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RabbitMQ and Celery Assignment 1

Q.1] What is Celery ?

Ans: Celery is a python library, its an implementation of the task queue concept. It is used to asynchronously execute work outside of the HTTP Request/Response Cycle.

Q.2] What are the components of Celery ?

Ans: Celery has two components.

- Queue - Data Structure that stores the messages.
- Producer - One who produces messages.
- Broker - Stores commands for execution.
- Consumer - One who will receive the messages.
- Result backend - Stores status of completed commands.

Q.3] What is the broker ?

Ans: Broker is an intermediary for messaging. It gives your apps a common platform to send and receive messages and your messages a safe place to live until received.

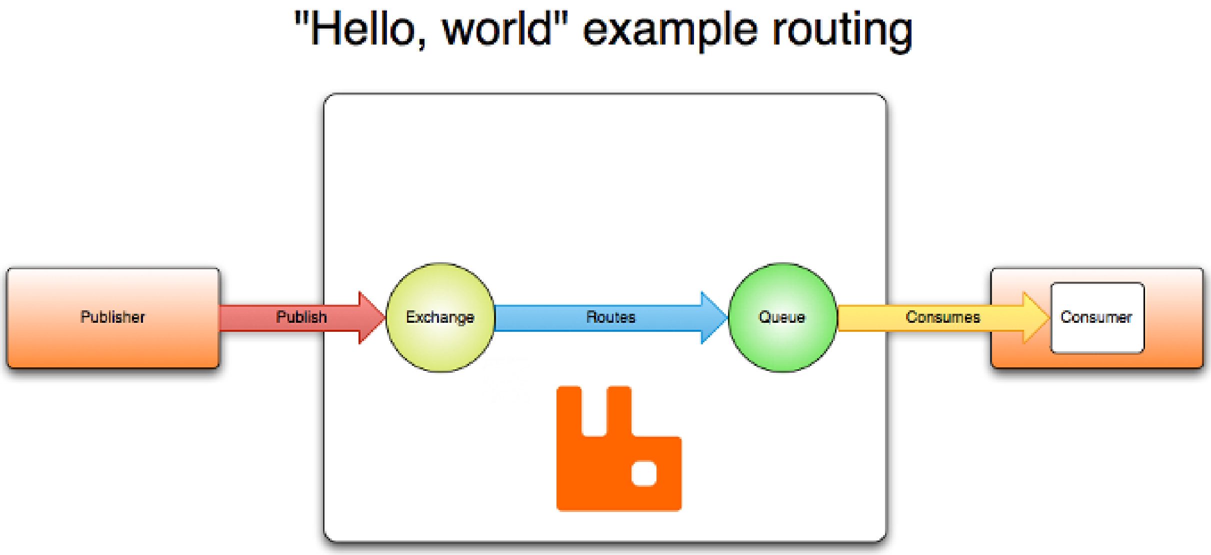

Fig A - Hello World example routing with broker.

Q.4] Why should we use Celery instead of RQ ?

Ans: RQ only supports “REDIS”, we cannot switch “broker” if in future Redis does not work for us.

Q.5] What is Celery Worker ?

Ans: Workers are extremely efficient and customizable. Workers can set time-out for the tasks both before and during run-time, set concurrency levels, number of processes being run and even can set it to auto-scale.

Q.6] What is RabbitMQ ?

Ans: RabbitMQ is a message broker, it can be used for various web-applications. Used to reduce the loads and deliver time of web-applications servers by delegating tasks that would normally take up lots of time or resources to a third party that has no other job.

