



DataFun

Installation of Kafka for windows

Prerequisites for Kafka for windows

- Java

<https://www.oracle.com/technetwork/java/javase/downloads/jre8-downloads-2133155.html>

- Zookeeper

<http://zookeeper.apache.org/releases.html#download>

<https://www.apache.org/dyn/closer.cgi/zookeeper/>

- Kafka

<http://kafka.apache.org/downloads.html>

https://www.apache.org/dyn/closer.cgi?path=/kafka/2.3.0/kafka_2.11-2.3.0.tgz

- 7-Zip

<http://www.7-zip.org/download.html>

Note:-

a) Use 7-zip to extract Zookeeper & Kafka

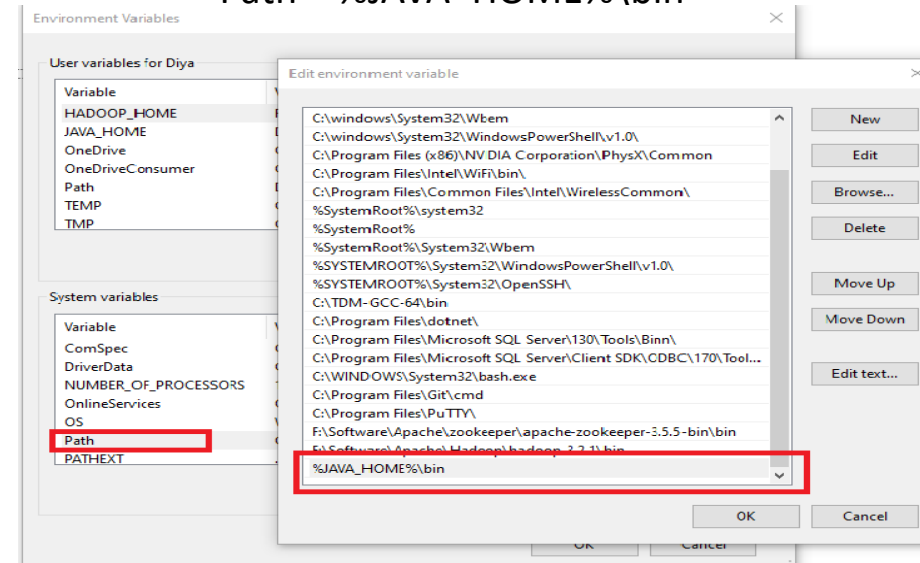
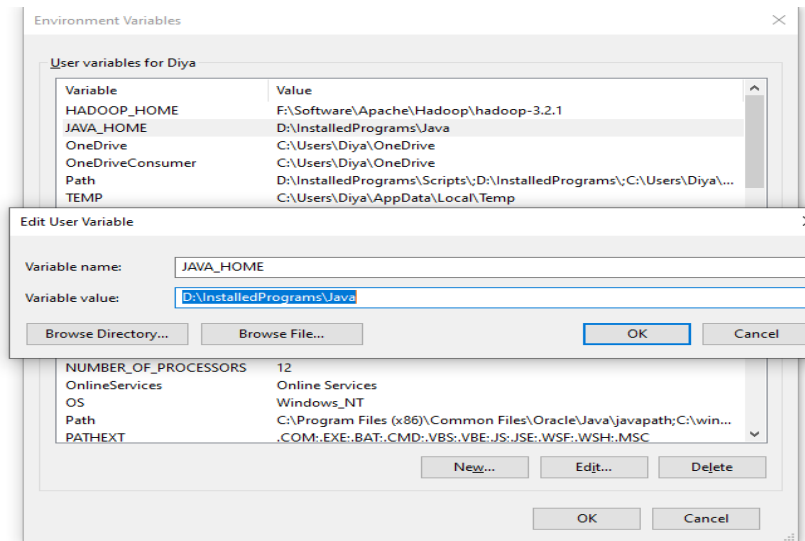
b) Version used in this tutorial - java version "1.8.0_221", kafka_2.11-2.3.0, apache-zookeeper-3.5.5, windows 10

