

# Real-Time Big Data Streaming with Kafka







# What is Data Streaming?

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## Why is Data Streaming important?

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- Real-time insights
- Faster response time
- Predictive analytics
- Improved efficiency

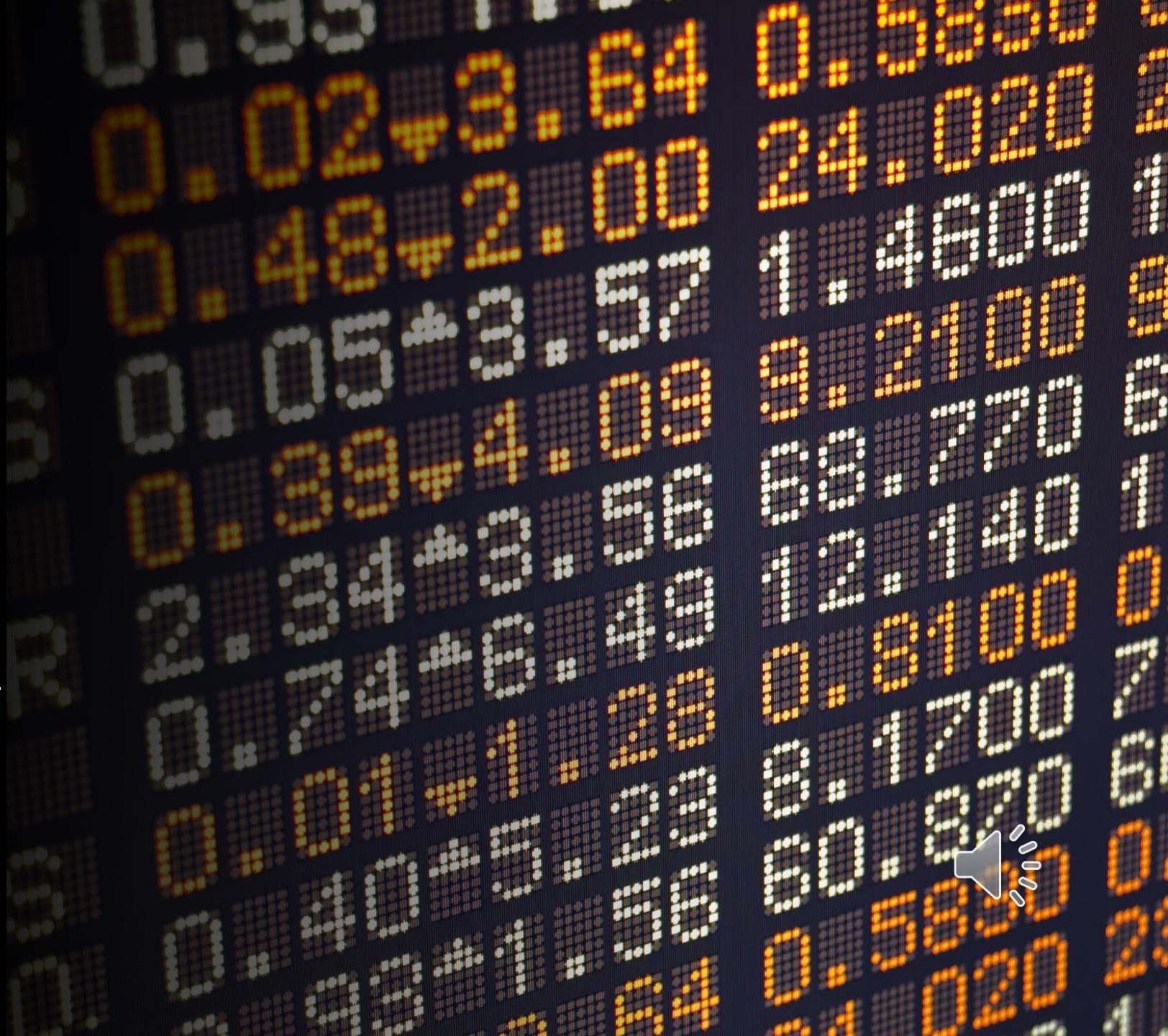







# How is Data Streaming done?

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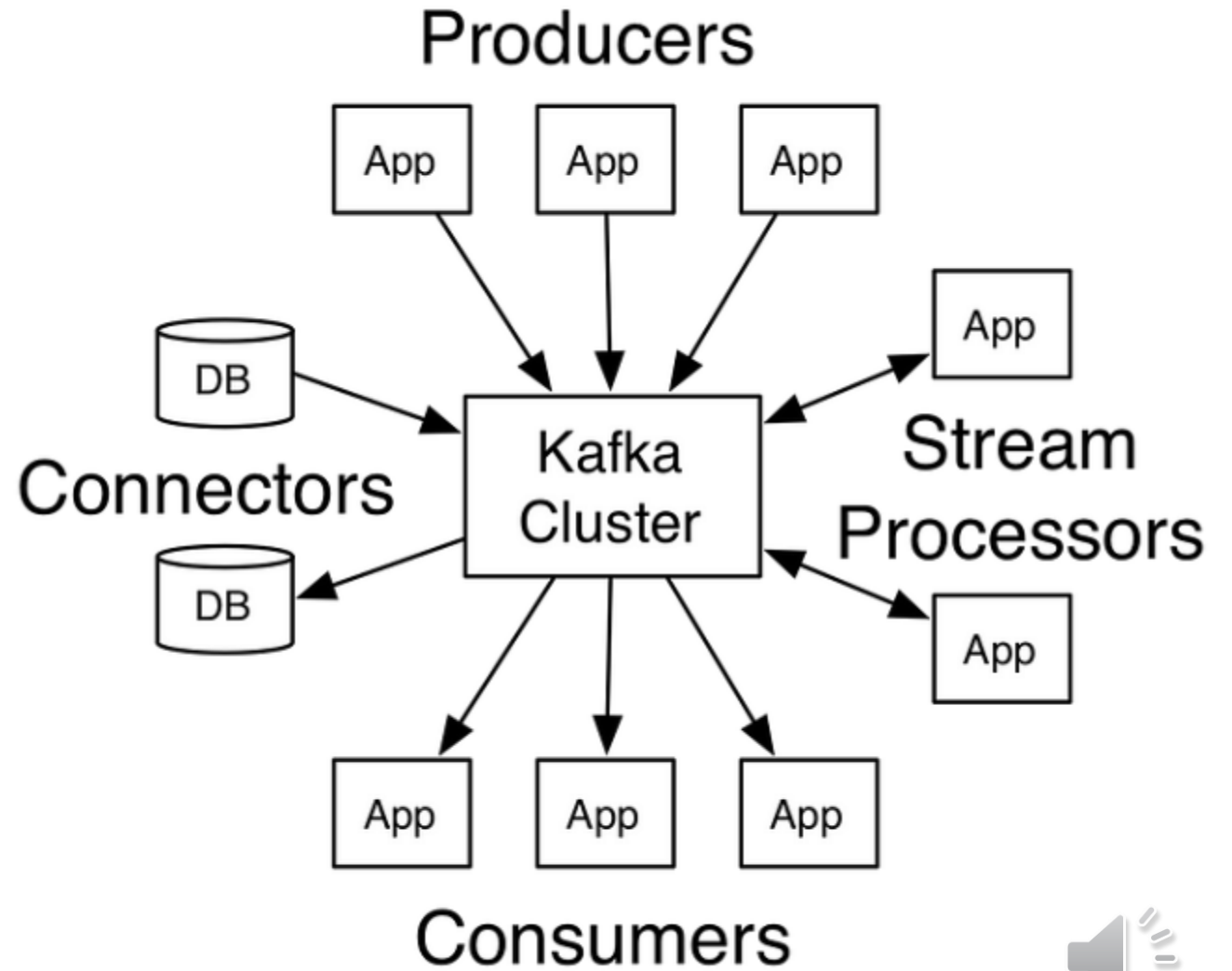


What is the  
purpose of this  
presentation?

