CLOUD COMPUTING

LAB-4

SRN: PES2UG23CS071

NAME: ANIRUDH MURALEEDHARAN

SS-1

```
[pes2ug23cs071@PES2UG23CS071 Lab-4]$ echo $SRN
PES2UG23CS071
[pes2ug23cs071@PES2UG23CS071 Lab-4]$ docker run hello-world

Hello from Docker!
This message shows that your installation appears to be working correctly.

To generate this message, Docker took the following steps:
 1. The Docker client contacted the Docker daemon.
 2. The Docker daemon pulled the "hello-world" image from the Docker Hub.
    (amd64)
 3. The Docker daemon created a new container from that image which runs the
    executable that produces the output you are currently reading.
 4. The Docker daemon streamed that output to the Docker client, which sent it
    to your terminal.

To try something more ambitious, you can run an Ubuntu container with:
 $ docker run -it ubuntu bash

Share images, automate workflows, and more with a free Docker ID:
 https://hub.docker.com/

For more examples and ideas, visit:
 https://docs.docker.com/get-started/

[pes2ug23cs071@PES2UG23CS071 Lab-4]$
```

SS-2

```
[pes2ug23cs071@PES2UG23CS071 Lab-4]$ docker compose version
Docker Compose version v5.0.2
[pes2ug23cs071@PES2UG23CS071 Lab-4]$
```

SS-3:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ sudo docker ps
CONTAINER ID   IMAGE                   COMMAND            CREATED         STATUS         PORTS
               NAMES
70630a19d459   rabbitmq:3-management   "docker-entrypoint.s…"  18 seconds ago  Up 18 seconds  4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691-15692/tcp,
25672/tcp   rabbitmq
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$
```

SS-4:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker run -it --name user-a chat-app

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to localhost) ---
RabbitMQ not ready, retrying... (1/5)RabbitMQ not ready, retrying... (1/5)

RabbitMQ not ready, retrying... (2/5)RabbitMQ not ready, retrying... (2/5)

RabbitMQ not ready, retrying... (3/5)
RabbitMQ not ready, retrying... (3/5)
RabbitMQ not ready, retrying... (4/5)
RabbitMQ not ready, retrying... (4/5)
RabbitMQ not ready, retrying... (5/5)
RabbitMQ not ready, retrying... (5/5)

ERROR: Could not connect to RabbitMQ at localhost
ERROR: Could not connect to RabbitMQ at localhost

Falling back to standalone mode...
=============================================
STANDALONE MODE (No RabbitMQ)
=============================================

--- No Previous Chat History ---

Messages will not be sent to any other container.

Type message (standalone): Hello there
Sent by unknown-user (standalone): Hello there
Type message (standalone):
```

SS-5:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker run -it --name user-a \
 --network chat-net \
 -e RABBIT_HOST=rabbitmq \
 -e QUEUE_NAME=queue_a \
 -e TARGET_QUEUE=queue_b \
 chat-app

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message: Hello this is user-a do you copy ? over.
Sent by unknown-user: Hello this is user-a do you copy ? over.
Type message:
Received from unknown-user: This is terminal 2, i copy you loud and clear over. Send traffic
Type message: Huston we have a problem. over.
Sent by unknown-user: Huston we have a problem. over.
Type message: |
```

SS-6:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker run -it --name user-b \
 --network chat-net \
 -e RABBIT_HOST=rabbitmq \
 -e QUEUE_NAME=queue_b \
 -e TARGET_QUEUE=queue_a \
 chat-app

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message:
Received from unknown-user: Hello this is user-a do you copy ? over.
Type message: This is terminal 2, i copy you loud and clear over. Send traffic
Sent by unknown-user: This is terminal 2, i copy you loud and clear over. Send traffic
Type message:
Received from unknown-user: Huston we have a problem. over.
Type message:
```

SS-7:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker stop user-a user-b rabbitmq
user-a
user-b
rabbitmq
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker network rm chat-net
chat-net
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$
```

SS-8:

```
pes2ug23cs071@LAPTOP-QRf

rabbitmq-1  | 2026-02-12 09:18:12.254867+00:00 [warning] <0.725.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
rabbitmq-1  | 2026-02-12 09:18:12.254867+00:00 [warning] <0.725.0>     "deprecated_features.permit.management_metrics_collection = false"
rabbitmq-1  | 2026-02-12 09:18:18.479538+00:00 [info] <0.762.0> Management plugin: HTTP (non-TLS) listener started on port 15672
rabbitmq-1  | 2026-02-12 09:18:18.479812+00:00 [info] <0.792.0> Statistics database started.
rabbitmq-1  | 2026-02-12 09:18:18.479928+00:00 [info] <0.791.0> Starting worker pool 'management_worker_pool' with 3 processes in it
rabbitmq-1  | 2026-02-12 09:18:18.498432+00:00 [info] <0.810.0> Prometheus metrics: HTTP (non-TLS) listener started on port 15692
rabbitmq-1  | 2026-02-12 09:18:18.498678+00:00 [info] <0.696.0> Ready to start client connection listeners
rabbitmq-1  | 2026-02-12 09:18:18.504762+00:00 [info] <0.854.0> started TCP listener on [::]:5672
rabbitmq-1  |  completed with 5 plugins.
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0> Server startup complete; 5 plugins started.
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0>  * rabbitmq_prometheus
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0>  * rabbitmq_federation
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0>  * rabbitmq_management
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0>  * rabbitmq_management_agent
rabbitmq-1  | 2026-02-12 09:18:18.647444+00:00 [info] <0.696.0>  * rabbitmq_web_dispatch
rabbitmq-1  | 2026-02-12 09:18:18.713962+00:00 [info] <0.9.0> Time to start RabbitMQ: 14326 ms
rabbitmq-1  | 2026-02-12 09:18:33.500446+00:00 [info] <0.859.0> accepting AMQP connection <0.859.0> (172.18.0.3:46272 -> 172.18.0.2:5672)
rabbitmq-1  | 2026-02-12 09:18:33.500887+00:00 [info] <0.862.0> accepting AMQP connection <0.862.0> (172.18.0.3:46286 -> 172.18.0.2:5672)
rabbitmq-1  | 2026-02-12 09:18:33.505953+00:00 [info] <0.859.0> connection <0.859.0> (172.18.0.3:46272 -> 172.18.0.2:5672): user 'guest' authenticated and g
ranted access to vhost '/'
rabbitmq-1  | 2026-02-12 09:18:33.506301+00:00 [info] <0.862.0> connection <0.862.0> (172.18.0.3:46286 -> 172.18.0.2:5672): user 'guest' authenticated and g
ranted access to vhost '/'
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0> Deprecated features: `transient_nonexcl_queues`: Feature `transient_nonexcl_queues` is de
precated.
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0> By default, this feature can still be used for now.
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0> Its use will not be permitted by default in a future minor RabbitMQ version and the featu
re will be removed from a future major RabbitMQ version; actual versions to be determined.
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0> To continue using this feature when it is not permitted by default, set the following par
ameter in your configuration:
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0>     "deprecated_features.permit.transient_nonexcl_queues = true"
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
rabbitmq-1  | 2026-02-12 09:18:33.511398+00:00 [warning] <0.877.0>     "deprecated_features.permit.transient_nonexcl_queues = false"
rabbitmq-1  | 2026-02-12 09:20:40.866792+00:00 [info] <0.923.0> accepting AMQP connection <0.923.0> (172.18.0.4:45332 -> 172.18.0.2:5672)
rabbitmq-1  | 2026-02-12 09:20:40.867318+00:00 [info] <0.926.0> accepting AMQP connection <0.926.0> (172.18.0.4:45342 -> 172.18.0.2:5672)
rabbitmq-1  | 2026-02-12 09:20:40.873183+00:00 [info] <0.923.0> connection <0.923.0> (172.18.0.4:45332 -> 172.18.0.2:5672): user 'guest' authenticated and g
ranted access to vhost '/'
rabbitmq-1  | 2026-02-12 09:20:40.873184+00:00 [info] <0.926.0> connection <0.926.0> (172.18.0.4:45342 -> 172.18.0.2:5672): user 'guest' authenticated and g
ranted access to vhost '/'
```

SS-9:

```
=> => exporting config sha256:4bbd2ec13e8e19d49a3b0165d1669bb7bb99017be7b68eb05925853c13ceabd3                          0.0s
=> => exporting attestation manifest sha256:08d329a4e7f8d8cd141eeaab0b20addaa12aa42352793af6bf92f4fe2389e39f            0.1s
=> => exporting manifest list sha256:65feba001a35b4e0ff5d6ffa7c8c6e7b3997c560143718d351ee815f17f3e935                   0.0s
=> => naming to docker.io/library/docker-advanced-lab-user-a:latest                                                    0.0s
=> => unpacking to docker.io/library/docker-advanced-lab-user-a:latest                                                 0.0s
=> resolving provenance for metadata file                                                                              0.0s
Image docker-advanced-lab-user-a Built
Container docker-advanced-lab-user-a-run-05a5ed4a6806 Creating
Container docker-advanced-lab-user-a-run-05a5ed4a6806 Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: Hello this is user-a
Traceback (most recent call last):
  File "/app/chat.py", line 143, in <module>
    channel.basic_publish(
  File "/usr/local/lib/python3.9/site-packages/pika/adapters/blocking_connection.py", line 2265, in basic_publish
    self._flush_output()
  File "/usr/local/lib/python3.9/site-packages/pika/adapters/blocking_connection.py", line 1353, in _flush_output
    self._connection._flush_output(lambda: self.is_closed, *waiters)
  File "/usr/local/lib/python3.9/site-packages/pika/adapters/blocking_connection.py", line 523, in _flush_output
    raise self._closed_result.value.error
pika.exceptions.StreamLostError: Stream connection lost: ConnectionResetError(104, 'Connection reset by peer')

[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /mnt/c/Users/Anirudh/Desktop/Sem 6/Cloud Computing/Lab/Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will
be ignored, please remove it to avoid potential confusion
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                     0.0s
Container docker-advanced-lab-user-a-run-d3377a0ed594 Creating
Container docker-advanced-lab-user-a-run-d3377a0ed594 Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: Hello this is user a
Sent by user-a: Hello this is user a
Type message:
Received from user-b: hello this is user b
Type message:
```

SS-10:

```
pes2ug23cs071@LAPTOP-QRM                    +    ∨                                                                                              —    □    ✕
 => => exporting attestation manifest sha256:acaf3c8e481d1b3ccec87663ca1fab9fd23d3f20af5d2036d5745da49eb5eafd          0.0s
 => => exporting manifest list sha256:347d60d8a089d7607e2d7801ff3bef4395f85260b7159987ec7b27cc91272e73               0.0s
 => => naming to docker.io/library/docker-advanced-lab-user-b:latest                                                0.0s
 => => unpacking to docker.io/library/docker-advanced-lab-user-b:latest                                             0.0s
 => resolving provenance for metadata file                                                                          0.0s
Image docker-advanced-lab-user-b Built
Container docker-advanced-lab-user-b-run-3c9fba240290 Creating
Container docker-advanced-lab-user-b-run-3c9fba240290 Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message: ^C
Chat ended.
[pes2ug23cs071@ docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /mnt/c/Users/Anirudh/Desktop/Sem 6/Cloud Computing/Lab/Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will
 be ignored, please remove it to avoid potential confusion
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                0.0s
Container docker-advanced-lab-user-b-run-36c6811b8cb1 Creating
Container docker-advanced-lab-user-b-run-36c6811b8cb1 Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: Hello this is user a
Type message: hello this is user b
Sent by user-b: hello this is user b
Type message:
```

SS-11 USER-A:

```
[pes2ug23cs071@PES2UG23CS071 docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /mnt/c/Users/Anirudh/Desktop/Sem 6/Cloud Computing/Lab/Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will
 be ignored, please remove it to avoid potential confusion
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                0.0s
Container docker-advanced-lab-user-a-run-84e93d5c523c Creating
Container docker-advanced-lab-user-a-run-84e93d5c523c Created

--- Chat History ---
Sent by user-b: Hello here this is user-b
Received from user-b: Hello here this is user-b
Sent by user-a: Hello this is user-a
Received from user-a: Hello this is user-a
--- End of History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: chat history visible with user-a
Sent by user-a: chat history visible with user-a
Type message:
Received from user-b: chat history vissible with user-b
Type message:
```

SS-12 USER-B:

```
[pes2ug23cs071@ docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /mnt/c/Users/Anirudh/Desktop/Sem 6/Cloud Computing/Lab/Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will
 be ignored, please remove it to avoid potential confusion
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                0.0s
Container docker-advanced-lab-user-b-run-54106d0ef812 Creating
Container docker-advanced-lab-user-b-run-54106d0ef812 Created

--- Chat History ---
Sent by user-b: Hello here this is user-b
Received from user-b: Hello here this is user-b
Sent by user-a: Hello this is user-a
Received from user-a: Hello this is user-a
--- End of History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: chat history visible with user-a
Type message: chat history vissible with user-b
Sent by user-b: chat history vissible with user-b
Type message: |
```