Java Installation

- Download java from the path mentioned in prerequisites page2.
- Install java to your defined directory path without space. By default java will be installed in C:\Program Files\Java\jre1.8.0_xx change the installation path to your directory. For example - D:\InstalledPrograms\Java
- After installation is completed set the Environment Variables for JAVA_HOME (User Variable) and Path (System Variable)
- JAVA_HOME. Variable Value will be the directory of where you installed the JAVA

e.g. :- JAVA_HOME = D:\InstalledPrograms\Java

Path = %JAVA_HOME%\bin



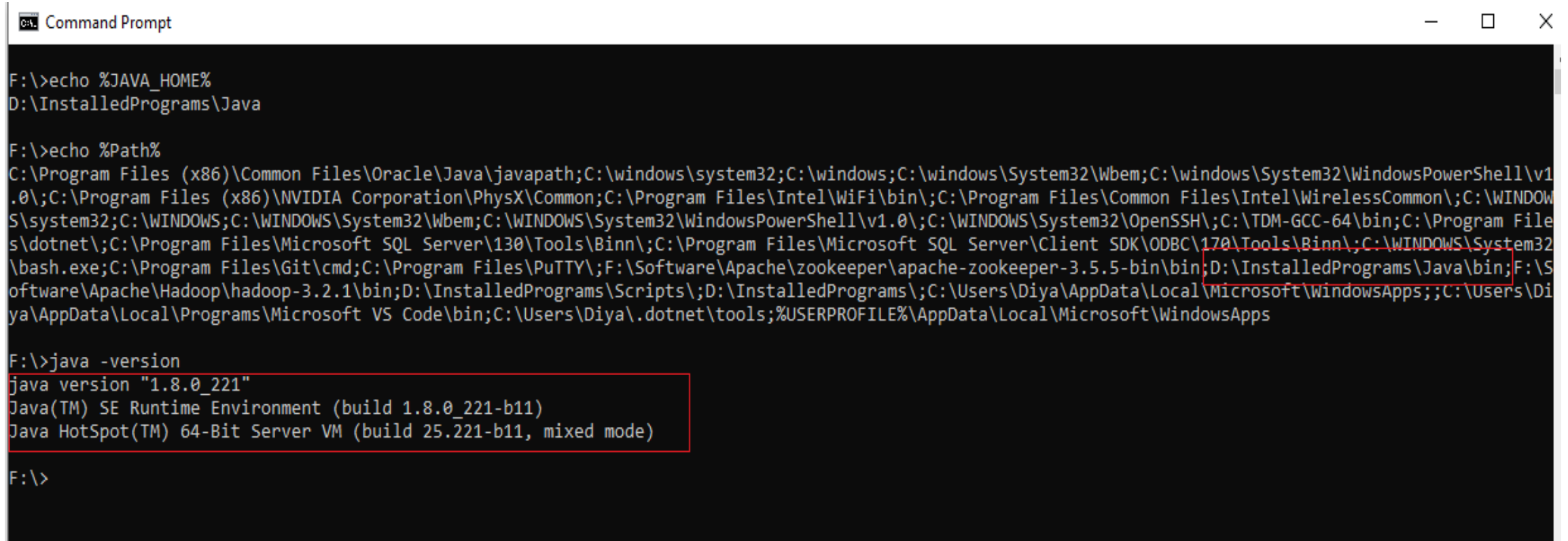
Note:

Control Panel\System and Security\System - Environment Variables

Preferred java version is Java 8 , the higher version will create conflicts/issues when running nifi,Hadoop,etc.

