Apache Kafka CLI Event streaming tools

START HERE

kafka-topics.sh --bootstrap-server *<broker>* **--list**
What topics exist?

kafka-topics.sh --bootstrap-server *<broker>* **--create --topic** *<topic>*
Make a topic

kafka-topics.sh --bootstrap-server *<broker>* **--describe --topic** *<topic>*
Partitions and leaders

kafka-console-producer.sh --bootstrap-server *<broker>* **--topic** *<topic>*
Type messages in

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--from-beginning**
Read it all

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--list**
Who is consuming?

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--describe --group** *<group>*
Check consumer lag

kafka-configs.sh --bootstrap-server *<broker>* **--describe --entity-type topics --entity-name** *<topic>*
Show topic settings

Producer writes records → `key picks partition` → **Topic** split in partitions → `offset per partition` → **Consumer group** one member per partition → `commits offsets` → **__consumer_offsets** saved position

CONCEPTS

On a tarball install the tools are bin/*.sh; package and container installs often drop the .sh suffix.

Order is guaranteed only within a partition; give related records the same key.

Every tool needs --bootstrap-server; the old --zookeeper flag is gone in KRaft-era Kafka.

TOPICS

kafka-topics.sh --bootstrap-server *<broker>* **--list**
List topics

kafka-topics.sh --bootstrap-server *<broker>* **--create --topic** *<topic>*
Create a topic
Uses broker defaults for partitions and replication.

TOPICS (cont.)

kafka-topics.sh --bootstrap-server *<broker>* **--create --topic** *<topic>* **--partitions** *<n>* **--replication-factor** *<n>*
Create with sizing

kafka-topics.sh --bootstrap-server *<broker>* **--describe --topic** *<topic>*
Show partitions, leaders, replicas

kafka-topics.sh --bootstrap-server *<broker>* **--alter --topic** *<topic>* **--partitions** *<n>*
Add partitions
Partitions can only grow, never shrink; key-to-partition mapping changes.

kafka-topics.sh --bootstrap-server *<broker>* **--delete --topic** *<topic>*
Delete a topic

kafka-topics.sh --bootstrap-server *<broker>* **--describe --under-replicated-partitions**
Find unhealthy partitions

PRODUCE

kafka-console-producer.sh --bootstrap-server *<broker>* **--topic** *<topic>*
Send lines as messages
One record per line; Ctrl+D or Ctrl+C ends.

kafka-console-producer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--property parse.key=true --property key.separator=:**
Send key:value records

kafka-console-producer.sh --bootstrap-server *<broker>* **--topic** *<topic>* < *<file>*
Send a file line by line

CONSUME

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>*
Read new messages

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--from-beginning**
Read from the start
Only applies to a group with no committed offsets.

CONSUME (cont.)

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--group** *<group>*
Consume as a named group

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--property print.key=true**
Show keys too

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--property print.timestamp=true --property print.offset=true**
Show time and offset

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--max-messages** *<n>*
Stop after n messages

kafka-console-consumer.sh --bootstrap-server *<broker>* **--topic** *<topic>* **--partition** *<n>* **--offset** *<n>*
Read from one offset

CONSUMER GROUPS

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--list**
List groups

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--describe --group** *<group>*
Show offsets and lag
LAG is log-end offset minus committed offset.

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--group** *<group>* **--reset-offsets --to-earliest --topic** *<topic>* **--dry-run**
Preview an offset reset
Default without --execute is a dry run; the group must be inactive.

kafka-consumer-groups.sh --bootstrap-server *<broker>* **--group** *<group>* **--reset-offsets --to-earliest --topic** *<topic>* **--execute**
Rewind to the start

CONFIGS AND ACLS

kafka-configs.sh --bootstrap-server *<broker>* **--describe --entity-type topics --entity-name** *<topic>*
Show topic overrides

kafka-configs.sh --bootstrap-server *<broker>* **--alter --entity-type topics --entity-name** *<topic>* **--add-config retention.ms=***<ms>*
Set a topic config

kafka-configs.sh --bootstrap-server *<broker>* **--alter --entity-type topics --entity-name** *<topic>* **--delete-config retention.ms**
Revert to default

INSPECT AND OPERATE

kafka-get-offsets.sh --bootstrap-server *<broker>* **--topic** *<topic>*
Show end offset per partition

kafka-metadata-quorum.sh --bootstrap-server *<broker>* **describe --status**
Show KRaft quorum status