

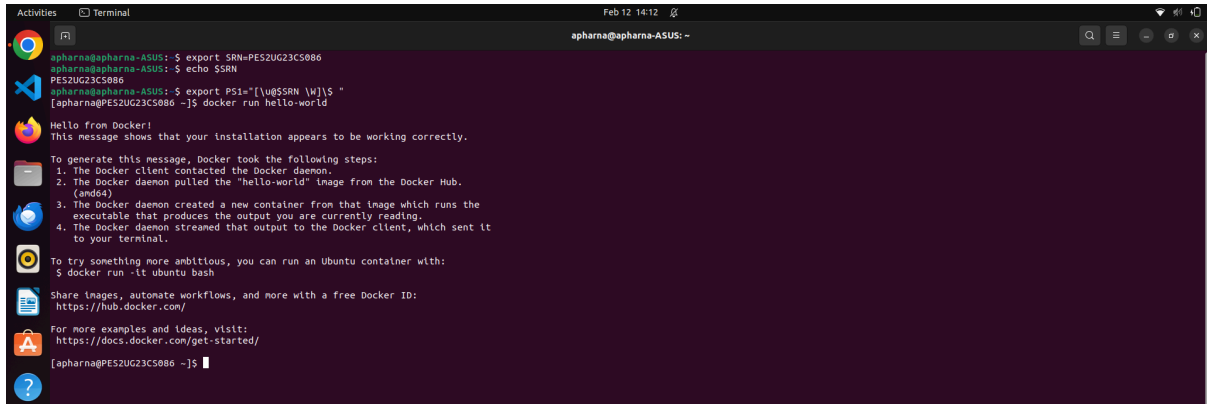
CLOUD COMPUTING LAB - 4

NAME : APHARNA KAMATH R

SRN : PES2UG23CS086

SECTION : B

Screenshot 1 :



```
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.
   (and64)
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/

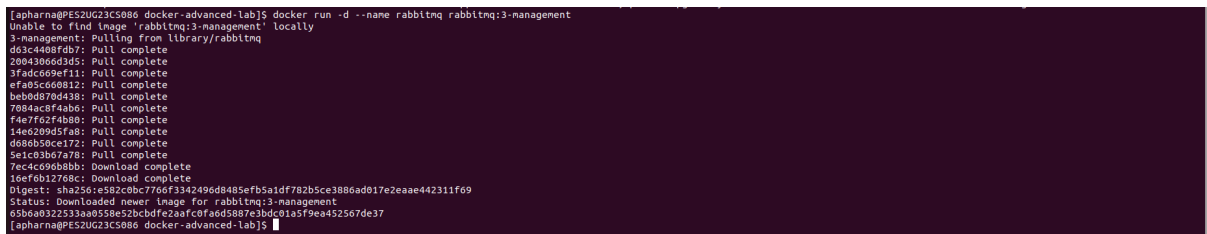
[apharna@PES2UG23CS086 ~]$
```

Screenshot 2 :



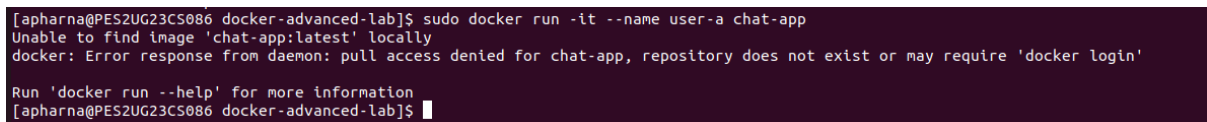
```
[apharna@PES2UG23CS086 ~]$ sudo curl -L "https://github.com/docker/compose/releases/download/5(curl -s https://api.github.com/repos/docker/compose/releases/latest | grep 'tag_name' | cut -d '"' -f4)/docker
-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
% Total % Received % Xferd Average Speed Time Time Time Current
Dload Upload Total Spent Left Speed
0 0 0 0 0 0 0 0 --:--:-- --:--:-- --:--:-- 0
100 29.0M 100 29.0M 0 0 3421k 0 0:00:08 0:00:08 --:--:-- 4344k
[apharna@PES2UG23CS086 ~]$ sudo chmod +x /usr/local/bin/docker-compose
[apharna@PES2UG23CS086 ~]$ sudo docker-compose --version
Docker Compose version v5.0.2
[apharna@PES2UG23CS086 ~]$
```