Java Installation

- Verify environment variables using echo commands in command prompt. echo %JAVA_HOME% , echo %Path%
- Confirm the Java Installation. Type “java -version” in command prompt.



```
Command Prompt

F:\>echo %JAVA_HOME%
D:\InstalledPrograms\Java

F:\>echo %Path%
C:\Program Files (x86)\Common Files\Oracle\Java\javapath;C:\windows\system32;C:\windows;C:\windows\System32\Wbem;C:\windows\System32\WindowsPowerShell\v1.0\;C:\Program Files (x86)\NVIDIA Corporation\PhysX\Common;C:\Program Files\Intel\WiFi\bin\;C:\Program Files\Common Files\Intel\WirelessCommon\;C:\WINDOWS\system32;C:\WINDOWS;C:\WINDOWS\System32\Wbem;C:\WINDOWS\System32\WindowsPowerShell\v1.0\;C:\WINDOWS\System32\OpenSSH\;C:\TDM-GCC-64\bin;C:\Program Files\dotnet\;C:\Program Files\Microsoft SQL Server\130\Tools\Binn\;C:\Program Files\Microsoft SQL Server\Client SDK\ODBC\170\Tools\Binn\;C:\WINDOWS\System32\bash.exe;C:\Program Files\Git\cmd;C:\Program Files\PuTTY\;F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5-bin\bin;D:\InstalledPrograms\Java\bin;F:\Software\Apache\Hadoop\hadoop-3.2.1\bin;D:\InstalledPrograms\Scripts\;D:\InstalledPrograms\;C:\Users\Diya\AppData\Local\Microsoft\WindowsApps;;C:\Users\Diya\AppData\Local\Programs\Microsoft VS Code\bin;C:\Users\Diya\.dotnet\tools;%USERPROFILE%\AppData\Local\Microsoft\WindowsApps

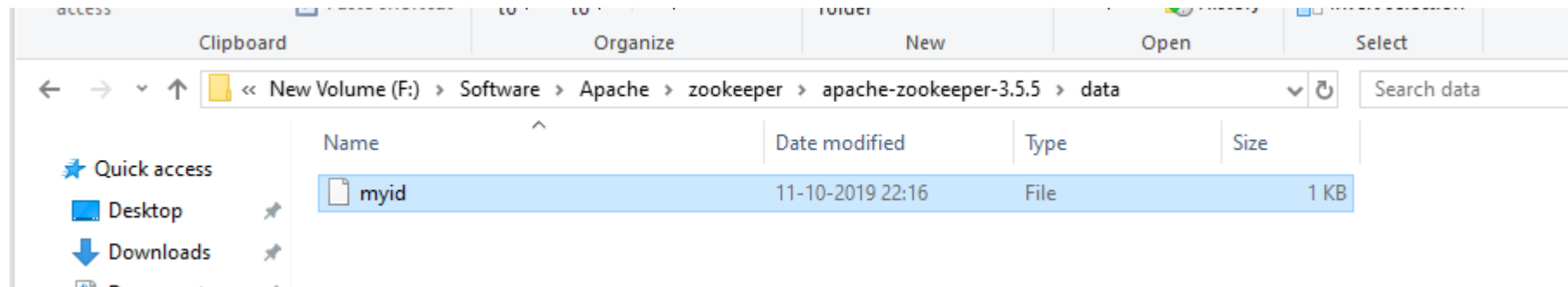
F:\>java -version
java version "1.8.0_221"
Java(TM) SE Runtime Environment (build 1.8.0_221-b11)
Java HotSpot(TM) 64-Bit Server VM (build 25.221-b11, mixed mode)

F:\>
```

Java is successfully installed.

