

MacOS: Download, Setup & Start Kafka

Agar aap Mac user hain, toh aapke paas do options hain Kafka setup karne ke liye:

1. **Manual Method (Binaries):** Sab kuch manually download aur configure karna.
2. **Homebrew Method:** Automation tool use karna (Easy way).

Note: Bhale hi aap **Conduktor Cloud** use kar rahe hain, aapko **CLI Tools** ki zarurat padegi hi commands run karne ke liye.

Method 1: Manual Installation (Standard Way)

Step 1: Install Java JDK 11

Kafka Java par chalta hai, isliye Java 11 install karna zaruri hai.

- **Download:** Amazon Corretto 11 download page par jayein aur `.pkg` file download karke install karein.
- **Verify:** Terminal open karein aur type karein:

```
java --version
```

Output: Agar `OpenJDK` ya `Corretto` likha aata hai, toh sab sahi hai.

Step 2: Download Kafka Binaries

1. **Apache Kafka website** par jayein.
2. **Binary download** karein (Scala 2.13 wala version recommend hai, e.g., `2.13-3.1.0`).
3. **Extract:** Downloaded file ko extract karein.
4. **Move:** Folder ko `Downloads` se move karke apne Home Directory (`/Users/yourname/`) mein rakh lein taaki access karna easy ho.

Step 3: Setup PATH Environment Variable

Abhi Kafka commands run karne ke liye aapko full path type karna padega (e.g., `./kafka/bin/kafka-topics.sh`). Isko fix karne ke liye hum **PATH** set karenge taaki hum kahin se bhi commands run kar sakein.

1. Apne shell ka config file open karein (Mac par usually `.zshrc` hota hai):

```
nano ~/.zshrc
```

2. Neeche wali line file ke end mein add karein (Path apne folder ke hisaab se adjust karein):

```
export PATH="$PATH:/Users/yourname/kafka_2.13-3.1.0/bin"
```

3. **Save & Exit:** `Ctrl + O` (Enter), phir `Ctrl + X`.
 4. **Reload:** Naya terminal open karein.
 5. **Test:** Type karein `kafka-topics.sh`. Agar error nahi aaya aur usage guide dikhi, toh setup successful hai!
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Step 4: Starting ZooKeeper & Kafka (Manual Mode)

Kafka start karne ke liye aapko **2 alag Terminals** ki zarurat padegi. Inhe band mat karna jab tak kaam chal raha hai.

Terminal 1: Start ZooKeeper ZooKeeper pehle start karna padta hai.

```
zookeeper-server-start.sh config/zookeeper.properties
```

(Note: Agar aap Kafka folder ke andar nahi hain, toh full path use karein: `~/kafka_folder/config/zookeeper.properties`)

Terminal 2: Start Kafka Broker Jab ZooKeeper start ho jaye, tab dusre terminal mein Kafka start karein.

```
kafka-server-start.sh config/server.properties
```

Text Diagram: Running Processes

[Terminal 1]	[Terminal 2]
-----	-----
Starts ZooKeeper	Starts Kafka
(Runs continuously)	(Connects to ZK)
DO NOT CLOSE	DO NOT CLOSE
-----	-----

Method 2: Homebrew Installation (Easy Shortcut)

Agar aap manual settings aur PATH variable ke chakkar mein nahi padna chahte, toh **Brew** use karein.

Steps:

1. **Install Homebrew:** Agar installed nahi hai toh Homebrew website se command lekar install karein.
2. **Install Kafka:** Terminal mein bas ye command run karein:

```
brew install kafka
```

(Ye automatically Java bhi install kar dega aur PATH bhi set kar dega).

Important Difference (Brew vs Manual)

Brew use karne par commands mein `.sh` extension **NAHI** lagana padta.

Manual Command	Brew Command
kafka-topics.sh	kafka-topics
kafka-console-producer.sh	kafka-console-producer

Starting Services with Brew

Config files ki location alag hoti hai (`/usr/local/etc/kafka/`).

Start ZooKeeper:

```
zookeeper-server-start /usr/local/etc/kafka/zookeeper.properties
```

Start Kafka:

```
kafka-server-start /usr/local/etc/kafka/server.properties
```

Summary Checklist (Mac Users)

- ☐ **Java 11** installed hai (`java --version` check karein).
- ☐ **Kafka Binaries** downloaded hain ya Brew se installed hain.
- ☐ **PATH** set hai (Agar manual method use kiya).

- ☐ **2 Terminals** ready hain (Ek ZooKeeper ke liye, ek Kafka ke liye).
- ☐ **Commands verify** kar liye hain (Manual wale `.sh` lagayenge, Brew wale nahi).

Next Step: Kya aap **Linux** ya **Windows** installation steps dekhna chahte hain, ya direct **CLI Commands** seekhna start karein?