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# Apache Kafka Architecture





# Apache Kafka Environment

```
edris@edris-Latitude-E7440:/usr/local/kafka$ ls
bin  config  data  libs  LICENSE  licenses  logs  NOTICE  site-docs
edris@edris-Latitude-E7440:/usr/local/kafka$ ls bin
connect-distributed.sh      kafka-consumer-perf-test.sh  kafka-mirror-maker.sh      kafka-transactions.sh
connect-mirror-maker.sh    kafka-delegation-tokens.sh   kafka-producer-perf-test.sh  kafka-verifiable-consumer.sh
connect-standalone.sh      kafka-delete-records.sh      kafka-reassign-partitions.sh  kafka-verifiable-producer.sh
kafka-acls.sh              kafka-dump-log.sh            kafka-replica-verification.sh  trogdor.sh
kafka-broker-api-versions.sh  kafka-features.sh           kafka-run-class.sh           windows
kafka-cluster.sh           kafka-get-offsets.sh         kafka-server-start.sh        zookeeper-security-migration.sh
kafka-configs.sh           kafka-leader-election.sh     kafka-server-stop.sh         zookeeper-server-start.sh
kafka-console-consumer.sh   kafka-log-dirs.sh           kafka-storage.sh             zookeeper-server-stop.sh
kafka-console-producer.sh   kafka-metadata-quorum.sh     kafka-streams-application-reset.sh  zookeeper-shell.sh
kafka-consumer-groups.sh   kafka-metadata-shell.sh      kafka-topics.sh
edris@edris-Latitude-E7440:/usr/local/kafka$ ls config
connect-console-sink.properties  connect-file-source.properties  consumer.properties  server.properties
connect-console-source.properties  connect-log4j.properties       kraft               tools-log4j.properties
connect-distributed.properties    connect-mirror-maker.properties  log4j.properties    trogdor.conf
connect-file-sink.properties      connect-standalone.properties   producer.properties  zookeeper.properties
edris@edris-Latitude-E7440:/usr/local/kafka$ ls data
server  zookeeper
edris@edris-Latitude-E7440:/usr/local/kafka$
```





# What are Server, Zookeeper and Topics?

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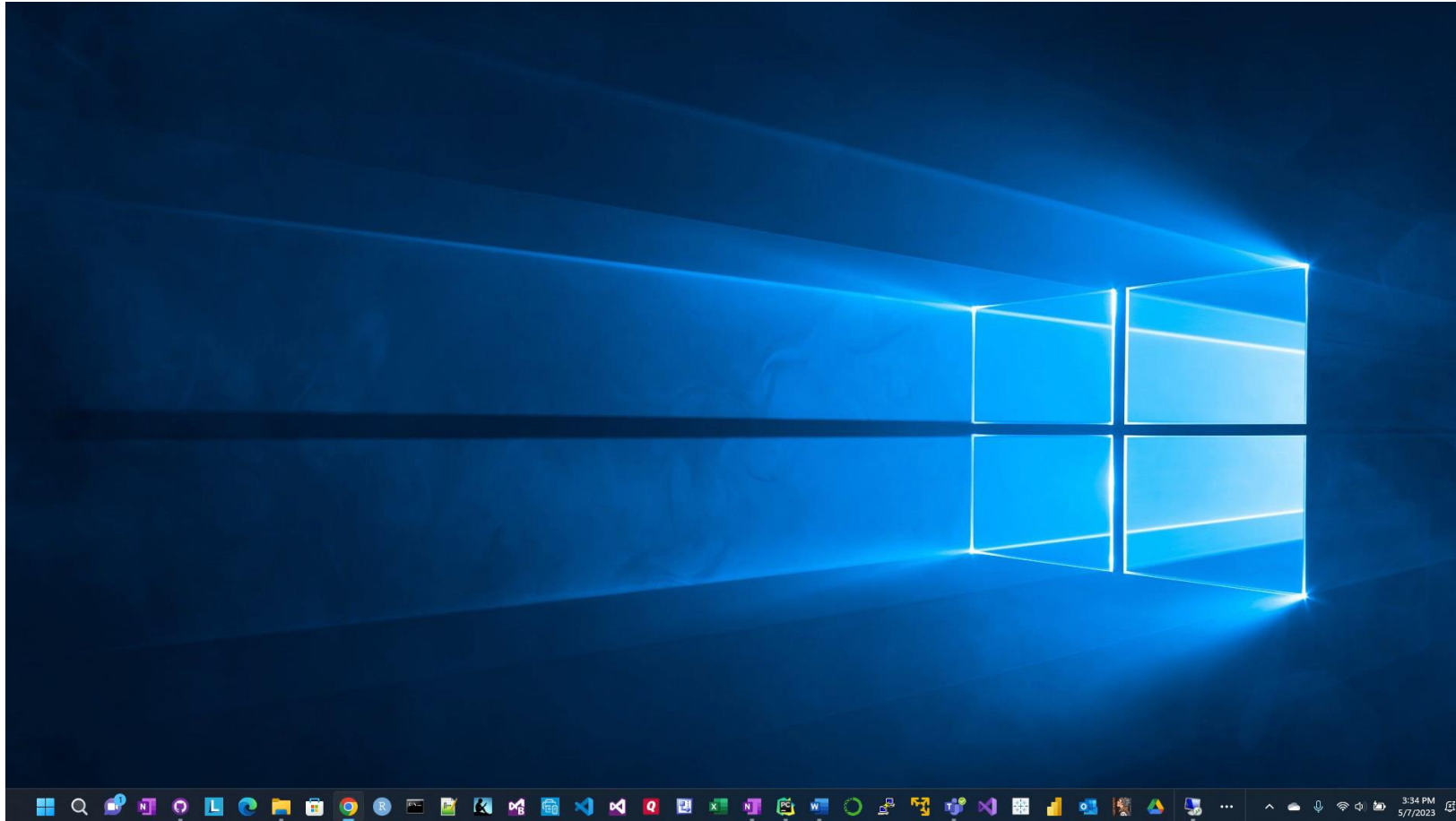