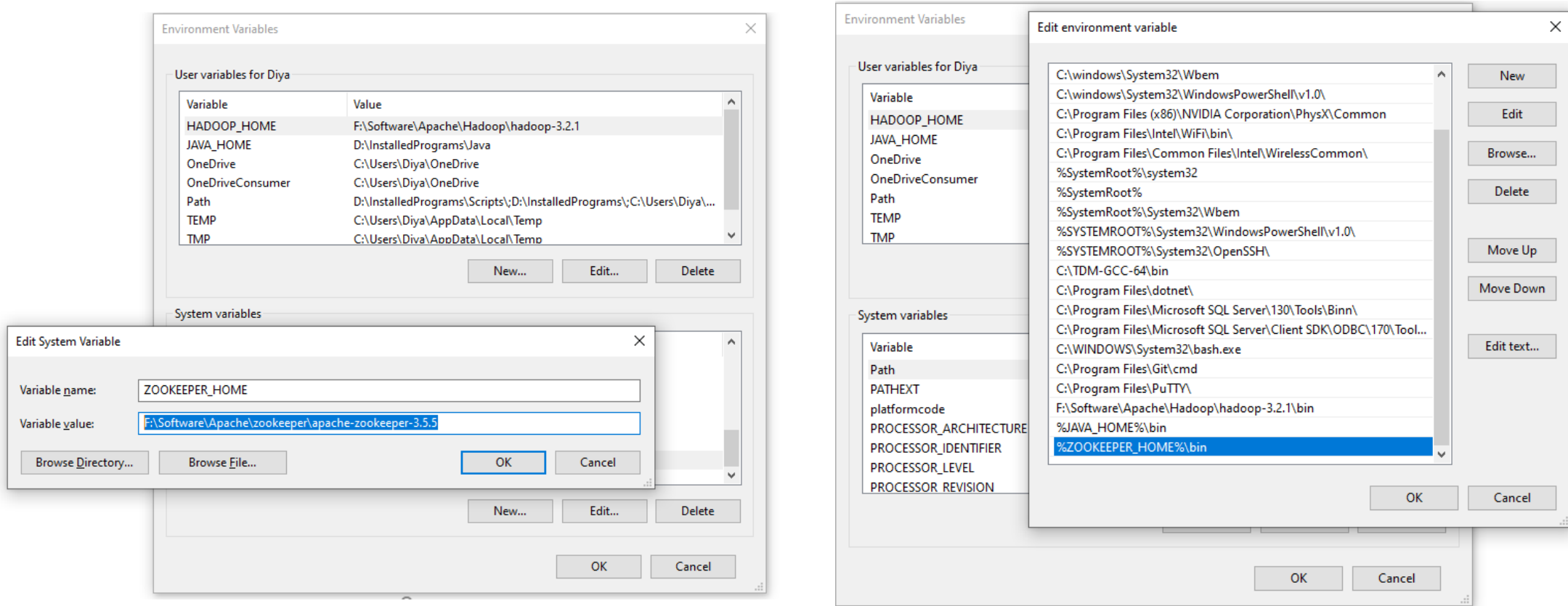
Zookeeper Installation

- Download zookeeper as mentioned in prerequisites page2 and extract using 7zip
- I have done extraction in F:\Software\Apache\zookeeper
- To do the configuration go to **conf** directory. conf directory can be found where you installed zookeeper.
e.g.:- F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\conf
 1. In conf directory Make a copy zoo_sample.cfg file and rename it as zoo.cfg in the same folder
 2. In zoo.cfg file the change dataDir value. Change tmp to your zookeeper installation path
e.g.:-“dataDir=/tmp/zookeeper to \ apache-zookeeper-3.5.5 \data”
 3. Create folder with name data in zookeeper directory
e.g. :- F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\data
 4. In data directory open a new text file and type “1” and save it as “myid” without extension



Zookeeper Installation

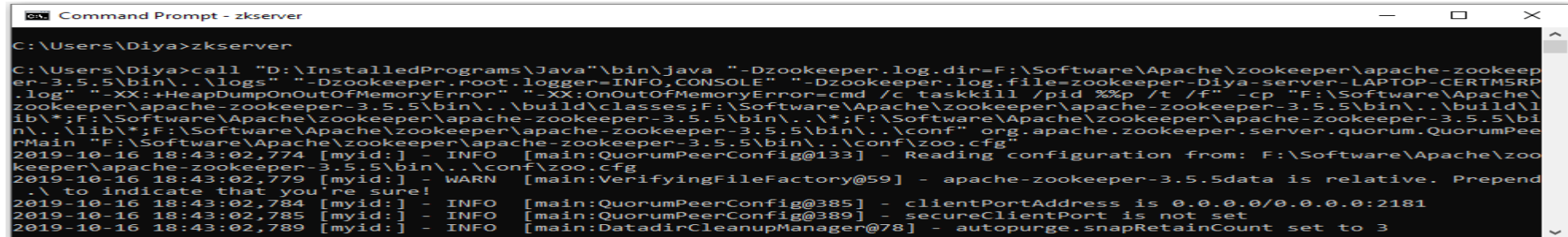
- Set Environment Variables ZOOKEEPER_HOME & Path in System variables
- ZOOKEEPER_HOME. Variable Value will be the directory of where you installed the ZooKeeper
Eg:- ZOOKEEPER_HOME = F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5,
Path = %ZOOKEEPER_HOME%



