real-time data streaming

1. <https://kafka.apache.org/documentation/streams/quickstart>
2. <https://kafka.apache.org/39/documentation/streams/tutorial>
3. <https://kafka.apache.org/39/documentation/streams/developer-guide/>

Simple chat application

<https://medium.com/@ivan.willy.artdian/building-a-simple-chat-application-using-springboot-kafka-c2696e05d6d1>

Kafka GUI

<https://www.kafkamagic.com/>

<https://medium.com/@hkhajgiwale/building-real-time-threat-analysis-application-using-apache-kafka-qdrant-mistral-7b-langchain-c9c44c94413b>

Netflix uses Kafka to manage operational metrics and implement alerting mechanisms. Metrics Collection: Operational data, such as service response times, error rates, and resource utilization, are streamed into Kafka. This data is then processed and visualized to monitor the health and performance of the platform.

<https://www.linkedin.com/pulse/understanding-kafka-through-lens-netflix-dinesh-kumar-bsfdc/>

**Kafka 为何如此之快**

Kafka 实现了零拷贝原理来快速移动数据，避免了内核之间的切换。Kafka 可以将数据记录分批发送，从生产者到文件系统（Kafka 主题日志）到消费者，可以端到端的查看这些批次的数据。

批处理能够进行更有效的数据压缩并减少 I/O 延迟，Kafka 采取顺序写入磁盘的方式，避免了随机磁盘寻址的浪费，更多关于磁盘寻址的了解，请参阅 [程序员需要了解的硬核知识之磁盘](https://mp.weixin.qq.com/s?__biz=MzU2NDg0OTgyMA==&mid=2247484654&idx=1&sn=9b6f5aaad05a49416e8f30e6b86691ae&chksm=fc45f91dcb32700b683b9a13d0d94d261171d346333d73967a4d501de3ecc273d67e8251aeae&token=674527772&lang=zh_CN#rd) 。

总结一下其实就是四个要点

* 顺序读写
* 零拷贝
* 消息压缩
* 分批发送

<https://tonyyoung3.medium.com/streaming-real-time-stock-data-with-python-and-kafka-1cf208121053>

<https://itnext.io/real-time-crypto-price-tracking-with-kafka-d63dc1653682>

<https://rishi-preetham.medium.com/deep-dive-into-real-time-notifications-in-spring-boot-with-kafka-2b8b75ef69be>

<https://medium.com/java-and-beyond/building-a-kafka-producer-with-spring-boot-a-step-by-step-guide-fa6196033891>

<https://redpanda-data.medium.com/simplifying-java-development-for-real-time-applications-7d11266daa32>

<https://medium.com/@tutorialq/building-scalable-applications-with-kafka-and-reactive-programming-8af795cd10b5>

https://medium.com/@tutorialq/building-reactive-microservices-a-step-by-step-guide-245392da07e8