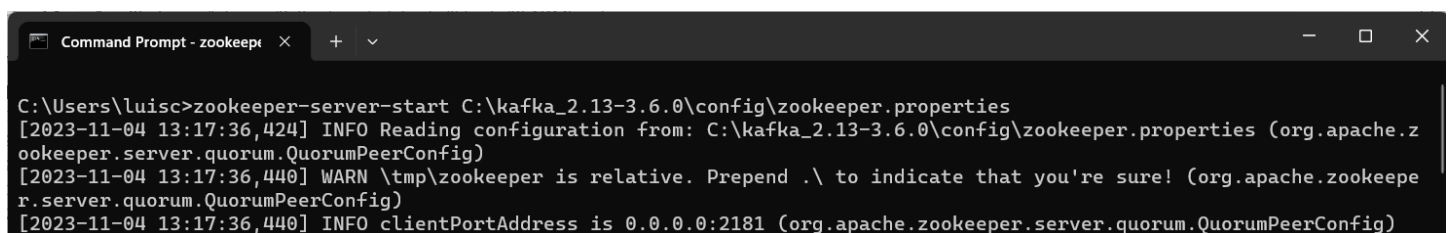
```
C:\Kafka with Java\OrderProducer> java -cp "lib/*;src;" KafkaProducerApp
```



## How to run the Consumer and the Producer Java applications

### 1. First we have to run the zookeeper-server-start command

```
zookeeper-server-start C:\kafka_2.13-3.6.0\config\zookeeper.properties
```



### 2. Open a command prompt window and run the command kafka-server-start

```
kafka-server-start C:\kafka_2.13-3.6.0\config\server.properties
```

```
Microsoft Windows [Version 10.0.22621.2506]
(c) Microsoft Corporation. All rights reserved.

C:\Users\luisc>kafka-server-start C:\kafka_2.13-3.6.0\config\server.properties
[2023-11-04 13:17:51,323] INFO Registered kafka:type=kafka.Log4jController MBean (kafka.utils.Log4jControllerRegistration$)
[2023-11-04 13:17:51,574] INFO Setting -D jdk.tls.rejectClientInitiatedRenegotiation=true to disable client-initiated TLS renegotiation (org.apache.zookeeper.common.X509Util)
```

### 3. Then open with VSCode the Kafka Consumer application and run it

To compile the Kafka Consumer Java application

```
C:\Kafka with Java\OrderConsumer> javac -cp "lib/*;src" src/KafkaConsumerApp.java
```

To run the Kafka Consumer Java application

```
C:\Kafka with Java\OrderConsumer> java -cp "lib/*;src;." KafkaConsumerApp
```

```
src > J KafkaConsumerApp.java > ...
2  import org.apache.kafka.clients.consumer.ConsumerConfig;
3  import org.apache.kafka.clients.consumer.ConsumerRecords;
4  import org.apache.kafka.clients.consumer.KafkaConsumer;
5  import org.apache.kafka.common.serialization.StringDeserializer;
6
7  import java.time.Duration;
8  import java.util.Collections;
9  import java.util.Properties;
10
11  public class KafkaConsumerApp {
12      Run | Debug
13      public static void main(String[] args) {
14          // Set up consumer properties
15          Properties properties = new Properties();
16          properties.put(ConsumerConfig.BOOTSTRAP_SERVERS_CONFIG, "localhost:9092");
17          properties.put(ConsumerConfig.GROUP_ID_CONFIG, "your-group-id");
```

```
Received message:
Key: key1
Value: Hello, Kafka!
Partition: 0
Offset: 3
-----
Received message:
Key: key1
Value: Hello, Kafka!
Partition: 0
Offset: 4
-----
Received message:
Key: key1
Value: Hello, Kafka!
Partition: 0
Offset: 5
-----
* History restored
```

### 4. Then open with VSCode the Kafka Producer application and run it

## To compile the Kafka Consumer Java application

```
C:\Kafka with Java\OrderProducer> javac -cp "lib/*;src" src/KafkaProducerApp.java
```

## To run the Kafka Producer Java application

```
C:\Kafka with Java\OrderProducer> java -cp "lib/*;src;." KafkaProducerApp
```

