

Cloud Computing Lab 6 Report

PES1201800366

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1 Work Queues

```
ubuntu@ip-172-31-74-144:~$ docker-compose up
producer_1 | [x] Sent 'Hello! My SRN is <PES1201800366> 12'
producer_1 | [x] Sent 'Hello! My SRN is <PES1201800366> 13'
producer_1 | [x] Sent 'Hello! My SRN is <PES1201800366> 14'
consumer_4 | [x] Received 'Hello! My SRN is <PES1201800366> 2'
consumer_4 | [x] Done
consumer_1 | [x] Received 'Hello! My SRN is <PES1201800366> 3'
consumer_1 | [x] Done
consumer_2 | [x] Received 'Hello! My SRN is <PES1201800366> 1'
consumer_3 | [x] Received 'Hello! My SRN is <PES1201800366> 0'
consumer_4 | [x] Received 'Hello! My SRN is <PES1201800366> 4'
consumer_4 | [x] Done
consumer_3 | [x] Done
consumer_2 | [x] Done
consumer_1 | [x] Received 'Hello! My SRN is <PES1201800366> 5'
consumer_1 | [x] Done
consumer_3 | [x] Received 'Hello! My SRN is <PES1201800366> 6'
consumer_3 | [x] Done
consumer_4 | [x] Received 'Hello! My SRN is <PES1201800366> 7'
consumer_4 | [x] Done
consumer_2 | [x] Received 'Hello! My SRN is <PES1201800366> 8'
consumer_2 | [x] Done
consumer_4 | [x] Received 'Hello! My SRN is <PES1201800366> 12'
consumer_4 | [x] Done
consumer_1 | [x] Received 'Hello! My SRN is <PES1201800366> 9'
consumer_1 | [x] Done
consumer_3 | [x] Received 'Hello! My SRN is <PES1201800366> 10'
consumer_3 | [x] Done
consumer_2 | [x] Received 'Hello! My SRN is <PES1201800366> 11'
consumer_2 | [x] Done
consumer_1 | [x] Received 'Hello! My SRN is <PES1201800366> 13'
consumer_1 | [x] Done
consumer_3 | [x] Received 'Hello! My SRN is <PES1201800366> 14'
consumer_3 | [x] Done
```

Figure 1: Output of docker-compose

```
ubuntu@ip-172-31-74-144:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS                               NAMES
744de9e1eaf    source_consumer  "sh -c 'sleep 15 && -"  3 minutes ago  Up 2 minutes  4369/tcp, 5671-5672/tcp, 25672/tcp  source_consumer_2
a23a9b0a08a    source_consumer  "sh -c 'sleep 15 && -"  3 minutes ago  Up 2 minutes  4369/tcp, 5671-5672/tcp, 25672/tcp  source_consumer_1
897b597b2a0    source_consumer  "sh -c 'sleep 15 && -"  3 minutes ago  Up 2 minutes  4369/tcp, 5671-5672/tcp, 25672/tcp  source_consumer_3
2d8720b679f    source_consumer  "sh -c 'sleep 15 && -"  3 minutes ago  Up 2 minutes  4369/tcp, 5671-5672/tcp, 25672/tcp  source_consumer_4
a02e86eb0196    source_producer  "sh -c 'sleep 20 && -"  3 minutes ago  Exited (0) 2 minutes ago              source_producer_1
88f86dc1635    rabbitmq:3.8-f-alpine  "docker-entrypoint.s"  42 hours ago   Up 2 minutes  3560/tcp, 3561/tcp, 3562/tcp, 3563/tcp  source_rmq_1
ubuntu@ip-172-31-74-144:~$
```

Figure 2: Output of docker ps

A terminal window with two tabs. The first tab is titled 'ubuntu@ip-172-31-74-144: ~/t' and the second is 'ubuntu@ip-172-31-74-144: ~'. The terminal shows the command 'cat docker-compose.yml' being executed, displaying the following YAML configuration:

```
ubuntu@ip-172-31-74-144:~/task1/source$ cat docker-compose.yml
version: '3.1'

services:
  rmq:
    image: rabbitmq:3.8.3-alpine

  consumer:
    build:
      context: receive
      dockerfile: Dockerfile

    command: sh -c "sleep 15 && python receive.py"

    links:
      - rmq

    depends_on:
      - rmq

    restart: on-failure

  producer:
    build:
      context: send
      dockerfile: Dockerfile

    command : sh -c "sleep 20 && python source.py"

    links :
      - rmq

    depends_on:
      - rmq

    restart: on-failure
ubuntu@ip-172-31-74-144:~/task1/source$ |
```

