

# Cloud Computing Lab 6 Report

PES1201800366

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## 1 Work Queues

```
ubuntu@ip-172-31-74-144:~$ docker-compose up
[+] 2021-09-21 11:04:59.171 [info] <0.666.0> connection <0.666.0> (172.18.0.5:45092 → 172.18.0.2:5672): user 'guest' authenticated and granted access to vhost '/'
source_producer_1 | [x] Sent 'Hello! My SN is <PES1201800366> 0'
source_consumer_1 | [x] Sent 'Hello! My SN is <PES1201800366> 1'
source_consumer_2 | [x] Sent 'Hello! My SN is <PES1201800366> 2'
source_consumer_3 | [x] Sent 'Hello! My SN is <PES1201800366> 3'
source_consumer_4 | [x] Sent 'Hello! My SN is <PES1201800366> 4'
source_consumer_1 | [x] Sent 'Hello! My SN is <PES1201800366> 5'
source_consumer_2 | [x] Sent 'Hello! My SN is <PES1201800366> 6'
source_consumer_3 | [x] Sent 'Hello! My SN is <PES1201800366> 7'
source_consumer_4 | [x] Sent 'Hello! My SN is <PES1201800366> 8'
source_consumer_1 | [x] Sent 'Hello! My SN is <PES1201800366> 9'
source_consumer_2 | [x] Sent 'Hello! My SN is <PES1201800366> 10'
source_consumer_3 | [x] Sent 'Hello! My SN is <PES1201800366> 11'
source_consumer_4 | [x] Sent 'Hello! My SN is <PES1201800366> 12'
source_consumer_1 | [x] Sent 'Hello! My SN is <PES1201800366> 13'
source_consumer_2 | [x] Sent 'Hello! My SN is <PES1201800366> 14'
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 0'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 2'
source_consumer_2 | [x] Received 'Hello! My SN is <PES1201800366> 3'
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 1'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Done
source_consumer_2 | [x] Done
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 4'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 5'
source_consumer_2 | [x] Done
source_consumer_3 | [x] Done
source_consumer_4 | [x] Received 'Hello! My SN is <PES1201800366> 7'
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 6'
source_consumer_2 | [x] Done
source_consumer_3 | [x] Done
source_consumer_4 | [x] Received 'Hello! My SN is <PES1201800366> 8'
source_consumer_1 | [x] Done
source_consumer_2 | [x] Done
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 11'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 9'
source_consumer_2 | [x] Received 'Hello! My SN is <PES1201800366> 10'
source_consumer_3 | [x] Done
source_consumer_4 | [x] Done
source_producer_1 | [2021-09-21 11:06:59.187 [info] <0.666.0> closing AMQP connection <0.666.0> (172.18.0.5:45092 → 172.18.0.2:5672, vhost: '/', user: 'guest')
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 12'
source_consumer_2 | [x] Done
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 13'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Done
source_consumer_2 | [x] Received 'Hello! My SN is <PES1201800366> 14'
source_consumer_3 | [x] Done
source_producer_1 | exited with code 0
[+] 2021-09-21 11:06:59.187 [info] <0.666.0> closing AMQP connection <0.666.0> (172.18.0.5:45092 → 172.18.0.2:5672, vhost: '/', user: 'guest')
source_consumer_1 | [x] Received 'Hello! My SN is <PES1201800366> 12'
source_consumer_2 | [x] Done
source_consumer_3 | [x] Received 'Hello! My SN is <PES1201800366> 13'
source_consumer_4 | [x] Done
source_consumer_1 | [x] Done
source_consumer_2 | [x] Received 'Hello! My SN is <PES1201800366> 14'
source_consumer_3 | [x] Done
source_producer_1 | exited with code 0
```

Figure 1: Output of docker-compose

```
ubuntu@ip-172-31-74-144:~$ docker ps -a
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS          NAMES
6f1b28768949   source_producer  "sh -c 'sleep 20 && ..." About a minute ago    Exited (0)    About a minute ago    source_producer_1
f8d64bb9fa0f   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute    source_consumer_2
66827b518691   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute    source_consumer_1
2a4095948a7a7   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute    source_consumer_4
6c39d7741e77   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute    source_consumer_3
398cafbdcf8e   rabbitmq:3.8-alpine  "docker-entrypoint.s..." About a minute ago    Up About a minute    4369/tcp, 5671-5672/tcp, 25672/tcp    source_rmq_1
1de507a9ac99   hello-world     "/hello"                 13 minutes ago    Exited (0)    13 minutes ago    heuristic_liskov
ubuntu@ip-172-31-74-144:~$
```

Figure 2: Output of docker ps

```

ubuntu@ip-172-31-74-144:~$ 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

#Add the Producer service below
ubuntu@ip-172-31-74-144:~/task1/source$

```

Figure 3: docker-compose.yml

## 2 Publish and Subscribe

```

rmq_1 | 2021-02-21 11:57:01.516 [info] <0.662.0> accepting AMQP connection <0.662.0> (172.19.0.6:58466 → 172.19.0.2:5672)
rmq_1 | 2021-02-21 11:57:01.519 [info] <0.662.0> connection <0.662.0> (172.19.0.6:58466 → 172.19.0.2:5672): user 'guest' authenticated and granted access to vhost '/'
consumer_4 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-21 11:57:01.541 [info] <0.678.0> accepting AMQP connection <0.678.0> (172.19.0.7:34342 → 172.19.0.2:5672)
rmq_1 | 2021-02-21 11:57:01.544 [info] <0.678.0> connection <0.678.0> (172.19.0.7:34342 → 172.19.0.2:5672): user 'guest' authenticated and granted access to vhost '/'
consumer_2 | [*] Waiting for logs. To exit press CTRL+C
rmq_1 | 2021-02-21 11:57:06.522 [info] <0.699.0> accepting AMQP connection <0.699.0> (172.19.0.8:52262 → 172.19.0.2:5672)
rmq_1 | 2021-02-21 11:57:06.527 [info] <0.699.0> connection <0.699.0> (172.19.0.8:52262 → 172.19.0.2:5672): user 'guest' authenticated and granted access to vhost '/'
producer_1 | [x] Sent '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_5 | [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 | 2021-02-21 11:57:06.541 [info] <0.699.0> closing AMQP connection <0.699.0> (172.19.0.8:52262 → 172.19.0.2:5672, 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
d159ac4c9f38   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute                               source_consumer_4
b4e41c243d0   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute                               source_consumer_3
d07ce0b2a9a8   source_producer  "sh -c 'sleep 20 && ..." About a minute ago    Exited (0) About a minute ago                  source_producer_1
8ccd4b979fc   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute                               source_consumer_2
73d7166b9f12   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute                               source_consumer_1
7a03ff8b94d2   source_consumer  "sh -c 'sleep 15 && ..." About a minute ago    Up About a minute                               source_consumer_5
8d5f866c1635   rabbitmq:3.8.3-alpine  "docker-entrypoint.s..." About a minute ago    Up About a minute    4369/tcp, 5671-5672/tcp, 25672/tcp  source_rmq_1
ubuntu@ip-172-31-74-144:~$
```

Figure 5: Output of docker ps