



**How does Kafka store and serve
messages.**



Storing messages.

Topic1 / Part1 / Log

Segment file 1

msg-000000000
msg-000000800
msg-000001500
msg-000002500

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Kafka brokers have various partitions for a particular topic. Each of these partitions corresponds to a “log”. A log consists of many “segment files”.



Storing messages.

Topic1 / Part1 / Log

Segment file n

msg-00800000

msg-00800900

msg-00801500

msg-00806500

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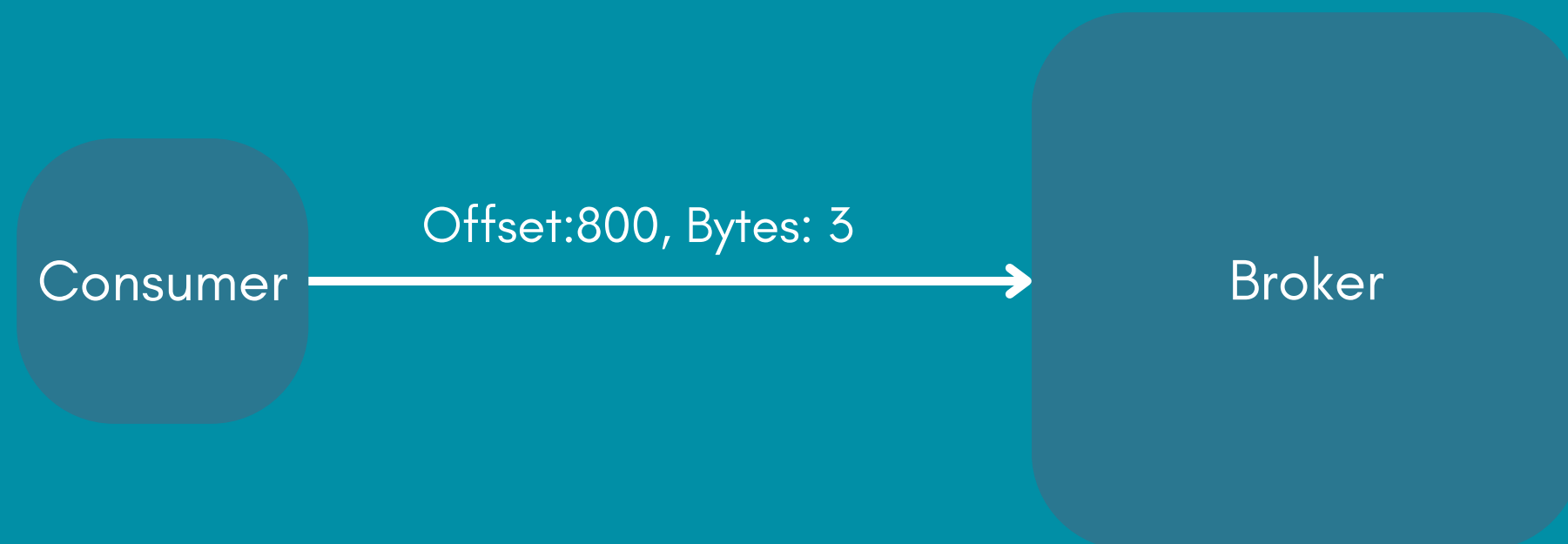
NEW

msg-00807500

Any new message published to a partition is appended to the last segment file.



Serving messages.



A Consumer issues a “pull request” to the broker with the offset and the number of bytes to read.