Zookeeper installation

- Run zookeeper server

Type in the following command in command prompt: zkserver



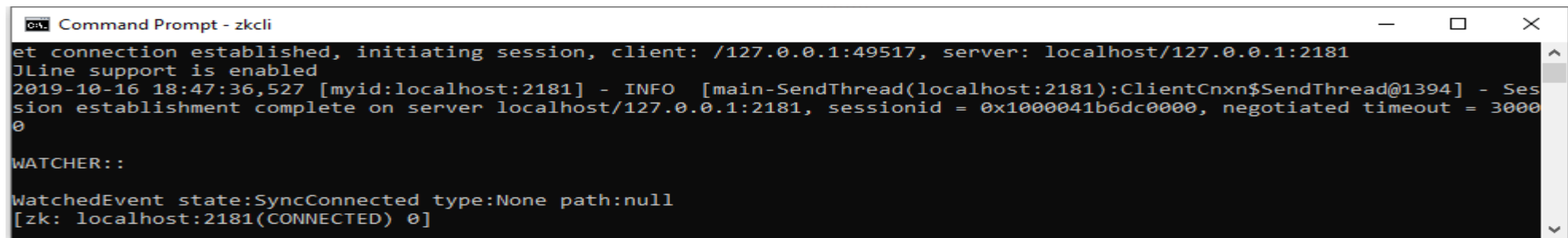
```

C:\Users\Diya>zkserver
C:\Users\Diya>call "D:\InstalledPrograms\Java\bin\java" "-Dzookeeper.log.dir=F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\logs" "-Dzookeeper.root.logger=INFO,CONSOLE" "-Dzookeeper.log.file=zookeeper-Diya-server-LAPTOP-CERTM5RP.log" "-XX:+HeapDumpOnOutOfMemoryError" "-XX:OnOutOfMemoryError=cmd /c taskkill /pid %p /t /f" -cp "F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\build\classes;F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\build\lib\*;F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\*;F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\lib\*;F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\conf" org.apache.zookeeper.server.quorum.QuorumPeerMain "F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\conf\zoo.cfg"
2019-10-16 18:43:02,774 [myid:] - INFO [main:QuorumPeerConfig@133] - Reading configuration from: F:\Software\Apache\zookeeper\apache-zookeeper-3.5.5\bin\..\conf\zoo.cfg
2019-10-16 18:43:02,779 [myid:] - WARN [main:VerifyingFileFactory@59] - apache-zookeeper-3.5.5\data is relative. Prepend .\ to indicate that you're sure!
2019-10-16 18:43:02,784 [myid:] - INFO [main:QuorumPeerConfig@385] - clientPortAddress is 0.0.0.0/0.0.0.0:2181
2019-10-16 18:43:02,785 [myid:] - INFO [main:QuorumPeerConfig@389] - secureClientPort is not set
2019-10-16 18:43:02,789 [myid:] - INFO [main:DataDirCleanupManager@78] - autopurge.snapRetainCount set to 3
  
```

- Check zookeeper server installed is running properly. (ZooKeeper's default port, 2181)

Type in the following command in new command prompt: zkcli

you should get output **[zk: localhost:2181(CONNECTED) 0]** it indicates zookeeper sever is setup is done properly



```

C:\Users\Diya>zkcli
et connection established, initiating session, client: /127.0.0.1:49517, server: localhost/127.0.0.1:2181
Jline support is enabled
2019-10-16 18:47:36,527 [myid:localhost:2181] - INFO [main-SendThread(localhost:2181):ClientCnxn$SendThread@1394] - Session establishment complete on server localhost/127.0.0.1:2181, sessionId = 0x1000041b6dc0000, negotiated timeout = 3000
0

WATCHER::

WatchedEvent state:SyncConnected type:None path:null
[zk: localhost:2181(CONNECTED) 0]
  
