

## **CLOUD COMPUTING LAB - 4**

**NAME : APHARNA KAMATH R  
SRN : PES2UG23CS086  
SECTION : B**

## Screenshot 1 :

```
Activities Terminal Feb 12 14:12 apharna@apharna-ASUS: ~
 apharna@apharna-ASUS: $ export SRN=PES2UG23CS086
 apharna@apharna-ASUS: $ echo $SRN
PES2UG23CS086
 apharna@apharna-ASUS: $ export PS1="[\u@\$SRN \W]\$ "
[apharna@PES2UG23CS086 ~]$ 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.  
(andda)
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/
[apharna@PES2UG23CS086 ~]$
```

## Screenshot 2 :

```
[apharna@PE52UG2C3CS086 ~]$ sudo curl -L "https://github.com/docker/compose/releases/download/$(curl -s https://api.github.com/repos/docker/compose/releases/latest | grep 'tag_name' | cut -d '"' -f4)/docker-compose"
[apharna@PE52UG2C3CS086 ~]$ (uname -n) -> /usr/local/bin/docker-compose
[apharna@PE52UG2C3CS086 ~]$ docker --version
Docker Compose version v5.0.2
[apharna@PE52UG2C3CS086 ~]$ sudo docker-compose --version
```

## Screenshot 3 :

```
[apharna@PE2UGC2CS86 docker_advanced-lab]$ docker run -d --name rabbitmq rabbitmq:3-management
Unable to find image: "rabbitmq:3-management" locally
3-management: Pulling from library/rabbitmq
d63c4408fd07: Pull complete
20043066d315: Pull complete
4e7a2a0f9400: Pull complete
efaf5c660812: Pull complete
beb0dd70d438: Pull complete
7084ac8f4a06: Pull complete
4e7a2a0f9400: Pull complete
3e289df5fa81: Pull complete
d680b5ce172: Pull complete
5eic03b67a78: Pull complete
7ec4cc96bb0b: Download complete
Digest: sha256:e932c0bc7766f3342490d8485efb5a1df782b5ce3886ad017e2eaaa44231f69
Status: Downloaded newer image for rabbitmq:3-management
05b0a0322533aa058be2bcbfe2aafc0fadd887e3bd01a5f9e4a52567de3
[apharna@PE2UGC2CS86 docker_advanced-lab]$
```

## Screenshot 4 :

```
[apharna@PES2UG23CS086 docker-advanced-lab]$ sudo docker run -it --name user-a chat-app  
Unable to find image 'chat-app:latest' locally  
docker: Error response from daemon: pull access denied for chat-app, repository does not exist or may require 'docker login'  
  
Run 'docker run --help' for more information  
[apharna@PES2UG23CS086 docker-advanced-lab]$ █
```

### Screenshot 5 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo 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
[sudo] password for apharna:

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message: hello
Sent by unknown-user: hello
Type message:
Received from unknown-user: hi
Type message:
```

### Screenshot 6 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo 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
[sudo] password for apharna:

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message:
Received from unknown-user: hello
Type message: hi
Sent by unknown-user: hi
Type message:
```

### Screenshot 7 :

```
[apharna@PES2UG23CS086 docker-advanced-lab]$ sudo docker stop user-a user-b rabbitmq
user-a
user-b
rabbitmq
[apharna@PES2UG23CS086 docker-advanced-lab]$ sudo docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
[apharna@PES2UG23CS086 docker-advanced-lab]$ docker network rm chat-net
bash: /usr/local/bin/docker: No such file or directory
[apharna@PES2UG23CS086 docker-advanced-lab]$ sudo docker network rm chat-net
chat-net
[apharna@PES2UG23CS086 docker-advanced-lab]$
```