Figure 3: docker-compose.yml

2 Publish and Subscribe

```

ubuntu@ip-172-31-74-144:~$ docker-compose up
rmq_1 | 2021-02-23 05:51:19.197 [info] <0.486.0> accepting AMQP connection <0.486.0> (172.18.0.3:50048 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:19.200 [info] <0.486.0> connection <0.486.0> (172.18.0.3:50048 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
consumer_2 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-23 05:51:19.893 [info] <0.504.0> accepting AMQP connection <0.504.0> (172.18.0.5:55672 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:19.893 [info] <0.507.0> accepting AMQP connection <0.507.0> (172.18.0.7:54510 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:19.896 [info] <0.507.0> connection <0.507.0> (172.18.0.7:54510 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
rmq_1 | 2021-02-23 05:51:19.901 [info] <0.504.0> connection <0.504.0> (172.18.0.5:55672 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
consumer_3 | [*] Waiting for logs. To exit press CTRL+C
consumer_5 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-23 05:51:19.995 [info] <0.537.0> accepting AMQP connection <0.537.0> (172.18.0.4:58256 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:20.001 [info] <0.537.0> connection <0.537.0> (172.18.0.4:58256 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
consumer_1 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-23 05:51:20.011 [info] <0.553.0> accepting AMQP connection <0.553.0> (172.18.0.8:37678 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:20.014 [info] <0.553.0> connection <0.553.0> (172.18.0.8:37678 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
consumer_4 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-23 05:51:24.781 [info] <0.573.0> accepting AMQP connection <0.573.0> (172.18.0.6:45150 -> 172.18.0.2:5672)
rmq_1 | 2021-02-23 05:51:24.784 [info] <0.573.0> connection <0.573.0> (172.18.0.6:45150 -> 172.18.0.2:5672): user 'guest' authen
ticated and granted access to vhost '/'
producer_1 | [x] Sent 'info: Hello World! My SRN is <PES1201800366>!!'
consumer_5 | [x] b'info: Hello World! My SRN is <PES1201800366>!!'
consumer_2 | [x] b'info: Hello World! My SRN is <PES1201800366>!!'
consumer_1 | [x] b'info: Hello World! My SRN is <PES1201800366>!!'
consumer_3 | [x] b'info: Hello World! My SRN is <PES1201800366>!!'
consumer_4 | [x] b'info: Hello World! My SRN is <PES1201800366>!!'
rmq_1 | 2021-02-23 05:51:24.790 [info] <0.573.0> closing AMQP connection <0.573.0> (172.18.0.6:45150 -> 172.18.0.2:5672, vhost:
 '/', user: 'guest')
source-producer_1 exited with code 0

```

Figure 4: Output of docker-compose

```

ubuntu@ip-172-31-74-144:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
77b6d3962445   source_consumer  "sh -c 'sleep 15 && _"  3 minutes ago  Up 25 seconds          source_cons
mer_5
3bcfe0105f6e   source_consumer  "sh -c 'sleep 15 && _"  3 minutes ago  Up 26 seconds          source_cons
mer_2
20af3a9a70e5   source_consumer  "sh -c 'sleep 15 && _"  3 minutes ago  Up 25 seconds          source_cons
mer_3
c3e23578a26c   source_producer  "sh -c 'sleep 20 && _"  3 minutes ago  Exited (0) 5 seconds ago source_produ
cer_1
42a326af3d42   source_consumer  "sh -c 'sleep 15 && _"  3 minutes ago  Up 26 seconds          source_cons
mer_4
61fad669ee38   source_consumer  "sh -c 'sleep 15 && _"  3 minutes ago  Up 25 seconds          source_cons
mer_1
38acd0eb8ffdf  rabbitmq:3.8.3-alpine  "docker-entrypoint.s..." 3 minutes ago  Up 27 seconds          4369/tcp, 5671-5672/tcp, 25672/tcp source_rmq_1
ubuntu@ip-172-31-74-144:~$

```

Figure 5: Output of docker ps