**Kafka Manual**

**1. Installing Apache Kafka using Windows Subsystem Linux – Ubuntu**

**Step 1:** Install windows subsystem for linux

**Step 2:** Install latest ubuntu distribution

**Step 3:** Open ubuntu terminal & login sudo -s

**Step 4:** (Optional) creating new user, add it to sudo group & login to that user.

**Step 5:** Download jdk

**Step 6:** Make folder for kafka to download the tgz (binary file) & extract it.

* **sudo wget** [**https://downloads.apache.org/kafka/3.6.1/kafka\_2.13-3.6.1.tgz**](https://downloads.apache.org/kafka/3.6.1/kafka_2.13-3.6.1.tgz)

**Step 7:** (Optional) move the file to /opt/kafka folder:

* **mv kafka\_2.13-3.6.1 /opt/kafka**

**Step 8:**

**Option1:** Create systemd unit files & starting the Kafka server. systemd unit files help us to perform common service actions like starting, stopping, & restarting kafka/zookeeper

* Create the systemd unit file for **zookeeper**: sudo nano /etc/systemd/system/**zookeeper.service**

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| /etc/systemd/system/zookeeper.service [Unit] Description=Apache Zookeeper service Documentation=http://zookeeper.apache.org Requires=network.target remote-fs.target After=network.target remote-fs.target  [Service] Type=simple ExecStart=/opt/kafka/bin/zookeeper-server-start.sh /opt/kafka/config/zookeeper.properties ExecStop=/opt/kafka/bin/zookeeper-server-stop.sh Restart=on-abnormal  [Install] WantedBy=multi-user.target |

* **Reload the daemon to take effect:** sudo **systemctl** daemon-reload
* Create the systemd unit file for Kafka service: sudo nano /etc/systemd/system/**kafka.service**

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| --- |
| [Unit]  Description=Apache Kafka Service Documentation=http://kafka.apache.org/documentation.html  Requires=zookeeper.service  [Service]  Type=simple  Environment="JAVA\_HOME=/usr/lib/jvm/java-11-openjdk-amd64" ExecStart=/opt/kafka/bin/kafka-server-start.sh /opt/kafka/config/server.properties ExecStop=/opt/kafka/bin/kafka-server-stop.sh  [Install]  WantedBy=multi-user.target |

* **Reload the daemon to take effect:** sudo **systemctl** daemon-reload

To start zookeeper & kafka service & check its status (if you’re using systemd files)

* **Start zookeeper first**: sudo **systemctl** start zookeeper
* **Status of zookeeper**: sudo **systemctl** status zookeeper
* **Start the kafka service**: sudo **systemctl** start kafka
* **Status of Kafka service**: sudo **systemctl** status kafka

**Option2:** To start zookeeper & kafka service & check its status (if you’re not using systemd files)

* cd /opt/kafka
* **Start zookeeper first**: bin/zookeeper-server-start.sh config/zookeeper.properties (From /opt/kafka)
* **Start the kafka service**: bin/kafka-server-start.sh config/server.properties (From /opt/kafka)

**Option3:** We can start Kafka & Zookeeper server in the background by write shell script

Shell Script: **kafkastart.sh**

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| #!/bin/bash  sudo nohup /opt/kafka/bin/zookeeper-server-start.sh -daemon /opt/kafka/config/zookeeper.properties > /dev/null 2>&1 &  sleep 5  sudo nohup /opt/kafka/bin/kafka-server-start.sh -daemon /opt/kafka/config/server.properties > /dev/null 2>&1 & |

Shell Script: **kafkastop.sh**

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| #!/bin/bash  sudo nohup /opt/kafka/bin/zookeeper-server-stop.sh -daemon /opt/kafka/config/zookeeper.properties > /dev/null 2>&1 &  sleep 5  sudo nohup /opt/kafka/bin/kafka-server-stop.sh -daemon /opt/kafka/config/server.properties > /dev/null 2>&1 & |

* Giving executable permissions to the file
* **sudo** chmod +x kafkastart.sh
* **sudo** chmod +x kafkastop.sh
* Go to folder containing kafkastart.sh, kafkastop.sh
* To run kafkastart.sh – **./kafkastart.sh**
* To run kafkastop.sh – **./kafkastop.sh**

