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RabbitMQ Assignment

Subject: Order Processing Use Case – Email Service in Python, through a worker queue.

Steps followed to finish the assignment:

- 1- Download and Install Docker Desktop:
- 2- Access the cmd as admin, write the following command to install the Docker image locally on my machine:

docker run -it --rm --name rabbitmq -p 5672:5672 -p 15672:15672 rabbitmq:4.0-management

```
Administrator: Command Prompt - docker run -it --rm --name rabbitmq -p 5672:5672 -p 15672:15672 rabbitmq:4.0-management
C:\Windows\System32\cmd.exe /d /s /c docker run -it --rm --name rabbitmq -p 5672:5672 -p 15672:15672 rabbitmq:4.0-management
Unable to find image 'rabbitmq:4.0-management' locally
4.0-management: Pulling from library/rabbitmq
59b7ee873f5e: Download complete
Digest: sha256:3a1b7bc51e21d63515f482ffb6b6cfdad836f6e8a4da9468348de59d3dacc5f3
Status: Downloaded newer image for rabbitmq:4.0-management
2024-11-13 01:12:04.060798+00:00 [notice] <0.44.0> Application syslog exited with reason: stopped
2024-11-13 01:12:04.071053+00:00 [notice] <0.254.0> Logging: switching to configured handler(s); following messages may not be visible in this log output
2024-11-13 01:12:04.071906+00:00 [notice] <0.254.0> Logging: configured log handlers are now ACTIVE
2024-11-13 01:12:04.089872+00:00 [info] <0.254.0> ra: starting system quorum_queues
2024-11-13 01:12:04.089980+00:00 [info] <0.254.0> starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@f84780a8a156/quorum/rabbit@f84780a8a156
2024-11-13 01:12:04.205537+00:00 [info] <0.267.0> ra system 'quorum_queues' running pre init for 0 registered servers
2024-11-13 01:12:04.226051+00:00 [info] <0.268.0> ra: meta data store initialised for system quorum_queues. 0 record(s) recovered
2024-11-13 01:12:04.253952+00:00 [notice] <0.273.0> WAL: ra_log_wal init, open tbls: ra_log_open_wal_tables, closed tbls: ra_log_closed_wal_tables
2024-11-13 01:12:04.288112+00:00 [info] <0.275.0> ra_system_recover: ra system 'quorum_queues' server recovery strategy rabbit_quorum_queue:system_recover
2024-11-13 01:12:04.288225+00:00 [info] <0.275.0> [rabbit_quorum_queue:system_recover/1] rabbit not booted, skipping queue recovery
2024-11-13 01:12:04.288399+00:00 [info] <0.254.0> ra: starting system coordination
2024-11-13 01:12:04.288668+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@f84780a8a156/coordination/rabbit@f84780a8a156
2024-11-13 01:12:04.291529+00:00 [info] <0.281.0> ra system 'coordination' running pre init for 0 registered servers
2024-11-13 01:12:04.293219+00:00 [info] <0.282.0> ra: meta data store initialised for system coordination. 0 record(s) recovered
2024-11-13 01:12:04.293523+00:00 [notice] <0.287.0> WAL: ra_coordination_log_wal init, open tbls: ra_coordination_log_open_wal_tables, closed tbls: ra_coordination_log_closed_wal_tables
2024-11-13 01:12:04.299548+00:00 [info] <0.254.0> ra: starting system coordination
2024-11-13 01:12:04.299627+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@f84780a8a156/coordination/rabbit@f84780a8a156
2024-11-13 01:12:04.484312+00:00 [notice] <0.291.0> RabbitMQ metadata store: candidate -> leader in term: 1 machine version: 1
2024-11-13 01:12:04.774908+00:00 [info] <0.254.0>
2024-11-13 01:12:04.774908+00:00 [info] <0.254.0> Starting RabbitMQ 4.0.3 on Erlang 26.2.5.5 [jit]
2024-11-13 01:12:04.774908+00:00 [info] <0.254.0> Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
2024-11-13 01:12:04.774908+00:00 [info] <0.254.0> Licensed under the MPL 2.0. Website: https://rabbitmq.com

## ##      RabbitMQ 4.0.3
## ##
##### Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
#####
##### Licensed under the MPL 2.0. Website: https://rabbitmq.com

Erlang:      26.2.5.5 [jit]
TLS Library: OpenSSL - OpenSSL 3.3.2 3 Sep 2024
Release series support status: see https://www.rabbitmq.com/release-information

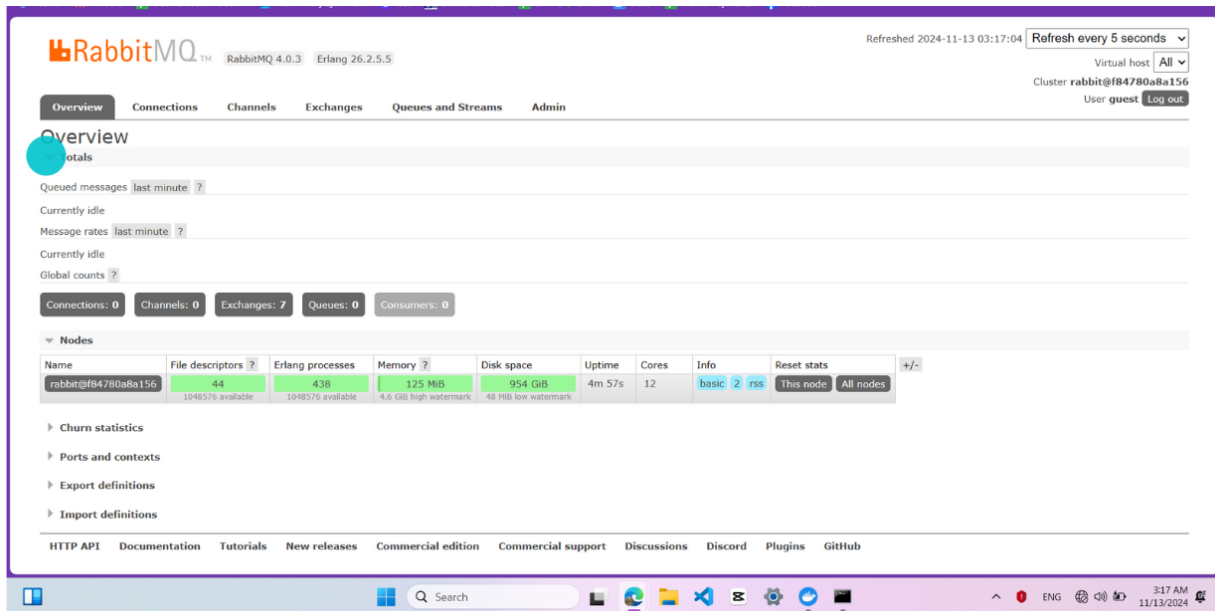
Doc guides:  https://www.rabbitmq.com/docs
Support:      https://www.rabbitmq.com/docs/contact
Tutorials:    https://www.rabbitmq.com/docs/tutorials
Monitoring:   https://www.rabbitmq.com/docs/monitoring
Upgrading:    https://www.rabbitmq.com/docs/upgrade

Logs: <stdout>

Config file(s): /etc/rabbitmq/conf.d/10-defaults.conf
```

