# Apache Kafka Commands for Windows

## 1. Setup & Installation

### Download and Extract Kafka

1. Download Kafka from the official website: https://kafka.apache.org/downloads

2. Extract the downloaded file to a preferred location (e.g., C:\kafka).

### Configure Environment Variables (Optional)

Add Kafka's `bin/windows` directory to the `PATH` variable for easier access to commands.

### Start Zookeeper (Required for Kafka)

Kafka requires Zookeeper for managing metadata. Start it using:

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

### Start Kafka Broker

Once Zookeeper is running, start the Kafka broker:

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

## 2. Kafka Topic Management

### Create a Topic

bin\windows\kafka-topics.bat --create --topic myTopic --bootstrap-server localhost:9092 --partitions 1 --replication-factor 1

### List All Topics

bin\windows\kafka-topics.bat --list --bootstrap-server localhost:9092

### Describe a Topic

bin\windows\kafka-topics.bat --describe --topic myTopic --bootstrap-server localhost:9092

### Delete a Topic

bin\windows\kafka-topics.bat --delete --topic myTopic --bootstrap-server localhost:9092

## 3. Kafka Producer & Consumer

### Start a Producer

bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic myTopic

### Start a Consumer

bin\windows\kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic myTopic --from-beginning

## 4. Handling External Files

### Send a Text File to Kafka

type C:\Users\malay\Desktop\data.txt | bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic myTopic

### Send CSV Data (PowerShell)

Get-Content C:\Users\malay\Desktop\data.csv | bin\windows\kafka-console-producer.bat --broker-list localhost:9092 --topic myTopic

## 5. Kafka in KRaft Mode (Without Zookeeper)

### Format Storage Directory

bin\windows\kafka-storage.bat format -t <UUID> -c config\kraft\server.properties

### Start Kafka in KRaft Mode

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

### Create a Topic in KRaft Mode

bin\windows\kafka-topics.bat --create --topic myTopic --bootstrap-server localhost:9092

### Stop Kafka in KRaft Mode

bin\windows\kafka-server-stop.bat

**Useful Commands Summary**

| **Command** | **Description** |
| --- | --- |
| kafka-topics.bat --list | List all topics |
| kafka-topics.bat --describe --topic myTopic | Get topic details |
| kafka-console-producer.bat --broker-list localhost:9092 --topic myTopic | Start a producer |
| kafka-console-consumer.bat --bootstrap-server localhost:9092 --topic myTopic --from-beginning | Start a consumer |
| kafka-consumer-groups.bat --list | List consumer groups |
| kafka-consumer-groups.bat --describe --group myGroup | Describe a consumer group |
| zookeeper-server-start.bat config\zookeeper.properties | Start Zookeeper |
| kafka-server-start.bat config\server.properties | Start Kafka broker |
| kafka-storage.bat format -t <UUID> -c config\kraft\server.properties | Format Kafka storage for KRaft mode |
| kafka-server-start.bat config\kraft\server.properties | Start Kafka in KRaft mode |

This document provides all the essential Kafka commands needed to set up, manage, and troubleshoot Kafka on Windows, including KRaft mode.