## Screenshot 8 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo docker compose up rabbitmq
[sudo] password for apharna:
WARN[0000] /home/apharna/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[*] 1/1 [OK] 1/1
  ✓ Network docker-advanced-lab_chat-net Created
  ✓ Container docker-advanced-lab-rabbitmq-1 Created
Attaching to rabbitmq-1
rabbitmq-1 | =INFO REPORT== 12-Feb-2024:09:13:20.236424 ===
rabbitmq-1 | 2026-02-12 09:13:21.5002774+00:00 [notice] <0.254.0> Application syslog exited with reason: stopped
rabbitmq-1 | 2026-02-12 09:13:21.518620+00:00 [notice] <0.254.0> Logging: switching to configured handler(s); following messages may not be visible in this log output
rabbitmq-1 | 2026-02-12 09:13:21.514772+00:00 [info] <0.254.0> Ra: starting system quorum_queues
rabbitmq-1 | 2026-02-12 09:13:21.514823+00:00 [info] <0.254.0> Ra: starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@a5769e895e3d/quorum/rabbit@a5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.546590+00:00 [info] <0.254.0> Ra: system: quorum_queues initialized for 0 registered servers
rabbitmq-1 | 2026-02-12 09:13:21.552401+00:00 [notice] <0.254.0> Ra: log_wal int, open this: ra_log_open_mem_tables, closed btbls: ra_log_closed_mem_tables
rabbitmq-1 | 2026-02-12 09:13:21.560614+00:00 [info] <0.254.0> Ra: starting system coordination
rabbitmq-1 | 2026-02-12 09:13:21.560654+00:00 [info] <0.254.0> Ra: system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@a5769e895e3d/coordination/rabbit@a5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.561246+00:00 [info] <0.254.0> Ra: system: coordination: running pr int for 0 registered servers
rabbitmq-1 | 2026-02-12 09:13:21.561734+00:00 [notice] <0.254.0> Ra: coordination_log_wal int, open btbls: ra_coordination_log_open_mem_tables, closed btbls: ra_coordination_log_closed_mem_tables
rabbitmq-1 | 2026-02-12 09:13:21.564340+00:00 [info] <0.254.0> Ra: starting system coordination
rabbitmq-1 | 2026-02-12 09:13:21.564376+00:00 [info] <0.254.0> Ra: system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@a5769e895e3d/coordination/rabbit@a5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.567169+00:00 [notice] <0.254.0> RabbitMQ metadata store: candidate >> leader in term: 1 machine version: 1
rabbitmq-1 | 2026-02-12 09:13:21.567169+00:00 [info] <0.254.0> RabbitMQ metadata store elected leader in term: 1 machine version: 1
rabbitmq-1 | 2026-02-12 09:13:21.571156+00:00 [info] <0.254.0> Waiting For Khepri projections for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-12 09:13:21.571754+00:00 [info] <0.254.0>
rabbitmq-1 | 2026-02-12 09:13:21.577254+00:00 [info] <0.254.0> Starting RabbitMQ 3.13.7 on Erlang 26.2.5.16 [jkt]
rabbitmq-1 | 2026-02-12 09:13:21.577254+00:00 [info] <0.254.0> Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | 2026-02-12 09:13:21.577254+00:00 [info] <0.254.0> Licensed under the MPL 2.0. Website: https://rabbitmq.com
rabbitmq-1 | ## ##
rabbitmq-1 | ## ##
rabbitmq-1 | ##### Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | ##### ##
rabbitmq-1 | ##### License under the MPL 2.0. Website: https://rabbitmq.com
rabbitmq-1 | Erlang: 26.2.5.16 [jkt]
rabbitmq-1 | TLS Library: OpenSSL - OpenSSL 3.1.8 11 Feb 2025
rabbitmq-1 | Release series support status: see https://www.rabbitmq.com/release-information
rabbitmq-1 | Doc guides: https://www.rabbitmq.com/docs
rabbitmq-1 | Support: https://www.rabbitmq.com/docs/contact
rabbitmq-1 | Tutorials: https://www.rabbitmq.com/tutorials
rabbitmq-1 | Monitoring: https://www.rabbitmq.com/docs/monitoring
rabbitmq-1 | Upgrading: https://www.rabbitmq.com/docs/upgrade
rabbitmq-1 | Logs: <stdout>
rabbitmq-1 | Config file(s): /etc/rabbitmq/conf.d/10-defaults.conf
rabbitmq-1 |
```

## Screenshot 9 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo docker compose run --rm user-a
[sudo] password for apharna:
WARN[0000] /home/apharna/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[*] 1/1 [OK] 1/1
  ✓ Container docker-advanced-lab-user-a Building
[*] Building 12.8s (13/13) FINISHED
  => [internal] load local bake definitions
  => reading from stdin 542B
  => [internal] load build definition from Dockerfile
  => transferring context: 92B
  => [internal] load metadata for docker.io/library/python:3.9-slim
  => [auth] library/python pull token for registry-1.docker.io
  => [internal] load .dockercfg
  => transferring context: 2B
  => [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f8910b16bd338d3080f201f53f144965f755599aablaicdale13cf1731b1b
  => [internal] resolve docker.io/library/python:3.9-slim@sha256:2d97f8910b16bd338d3080f201f53f144965f755599aablaicdale13cf1731b1b
  => [internal] load build context
  => transferring context: 29B
  => CACHED [2/5] RUN pip install pika
  => CACHED [3/5] WORKDIR /app
  => CACHED [4/5] COPY chat.py .
  => CACHED [5/5] RUN chmod -p /app/data
  => exporting layers
  => exporting manifest sha256:1aae5a7eb7cf7ad21cab30722155c40091cea5570706ecf950c0320f3ab21118
  => exporting config sha256:1aae5a7eb0868d273fafdcbe426e0961a0d7a23060dbf73a58a08c07d0ff1f281b1b
  => exporting attestation manifest sha256:307957545e3241ce7aade4a9d85a76225a4ccdd5c4d46e2be74f2d292bd
  => exporting manifest sha256:307957545e3241ce7aade4a9d85a76225a4ccdd5c4d46e2be74f2d292bd
  => sending to docker.io/library/docker-advanced-lab-user-a:latest
  => unpacking to docker.io/library/docker-advanced-lab-user-a:latest
=> resolving provenance for metadata file
Image docker-advanced-lab-user-a Built
Container docker-advanced-lab-user-a-run-d8e053340fid Creating
Container docker-advanced-lab-user-a-run-d8e053340fid Created
--- No Previous Chat History ---
--- Chat Started (user-a connecting to rabbitmq) ---
Type message: |
```