3- While the RabbitMQ container is running, I access the RabbitMQ management portal:

- **URL:** <http://localhost:15672/>
- **Username:** guest
- **Password:** guest



4- Install the **pika** library to use the Pika Python client and have the producer and consumer scripts ready, run them: **python producer.py** and **python consumer.py**.

```
> CS-SCRIPT - ACTIVE
PROBLEMS OUTPUT TERMINAL PORTS DEBUG CONSOLE
PS C:\Users\marylynn\Desktop\Rabbitmq-MaryLynnHayek> pip install pika
>>
Collecting pika
  Downloading pika-1.3.2-py3-none-any.whl.metadata (13 kB)
  Downloading pika-1.3.2-py3-none-any.whl (155 kB)
    155.4/155.4 kB 1.3 MB/s eta 0:00:00
Installing collected packages: pika
Successfully installed pika-1.3.2

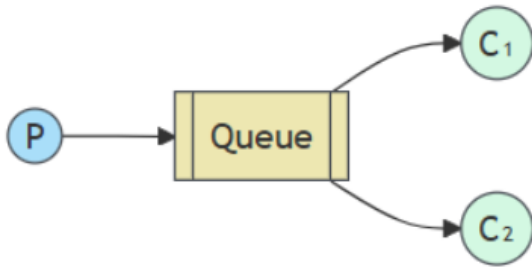
[notice] A new release of pip is available: 24.0 -> 24.3.1
[notice] To update, run: python.exe -m pip install --upgrade pip
PS C:\Users\marylynn\Desktop\Rabbitmq-MaryLynnHayek>
```

5- Since we want 3 workers, we open additional cmd windows and run the consumer script.

