**Kafka Overview**

* Kafka requires zookeeper to run as it serves as a resource manager for Kafka servers.
* Java must be installed to run Kafka.

**Kafka Components**

1. **Producer**: An application that sends data to Kafka.
2. **Consumer**: An application that receives data from Kafka.
3. **Broker**: A Kafka server that acts as middleware between the producer and consumer.
4. **Cluster**: A group of computers/servers with one or more Kafka brokers.
5. **Topic**: A named stream of data in Kafka.
6. **Partitions**: Divisions/part of a topic.
7. **Offset**: A unique identifier for a message within a partition.
8. **Consumer** Groups: A group of consumers that act as a single logical unit.
9. **zookeeper**: Manages and runs Kafka servers.

**Kafka Download Steps**

1. Go to the official Kafka website: https://kafka.apache.org/downloads.
2. Download the binary Scala latest version.
3. Extract the downloaded file and copy it to a preferred drive for easy path referencing.
4. Create new folder of Kafka-logs and zookeeper-data.

**Kafka Setup**

1. Open the "config" folder.
2. Open the "server.properties" file and locate the "logs.dirs" line.
3. Provide the local path for your Kafka-logs folder.
4. Open the "zookeeper.properties" file and locate the "dataDir" line.
5. Provide the local path for your zookeeper-data folder.

**Running zookeeper/Kafka via Command Prompt**

* To run zookeeper:
  + - * Open the command prompt and navigate to the Kafka installation directory: D:\kafka\bin\windows
      * Run the command: zookeeper-server-start.bat ..\..\config\zookeeper.properties
* To run Kafka:
  + - * Open the command prompt and navigate to the Kafka installation directory: D:\kafka\bin\windows
      * Run the command: kafka-server-start.bat ..\..\config\server.properties

**Docker:**

* Docker is a container technology that allows for quick Kafka setup with minimal configuration.
* Kafka and zookeeper can be started together using a single command.
* Instances of Kafka and zookeeper can be launched using Docker.

**Steps to Run Kafka/zookeeper with Docker:**

1. Follow the link: https://developer.confluent.io/quickstart/kafka-docker/
2. Run the YAML file using the command: ` docker-compose up -d `
3. Start Docker in the background: ` docker-compose -f docker-compose.yml up –d `
4. Stop the services: ` docker-compose down `
5. Access Kafka inside Docker: ` docker exec -it kafka /bin/sh `