```

Zookeeper sever is successfully installed

Kafka Installation



- Download zookeeper as mentioned in prerequisites page2 and extract using 7zip
- I have done extraction in F:\Software\Apache\Kafka
- To do the configuration go to **config** directory. config directory can be found where you installed Kafka.
e.g:- F:\Software\Apache\Kafka\kafka_2.11-2.3.0\config
 1. In config directory open “server.properties” file with notepad
 2. change the log.dirs value. Change tmp to your kafka installation path.
e.g:- “log.dirs=/tmp/kafka-logs” to “log.dirs=F:\Software\Apache\Kafka\kafka_2.11-2.3.0\kafka-logs”
- Run kafka server (Kafka server’s default port, 9092)
 1. In command prompt go to your Kafka installation directory. e.g:- F:\Software\Apache\Kafka\kafka_2.11-2.3.0
 2. After entering to the kafka directory in command prompt , type
“.\bin\windows\kafka-server-start.bat .\config\server.properties” – this will start the kafka sever
 3. you can see in command prompt kafka sever is started.

```
Command Prompt - .\bin\windows\kafka-server-start.bat .\config\server.properties
00,blockEndProducerId:1999) by writing to Zk with path version 2 (kafka.coordinator.transaction.ProducerIdManager)
[2019-10-16 20:03:37,011] INFO [TransactionCoordinator id=0] Starting up. (kafka.coordinator.transaction.TransactionCoordinator)
[2019-10-16 20:03:37,013] INFO [TransactionCoordinator id=0] Startup complete. (kafka.coordinator.transaction.TransactionCoordinator)
[2019-10-16 20:03:37,013] INFO [Transaction Marker Channel Manager 0]: Starting (kafka.coordinator.transaction.TransactionMarkerChannelManager)
[2019-10-16 20:03:37,052] INFO [/config/changes-event-process-thread]: Starting (kafka.common.ZkNodeChangeNotificationListener$ChangeEventProcessThread)
[2019-10-16 20:03:37,066] INFO [SocketServer brokerId=0] Started data-plane processors for 1 acceptors (kafka.network.SocketServer)
[2019-10-16 20:03:37,071] INFO Kafka version: 2.3.0 (org.apache.kafka.common.utils.AppInfoParser)
[2019-10-16 20:03:37,072] INFO Kafka commitId: fc1aaa116b661c8a (org.apache.kafka.common.utils.AppInfoParser)
[2019-10-16 20:03:37,072] INFO Kafka startTimeMs: 1571236417067 (org.apache.kafka.common.utils.AppInfoParser)
[2019-10-16 20:03:37,076] INFO [KafkaServer id=0] started (kafka.server.KafkaServer)
```

Kafka is successfully installed

Testing Kafka



- Create Topics

1. Create Topic – “DataFun”

2. Open a new command prompt with your kakfa installation path/bin/windows

e.g.:- F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows

3. Next type below command and hit enter.

kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic DataFun

4. You can see topic DataFun created successfully

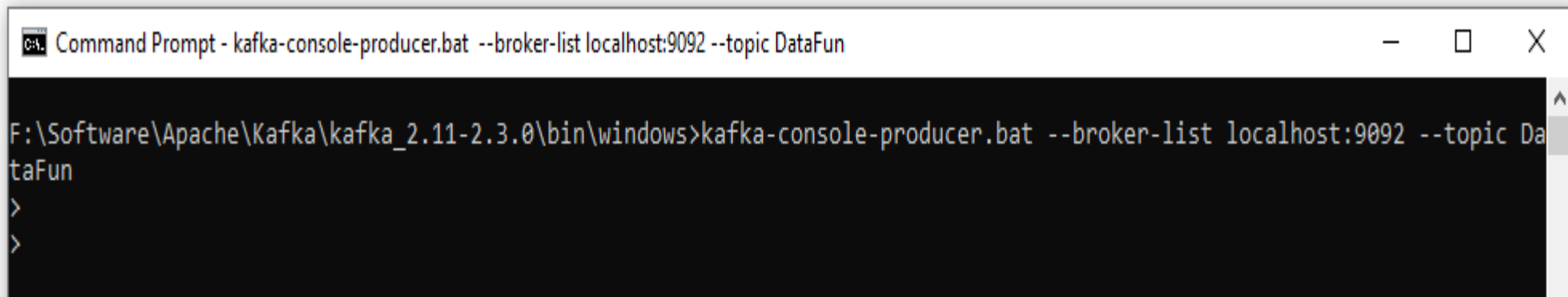
```
Command Prompt
F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>kafka-topics.bat --create --zookeeper localhost:2181 --replication-factor 1 --partitions 1 --topic DataFun
Created topic DataFun.
F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>
```