## Screenshot 10 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo docker compose run --rm user-b
[sudo] password for apharna:
WARNING: /home/apharna/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] 1/11 1/11
✓ Container docker-advanced-lab-rabbitmq-1 Running
Image docker-advanced-lab-user-b Building
[+] Building 7.8s (12/12) FINISHED
  => [internal] Load local bafe definitions
  => => r880d111 from Dockerfile
  => => loading build definition from Dockerfile
  => => transferring dockerfile: 32B
  => [internal] load metadata for docker.io/library/python:3.9-slim
  => [internal] load .dockerignore
  => => r880d111 from docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3880f261f53f144985f75599aab1cdale13cf171ib1b
  => [internal] load build context
  => => transferring context: 29B
  => CACHE [2/5] RUN pip install pika
  => CACHE [3/5] WORKDIR /app
  => CACHE [4/5] COPY ./chat.py .
  => EXECED [5/5] RUN mkdir -p /app/data
  => exporting to Image
  => => exporting layers
  => => exporting manifest sha256:cra2ed3addb32aab716b4cc3318f715fff9b88f287a1e894c711f7a8e593dic9
  => => exporting config sha256:343a9931db3b56d665058159bc911a1d5f8030249976137a26acc1e32ae841b
  => => exporting attestation manifest sha256:4bc07ee79f874252eca9c10e80cf3ef99a32ef8a87278faa379cdcb809503026
  => => naming to docker.io/library/docker-advanced-lab-user-b:latest
  => => unpacking to docker.io/library/docker-advanced-lab-user-b:latest
  => => resolving provenance for metadata file
Image docker-advanced-lab-user-b Built
Container docker-advanced-lab-user-b-run-d78eaec56c84c Creating
Container docker-advanced-lab-user-b-run-d78eaec56c84c Created
.... No Previous Chat History ...
.... Chat Started (user-b connecting to rabbitmq) ...
Type message: █
```

## Screenshot 11 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo docker compose run --rm user-a
WARNING: /home/apharna/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] 1/11 1/11
✓ Container docker-advanced-lab-rabbitmq-1 Running
Container docker-advanced-lab-user-a-run-44a21a0ec40c Creating
Container docker-advanced-lab-user-a-run-44a21a0ec40c Created
.... Chat History ...
Sent by user-a: whats up
Received from user-a: whats up
Sent by user-b: what scene you tell
Received from user-b: what scene you tell
Sent by user-a: yentha illa
Received from user-a: yentha illa
Sent by user-b: chey what boring life alla
Received from user-b: chey what boring life alla
.... End of History ...
.... Chat Started (user-a connecting to rabbitmq) ...
Type message: █
```

## Screenshot 12 :

```
apharna@apharna-ASUS:~/docker-advanced-lab$ sudo docker compose run --rm user-b
WARNING: /home/apharna/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] 1/11 1/11
✓ Container docker-advanced-lab-rabbitmq-1 Running
Container docker-advanced-lab-user-b-run-bb27d0cddee5 Creating
Container docker-advanced-lab-user-b-run-bb27d0cddee5 Created
.... Chat History ...
Sent by user-a: whats up
Received from user-a: whats up
Sent by user-b: what scene you tell
Received from user-b: what scene you tell
Sent by user-a: yentha illa
Received from user-b: yentha illa
Received from user-b: chey what boring life alla
Received from user-b: chey what boring life alla
.... End of History ...
.... Chat Started (user-b connecting to rabbitmq) ...
Type message: █
```