

# Streams

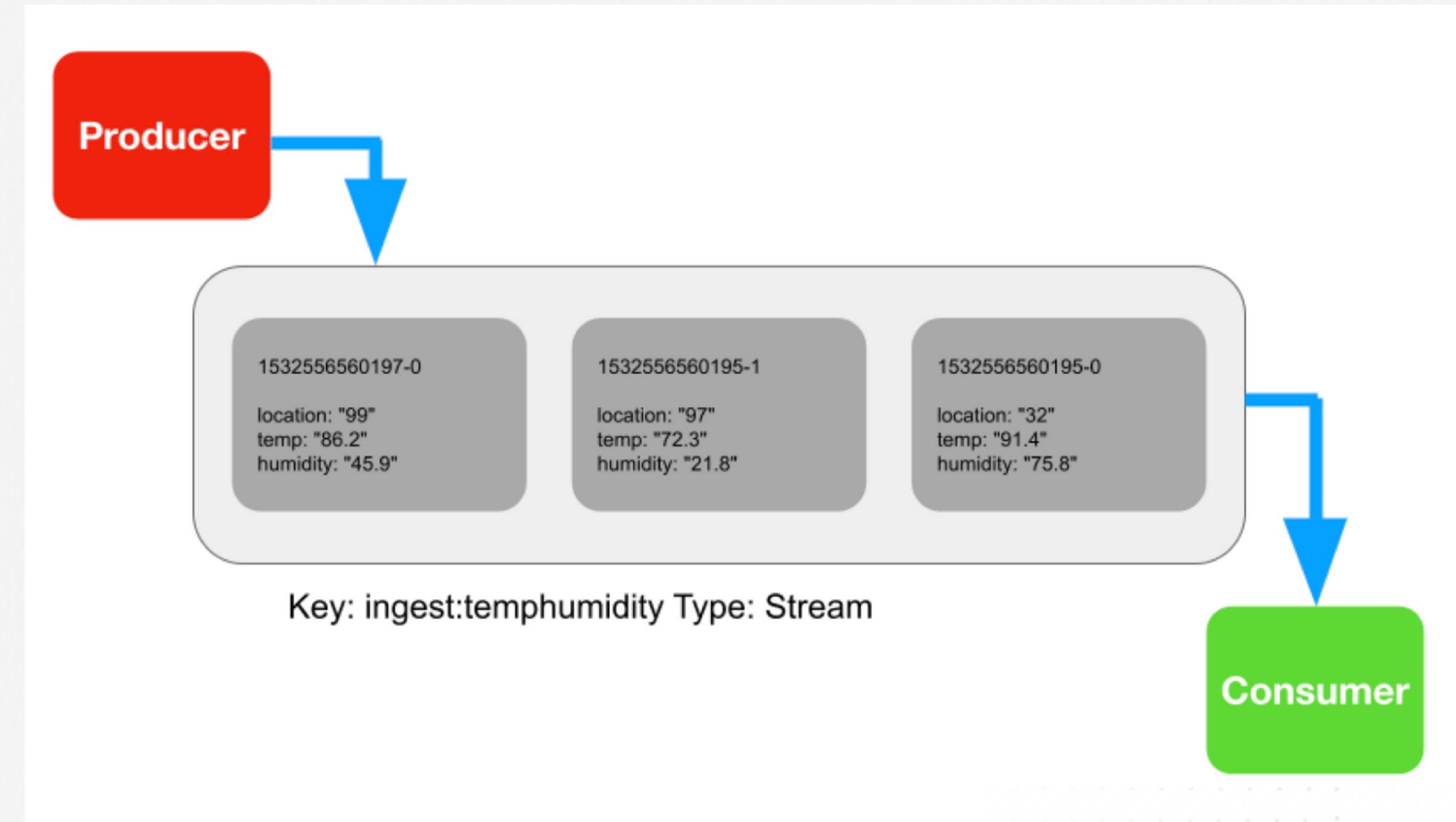
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- Redis Streams is a powerful data structure introduced in Redis version 5.0, designed for **handling message streams(logs)**
- Provides a unified, structured, and scalable way to handle real-time data ingestion, processing, and consumption in Redis
- **Use cases**
  - messaging systems
  - activity feeds
  - log processing pipelines
- More info
  - <https://redis.io/docs/data-typesstreams/>