Created Topic Successfully

Testing Kafka

- Create Producer

1. Open a new command prompt with your kafka installation path/bin/windows
e.g.:- F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows
2. Next type below command and hit enter to start the producer
kafka-console-producer.bat --broker-list localhost:9092 --topic DataFun
3. Now Producer is started you can type the data to be published in the command prompt



```
Command Prompt - kafka-console-producer.bat --broker-list localhost:9092 --topic DataFun

F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>kafka-console-producer.bat --broker-list localhost:9092 --topic DataFun
>
>
```

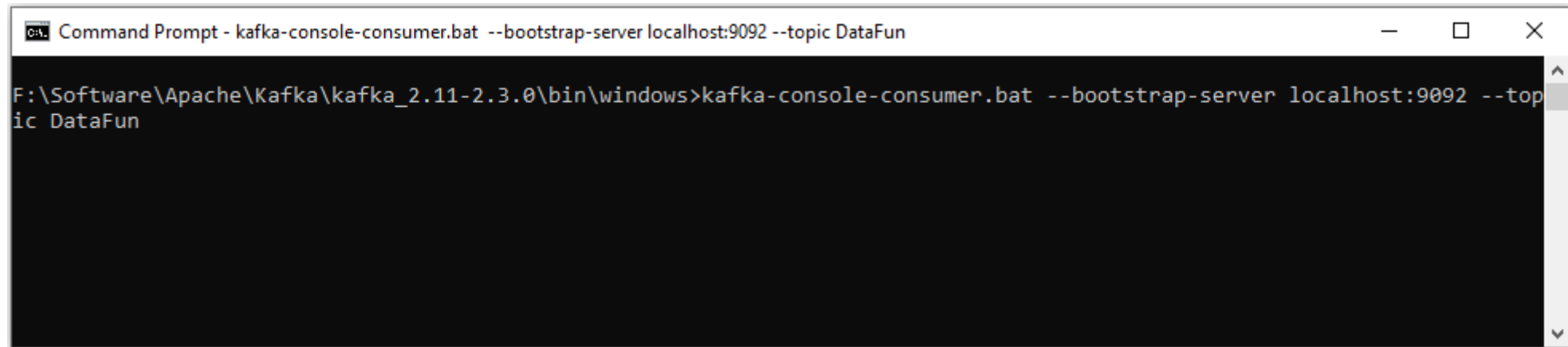
Note: Use to separate command prompts for producer and consumer

Testing Kafka



- Create Consumer

1. Open a new command prompt with your kakfa installation path/bin/windows
e.g.:- F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows
2. Next type below command and hit enter to start the consumer
kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic DataFun
3. Now consumer is started.

A screenshot of a Windows Command Prompt window. The title bar reads "Command Prompt - kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic DataFun". The command prompt shows the directory path "F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows" and the command "kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic DataFun" entered. The cursor is at the end of the command line.

```
Command Prompt - kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic DataFun
F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic DataFun
```

Testing Kafka

- Now on produce window type the data to be published
- You can see the data which is typed in producer window will be appearing in consumer widow

Producer

```
Command Prompt - kafka-console-producer.bat --broker-list localhost:9092 ---
F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>kafka-console-prod
ucer.bat --broker-list localhost:9092 --topic DataFun
>
>Hello Big Data
>Hello Data Fun
>Machine Learning
>Good bye
>Thank you
>
```

Consumer

```
Command Prompt - kafka-console-consumer.bat --bootstrap-server loca...
F:\Software\Apache\Kafka\kafka_2.11-2.3.0\bin\windows>kafka-console-
consumer.bat --bootstrap-server localhost:9092 --topic DataFun
Hello Big Data
Hello Data Fun
Machine Learning
Good bye
Thank you
```

Kafka setup is tested and successfully installed

Thank You