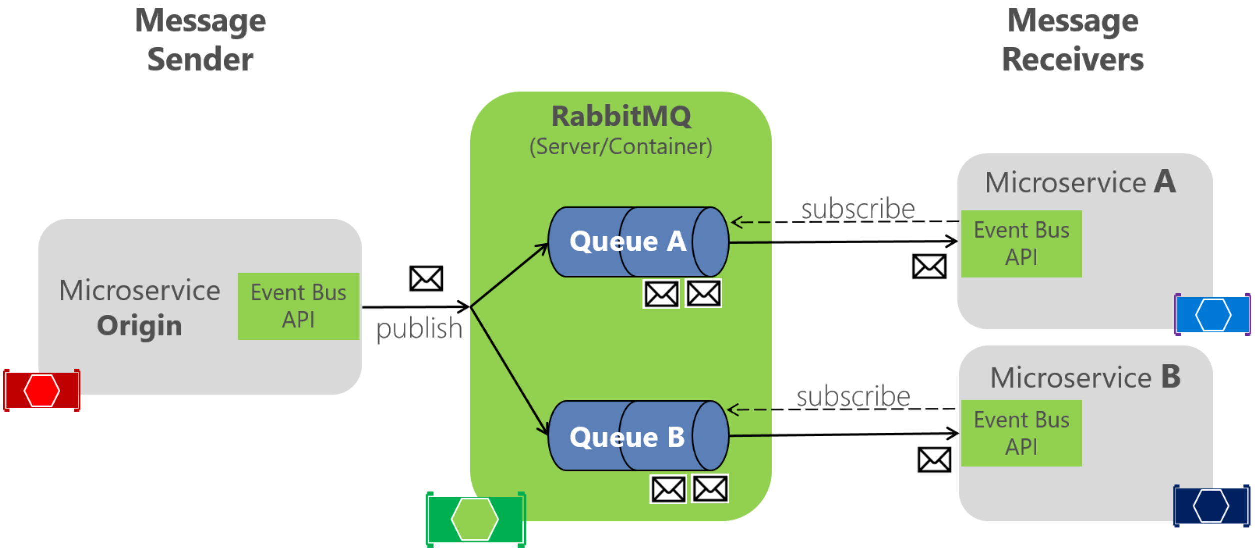

Fig B - RabbitMQ

Q.7] What is an exchange in RabbitMQ ?

Ans: Exchange are messaging routing agents, defined by virtual hosts within RabbitMQ. It is responsible for routing the messages to different queues with the help of Header Attributes, Binding and Routing Keys.

Q.8] What is the routing key in RabbitMQ ?

Ans: The routing key is a message attribute added to the message header by the producer.

Q.9] What types of exchanges are available in RabbitMQ ?

Ans: Four types of Exchanges are available in RabbitMQ.

- Direct Exchange - Routes messages with a routing key equal to the routing key declared by the binding queue.
- Fanout Exchange - Routes message to all bound queues indiscriminately. If a routing key is provided it will be simply ignored.
- Topic Exchange - Routes messages to queues whose routing key matches all or portion of the routing key.
- Header Exchange - Routes messages based upon matching headers to the expected header specified by the binding queue.

Q.10] Design a diagram of Producer and Consumer application with Rabbitmq as Message Broker.

Diagram: On Page 3

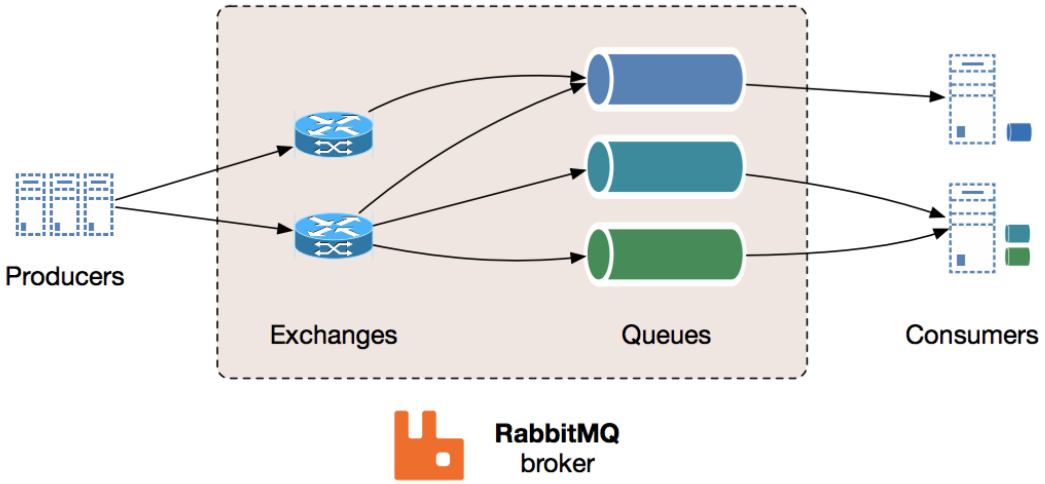

Fig C - RabbitMQ as Broker