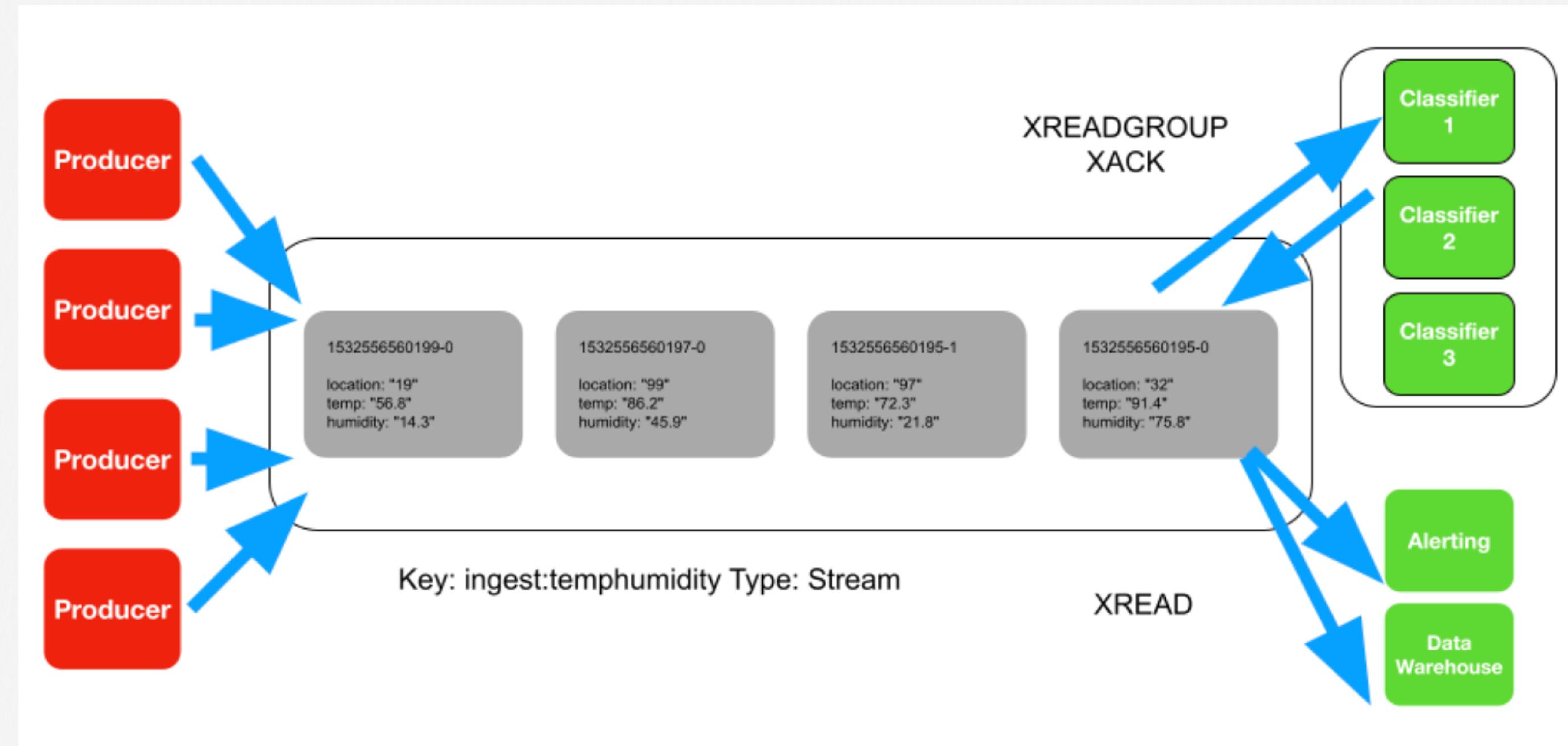
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<https://redis.io/docs/connect/insight/tutorials/insight-stream-consumer/>

# Streams - Key features

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- **Ordered Message Stream:** Redis Streams **maintain an ordered sequence of messages (also referred to as "entries" or "events") within a stream**, ensuring that messages are processed in the order they are received.
- **Consumer Groups:** Redis Streams support consumer groups, **allowing multiple consumers to read messages from a stream concurrently**. Each message is processed by only one consumer within the consumer group, ensuring that messages are not duplicated and providing load balancing across consumers.
- **Acknowledgment and Message Delivery:** Redis Streams **provide built-in support for acknowledgment (ACK) and message delivery semantics**, ensuring that messages are reliably processed and acknowledged by consumers.

# Streams - Key features

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- **Consumer State Tracking:** Redis Streams **track the state of each consumer within a consumer group**, including the last message successfully processed by the consumer, enabling fault tolerance and resuming processing from the last known position in the stream.
- **Stream Trim and Garbage Collection:** Redis Streams support stream trimming and garbage collection, allowing you to control the size of the stream and automatically delete old or expired messages.

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