

Kafka CLI (Command Line Interface) Introduction

1. CLI Kya Hai?

Hum is section mein **Kafka CLI** tools use karke practice karenge.

- Kafka ke sath kuch **Binaries (Scripts)** aati hain jo `bin` folder mein hoti hain.
- Agar aapne pichle lectures follow karke **PATH environment variable** sahi se set kiya hai, toh aap terminal mein kahin se bhi ye commands run kar sakte hain.

2. OS ke hisaab se Command Extensions (Important)

Aapka Operating System kaunsa hai, uske hisaab se command thoda alag dikhega. Instructor (Stephane) course mein shayad `.sh` use karenin ya bina extension ke, lekin aapko apne system ke hisaab se adapt karna hoga.

Operating System / Method	Extension	Example Command
Linux / Mac (Manual)	<code>.sh</code>	<code>kafka-topics.sh</code>
Windows WSL2	<code>.sh</code>	<code>kafka-topics.sh</code>
Windows (Native/Old)	<code>.bat</code>	<code>kafka-topics.bat</code>
Homebrew (Mac) / APT	(Kuch nahi)	<code>kafka-topics</code>

Note: Aapko yaad rakhna hai ki aapke computer par kaunsa version chalta hai.

3. The "Bootstrap Server" Rule (Zookeeper mat use karna)

Pehle Kafka commands mein `--zookeeper` flag use hota tha. **Lekin ab ye change ho gaya hai.**

- **New Rule:** Kafka 3.0+ ke baad se humein `--bootstrap-server` use karna hai.
- **Why:** Kyunki Zookeeper remove hone wala hai.
- **Command Logic:** Hum commands Kafka Broker ko bhejte hain, Zookeeper ko nahi.

Correct Syntax Example: `kafka-topics.sh --bootstrap-server localhost:9092`

Wrong Syntax (Old): `kafka-topics.sh --zookeeper localhost:2181` (Isse avoid karenin)

4. Troubleshooting: "Command Not Found" Error

Agar aap terminal mein `kafka-topics.sh` type karte hain aur error aata hai: *"Command not found"* ya *"is not recognized"*, iska matlab aapka **PATH variable** sahi se set nahi hai.

Solution 1 (Fix Path): Pichle videos dekhkar PATH fix karenin. **Solution 2 (Use Full Path):** Agar PATH fix nahi ho raha, toh aap file ka pura address (Full Path) type karke command run kar sakte hain.

Text Diagram: Full Path Execution

```
Root Directory
|
|-- Users/Stephane/kafka_2.13/
|   |
|   |-- bin/
|       |
|       |-- kafka-topics.sh <-- (Target File)

Command: /Users/Stephane/kafka_2.13/bin/kafka-topics.sh
(Full address type karne par command chal jayega)
```

Summary Checklist

- ☒ **Identify Extension:** Pata karein ki `.sh` lagana hai, `.bat` lagana hai ya kuch nahi.
- ☒ **Bootstrap Server:** Hamesha `--bootstrap-server` flag use karein.
- ☒ **Path Check:** Agar short command na chale, toh full path use karein.

Next Step: Ab hum actual commands run karna shuru karenge. Would you like to start with "**Kafka Topics CLI**" (Creating and Listing Topics)?