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| **No.** | **Command Description** |
| 1. | wsl --install (to install windows subsystem for Linux)  wsl --update (to update wsl)  wsl -l -v (to list down all the distributions) |
| 2. | sudo adduser [newUser] (to create new user)  groups [newUser] (to view groups to which newUser added to)  sudo adduser [newUser] sudo (adding newUser to the sudo group)  su -l [newUser] (logging/switching to newUser)  sudo deluser [newUser] sudo (Removing newUser from group ‘sudo’)  sudo deluser [newUser] (Remove newUser)  (nano /etc/sudoers) – Sudo rights file |
| 3. | nano [filename] (to view a file & edit) |
| 4. | sudo wget [downloadUrlLink] (to download from a particular url) |
| 5. | tar -xvzf [zipName] (unzip the zip file) |
| 6. | mv [unzipedFileName] [location] (move the file to required location) |
| 7. | netstat -ltnup  kill -9 [pid] |
| 8. | bin/zookeeper-server-start.sh config/zookeeper.properties & (& is for background)  bin/zookeeper-server-stop.sh |
|  | bin/kafka-server-start.sh config/server.properties &  bin/kafka-server-stop.sh |
| 9. | bin/kafka-topics.sh --create --topic transactions --bootstrap-server localhost:9092  bin/kafka-topics.sh --bootstrap-server localhost:9092 --create --topic demo-kafka1 --replication-factor 1 --partitions 1 |
| 10. | bin/kafka-topics.sh --bootstrap-server localhost:9092 --describe --topic [demo-kafka]  bin/kafka-topics.sh --bootstrap-server localhost:9092 --delete --topic [demo-kafka]  bin/kafka-topics.sh --list --bootstrap-server localhost:9092 |
| 11. | bin/kafka-console-producer.sh --topic transactions --bootstrap-server localhost:9092 |
| 12. | bin/kafka-console-consumer.sh --topic transactions --from-beginning --bootstrap-server localhost:9092 --group notif-consumer |
| 13. | jps (to view processes) |
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Reference:

<https://www.digitalocean.com/community/tutorials/how-to-install-apache-kafka-on-ubuntu-20-04>

<https://www.devopshint.com/how-to-install-apache-kafka-on-ubuntu-22-04-lts/>

**2. Installing Confluent kafka community edition**

**Step 1:** Install windows subsystem for linux

**Step 2:** Install latest ubuntu distribution

**Step 3:** Open ubuntu terminal & login sudo -s

**Step 4:** (Optional) creating new user, add it to sudo group & login to that user.

**Step 5:** Download jdk

**Step 6:** Make folder for kafka to download the tgz (binary file) & extract it.

* **sudo** wget[**https://packages.confluent.io/archive/7.5/confluent-community-7.5.3.tar.gz**](https://packages.confluent.io/archive/7.5/confluent-community-7.5.3.tar.gz)
* **tar** -xvzf confluent-community-7.5.3.tar.gz

**Step 7:** (Optional) move the file to /opt/kafka folder:

* **mv** confluent-7.5.3 /opt/confluent
* mv confluent-7.5.3 ../
* mv confluent-7.5.3 confluent

**Step 8:** Download confluent CLI

* curl -sL --http1.1 https://cnfl.io/cli | sh -s -- latest (from /confluent/bin)

**Step 9:** Add confluent home & add path to run confluent command from anywhere.

* export CONFLUENT\_HOME=/opt/confluent
* export PATH=$PATH:$CONFLUENT\_HOME/bin
* echo $PATH
* echo $CONFLUENT\_HOME

#echo "export PATH=$PATH:/opt/confluent/bin" >> /etc/profile (Not required)

**Step 10:** Download confluent hub client in /confluent/bin

* wget <https://client.hub.confluent.io/confluent-hub-client-latest.tar.gz>
* tar -xvzf confluent-hub-client-latest.tar.gz bin (from /confluent folder)

export PATH=$PATH:/opt/kafka

**Step 11**: Check confluent command (confluent local services start/stop)

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| No. | Command description |
| 1. | **confluent** local services start  (For starting all confluent services like zookeeper, kafka, schema registry, kafka REST, Connect, KsqlDB server) |
| 2. | confluent local services zookeeper start (For starting zookeeper service) |
| 3. | confluent local services kafka start (For starting kafka service) |
| 4. | confluent local services schema-registry start (For starting schema registry) |
| 5. | confluent local services kafka-rest start (For starting kafka rest) |
| 6. | confluent local services connect start (For starting connect) |
| 7. | confluent local services kql-server start (For starting KSQL server) |
| 8. | confluent local services status (For checking the status of services) |
| 9. | kafka-topics --create --bootstrap-server localhost:9092 --replication-factor 1 --partitions 1 --topic [topicName] |
| 10. | kafka-topics --list --bootstrap-server localhost:9092 |
| 11. | confluent local services connect connector list (Lists the available connectors) |

<https://docs.confluent.io/platform/current/installation/installing_cp/zip-tar.html#prod-kafka-cli-install>