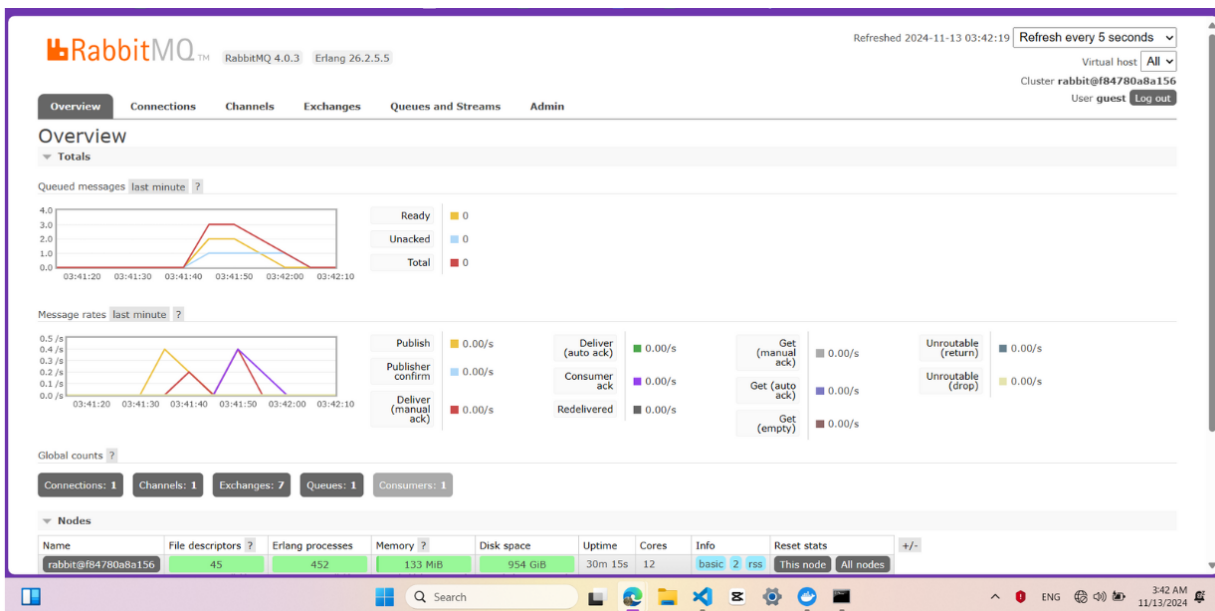
```
Administrator: Command Prompt
Microsoft Windows [Version 10.0.22631.4391]
(c) Microsoft Corporation. All rights reserved.

C:\Windows\System32>docker ps
CONTAINER ID   IMAGE      COMMAND                  CREATED        STATUS        PORTS                                                                                               NAME
f84780a8a156   rabbitmq:4.0-management   "docker-entrypoint.s..."   3 minutes ago   Up 3 minutes   4369/tcp, 5671/tcp, 0.0.0.0:5672->5672/tcp, 15691-15692/tcp, 25672/tcp, 0.0.0.0:15672->15672/tcp   rabb
itm4

C:\Windows\System32>
```



After running the scripts, we can view the queue and other useful metrics from the RabbitMQ portal in the screenshots attached below:



RabbitMQ™

RabbitMQ 4.0.3

Erlang 26.2.5.5

Refreshed 2024-11-13 04:10:08

Refresh every 5 seconds

Virtual host

All

Cluster

rabbit@5a8f4c04d3fc

User

guest

Log out

Overview

Connections

Channels

Exchanges

Queues and Streams

Admin

Queues

All queues (1)

Page 1 of 1

Filter:

Regex

Displaying 1 item, page size up to: 100

Overview					Messages			Message rates		
Virtual host	Name	Type	Features	State	Ready	Unacked	Total	incoming	deliver / get	ack
/	email_queue	classic	<div>Argo</div>	<div>running</div>	4	1	5	0.00/s	0.20/s	0.20/s

Add a new queue

HTTP API

Documentation

Tutorials

New releases

Commercial edition

Commercial support

Discussions

Discord

Plugins

GitHub

localhost:15672/#/queues

RabbitMQ™

RabbitMQ 4.0.3

Erlang 26.2.5.5

Refreshed 2024-11-13 04:10:45

Refresh every 5 seconds

Virtual host

All

Cluster

rabbit@5a8f4c04d3fc

User

guest

Log out

Overview

Connections

Channels

Exchanges

Queues and Streams

Admin

Connections

All connections (1)

Page 1 of 1

Filter:

Regex

Displaying 1 item, page size up to: 100

Overview					Details			Network	
Name	User name	State	SSL / TLS	Protocol	Channels	From client	To client		
172.17.0.1:45856	guest	<div>running</div>	<div></div>	AMQP 0-9-1	1	0 B/s	0 B/s		

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