Messaging Queues

Thursday, April 18, 2024 1:35 PM

Messaging Queue is a asynchronous way of communication between two entities, for example kiosk that takes order from customer at pizza store need to communicate to the machine/display located in the kitchen where actually pizza are being prepared.

So it's more of two way communication technique that we use these days for the communication across the microservices.

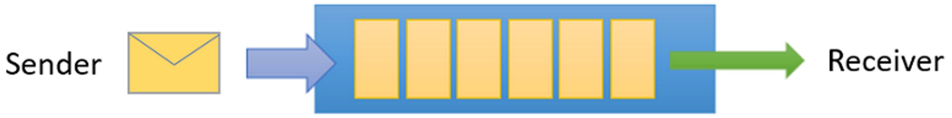
Features of Queue/Topics

1. Resilience.
2. De-duplication.
3. Load Balancing.
4. Persistence.

Queues

Queues offer First In, First Out (FIFO) message delivery to one or more competing consumers. That is, receivers typically receive and process messages in the order in which they were added to the queue. And, only one message consumer receives and processes each message.

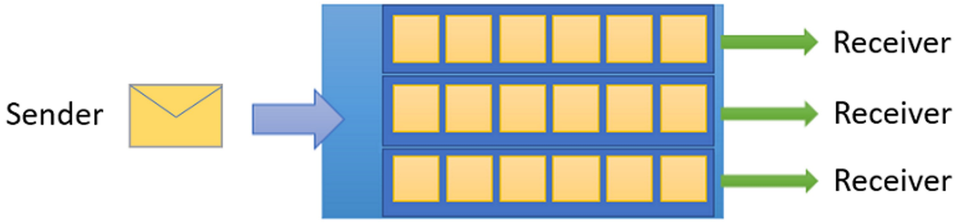
Queue help decouple both sender and receiver of the messages, it's job of the sender to just send an message to the durable queue and it's responsibility of the queue is to make sure that individual message is received by the one and only one receiver (out of many receivers) and processed so that message is enqueued from the queue.



Message Queue with Messages

Topics and subscriptions

A queue allows processing of a message by a single consumer. In contrast to queues, topics and subscriptions provide a one-to-many form of communication in a publish and subscribe pattern



Topic with three Subscriptions
with Messages

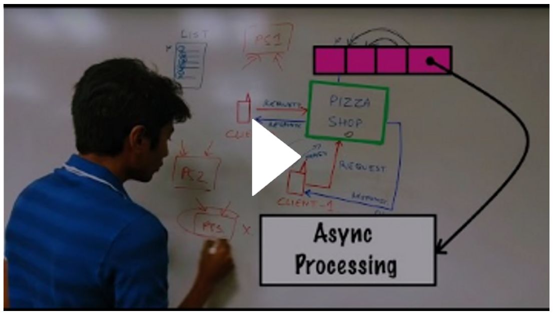
Examples

Rabbit MQ, Azure Service Bus, Aws SQS and SNS combined together can be used as good an example of Queues.

References

https://learn.microsoft.com/en-us/azure/service-bus-messaging/service-bus-queues-topics-subscriptions

What is a MESSAGE QUEUE and Where is it used?


Async
Processing
PIZZA
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