How to Install and Run Apache Kafka on Windows?

Download kafka\_2.12-3.9.1.tgz from source

<https://kafka.apache.org/downloads>



For the installation process, follow the steps given below:

Step 1: Go to the Downloads folder and select the downloaded Binary file.

Step 2: Extract the file and move the extracted folder to the directory where you wish to keep the files.

Step 3: Copy the path of the Kafka folder. Now go to **config** inside kafka **folder** and open **zookeeper.properties** file. Copy the path against the field dataDir and add /zookeeper-data to the path.For example if the path is c:/kafka



Step 4: Now in the same folder config open **server.properties** and scroll down to log.dirs and paste the path. To the path add /kafka-logs

Step 5: This completes the configuration of zookeeper and kafka server. Now open command prompt and change the directory to the kafka folder.

First **start zookeeper** using the command given below:

.\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties

**Fix Error**: This error usually happens because Windows has a command-line length limit of **8191 characters**, and Kafka's startup scripts can exceed this limit due to long paths or excessive classpath entries.

Possible Fixes:

* **Shorten** the Kafka folder name  
  Rename kafka\_2.12-3.9.1 to something shorter, like kafka, and try running the command again.
* **Move** Kafka to a simpler path  
  Instead of D:\Backup\Softwares\kafka\_2.12-3.9.1, move it to D:\Kafka or C:\Kafka to reduce the path length.
* **Modify** kafka-run-class.bat  
  Open bin/windows/**kafka-run-class.bat** and replace:

for %%i in ("%BASE\_DIR%\libs\\*") do ( **call :concat "%%i"** )

**with**:

**call :concat "%BASE\_DIR%\libs\\*;"**

**Reference:**

rem Classpath addition for release

for %%i in ("%BASE\_DIR%\libs\\*") do (

rem call :concat "%%i"

call :concat "%BASE\_DIR%\libs\\*;"

)

* This prevents excessive classpath concatenation.

**Reference**: D:\AppData\kafka\_2.12-3.9.1>**D:\AppData\kafka\_2.12-3.9.1\bin\windows\zookeeper-server-start.bat D:\AppData\kafka\_2.12-3.9.1\config\zookeeper.properties**

**or**

**C:\kafka>.\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties**



Step 6: Now open another command prompt and change the directory to the kafka folder. **Run kafka server** using the command:

.\bin\windows\kafka-server-start.bat .\config\server.properties

**Reference**: D:\AppData\kafka\_2.12-3.9.1>**.\bin\windows\kafka-server-start.bat .\config\server.properties**



Now kafka is running and ready to stream data.

**Verify Connection**

You can **test** the connection using Kafka's CLI tools:

C:\kafka>.\bin\windows\kafka-topics.bat --bootstrap-server localhost:2182 --list

zookeper run

**.\bin\windows\zookeeper-server-start.bat .\config\zookeeper.properties**

kafka run

**.\bin\windows\kafka-server-start.bat .\config\server.properties**