# Demonstration

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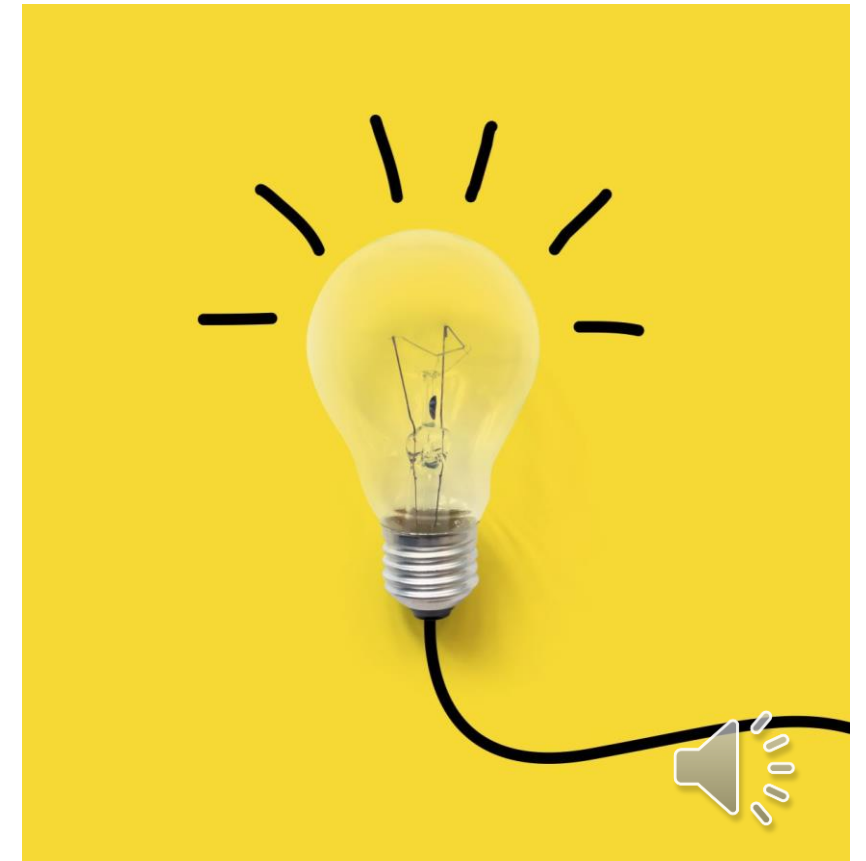




# Applications of Data Streaming

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- **Social Media:** Social media platforms like Facebook, Twitter, and Instagram use live data streaming to deliver real-time updates to users, such as tweets, likes, and comments.
- **Gaming:** Gaming platforms use live data streaming to enable real-time multiplayer gaming and online tournaments.
- **Finance:** Financial institutions use live data streaming to monitor real-time market data, analyze trends, and make informed investment decisions.
- **Healthcare:** Healthcare providers use live data streaming to monitor patient vital signs in real-time, detect anomalies, and alert healthcare professionals when necessary.
- **Logistics:** Logistics companies such as USPS, UPS , Amazon and FedEx use live data streaming to track shipments, monitor inventory levels, and optimize supply chain management.
- **IoT:** Internet of Things (IoT) devices generate a large amount of data, and live data streaming is used to collect, process, and analyze this data in real-time.
- **Surveillance:** Live data streaming is used for surveillance purposes, such as monitoring traffic, public safety, and security cameras.





Thank You

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