Serving messages.

in memory index

msg-000000000
msg-000100000
.
msg-000900000

msg-000000000
msg-00000800

segment file

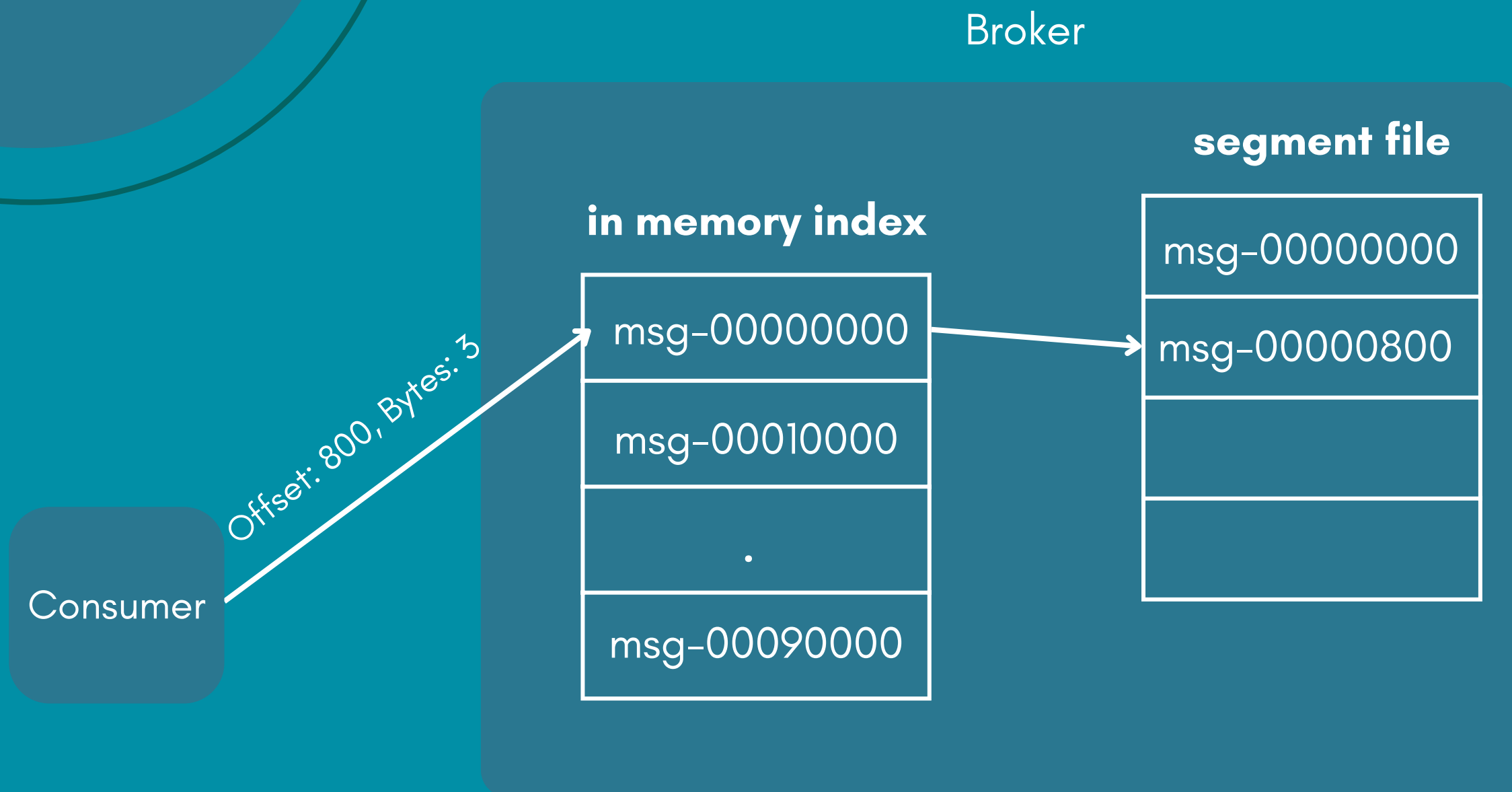
msg-000900000
msg-00090100

segment file

The broker has an in-memory sorted list of offsets pointing to each segment file's first message. From the requested offset, the broker knows which segment file to read.



Serving messages.



Once the segment file is selected, data corresponding to the size of the requested bytes is sent back to the consumer.

The background is a solid teal color. In the top-left corner, there is a large, dark teal circular shape. In the bottom-right corner, there is a similar large, dark teal circular shape. Both shapes are partially cut off by the edges of the frame.

Have Questions?

Let's connect.