Screenshot 3 :



```
[apharna@PES2UG23CS086 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
d63c4408fdb7: Pull complete
2004306dd3d5: Pull complete
3fadcd9ef11: Pull complete
efa85c600812: Pull complete
beb0d870d438: Pull complete
7084acbf4ab6: Pull complete
f4e7f2f4ba0a: Pull complete
14e0209d5fab: Pull complete
d686b50ce172: Pull complete
5e1c03b67a78: Pull complete
7ec4c90b88bb: Download complete
16ef0b12768c: Download complete
Digest: sha256:e502c0bc7766f314249d0d8485efb5a1df782b5ce3886ad017e2eaae442311f69
Status: Downloaded newer image for rabbitmq:3-management
65b6a0322533aa8598e52bcdbfe2aafcf0a6d5887e3bdc01a5f9ea452567de37
[apharna@PES2UG23CS086 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

--- 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
[*] up 2/2
✓ Network docker-advanced-lab_chat-net Created
✓ Container docker-advanced-lab-rabbitmq-1 Created
Attaching to rabbitmq-1
rabbitmq-1 | INFO REPORT==== 12-Feb-2026:10:13:20.236424 ===
rabbitmq-1 |      alarm_handler: (set,[system_memory_high_watermark,[{}]])
rabbitmq-1 | 2026-02-12 09:13:21.508277+00:00 [notice] <0.44.0> Application syslog exited with reason: stopped
rabbitmq-1 | 2026-02-12 09:13:21.510620+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 09:13:21.510959+00:00 [notice] <0.254.0> Logging: configured log handlers are now ACTIVE
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> starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@5769e895e3d/quorum/rabbit@5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.542553+00:00 [info] <0.268.0> ra system 'quorum_queues' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-12 09:13:21.546599+00:00 [info] <0.269.0> ra: meta data store initialised for system quorum_queues. 0 record(s) recovered
rabbitmq-1 | 2026-02-12 09:13:21.552401+00:00 [notice] <0.224.0> WAL: ra_log_wal init, open tbls: ra_log_open_men_tables, closed tbls: ra_log_closed_men_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> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@5769e895e3d/coordination/rabbit@5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.561246+00:00 [info] <0.282.0> ra system 'coordination' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-12 09:13:21.561623+00:00 [info] <0.283.0> ra: meta data store initialised for system coordination. 0 record(s) recovered
rabbitmq-1 | 2026-02-12 09:13:21.561734+00:00 [notice] <0.288.0> WAL: ra_coordination_log_wal init, open tbls: ra_coordination_log_open_men_tables, closed tbls: ra_coordination_log_closed_men_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> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@5769e895e3d/coordination/rabbit@5769e895e3d
rabbitmq-1 | 2026-02-12 09:13:21.611158+00:00 [info] <0.254.0> Waiting for Kheprl leader for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-12 09:13:21.617699+00:00 [notice] <0.292.0> RabbitMQ metadata store: candidate -> leader in term: 1 machine version: 1
rabbitmq-1 | 2026-02-12 09:13:21.621082+00:00 [info] <0.254.0> Kheprl leader elected
rabbitmq-1 | 2026-02-12 09:13:21.621136+00:00 [info] <0.254.0> Waiting for Kheprl projections for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-12 09:13:21.777254+00:00 [info] <0.254.0>
rabbitmq-1 | 2026-02-12 09:13:21.777254+00:00 [info] <0.254.0> Starting RabbitMQ 3.13.7 on Erlang 26.2.5.16 [jlt]
rabbitmq-1 | 2026-02-12 09:13:21.777254+00:00 [info] <0.254.0> Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | 2026-02-12 09:13:21.777254+00:00 [info] <0.254.0> Licensed under the MPL 2.0. Website: https://rabbitmq.com
rabbitmq-1 |
rabbitmq-1 | ## ## RabbitMQ 3.13.7
rabbitmq-1 | ## ##
rabbitmq-1 | ##### Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | ##### ##
rabbitmq-1 | ##### Licensed under the MPL 2.0. Website: https://rabbitmq.com
rabbitmq-1 |
rabbitmq-1 | Erlang: 26.2.5.16 [jlt]
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 |
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 |
rabbitmq-1 | Logs: <stdout>
rabbitmq-1 |
rabbitmq-1 | Config file(s): /etc/rabbitmq/conf.d/10-defaults.conf
rabbitmq-1 |
```

Screenshot 9 :

```
apharna@apharna-ASUS: - x apharna@apharna-ASUS: ~/docker-advanced-lab x apharna@apharna-ASUS: ~/docker-advanced-lab x
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: 1/1
✓ Container docker-advanced-lab-rabbitmq-1 Running
Image docker-advanced-lab-user-a Building
[*] Building 12.8s (13/13) FINISHED
-> [internal] load local build definitions
-> == reading from stdin 540B
-> [internal] load build definition from Dockerfile
-> == transferring dockerfile: 33B
-> [internal] load metadata for docker.io/library/python:3.9-slim
-> [auth] library/python:pull token for registry-1.docker.io
-> [internal] load .dockerignore
-> == transferring context: 2B
-> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f691b10bd338d3800f261f53f144965f755599a0a0acda1e13cf1731b1b
-> == resolve docker.io/library/python:3.9-slim@sha256:2d97f691b10bd338d3800f261f53f144965f755599a0a0acda1e13cf1731b1b
-> [internal] load build context
-> == transferring context: 20B
-> CACHED [2/5] RUN pip install pika
-> CACHED [3/5] WORKDIR /app
-> CACHED [4/5] COPY chat.py .
-> CACHED [5/5] RUN mkdir -p /app/data
-> exporting to image
-> == exporting layers
-> == exporting manifest sha256:1aa5d976b7cf7ad71cab39722155c40891ca5570706c1f050e8370f7ab21110
-> == exporting config sha256:11bae0de2f73afdcba5ee0991a0d7a23b00b073a5b00c67a0f12831b
-> == exporting attestation manifest sha256:187957545e3241ce70aac0e49085a76225a4cc0dd6d5c44e2e0e74f20292bd
-> == exporting manifest list sha256:b77c0a44d161d2e7087074b79581679a9c9b0d00bb2003809220c1fca38ea305
-> naming 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-d8e053340f1d Creating
Container docker-advanced-lab-user-a-run-d8e053340f1d 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:
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
[+] 1/1t 1/1t
Container docker-advanced-lab-rabbitmq-1 Running
Image docker-advanced-lab-user-b Building
[+] Building 7.8s (12/12) FINISHED
=> [internal] load local bake definitions
=> => resolving from stdin 542b
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 323B
=> [internal] load metadata for docker.io/library/python:3.9-slim
=> [internal] load dockerignore
=> => transferring context: 2B
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b10bd33bd3060f261f53f144965f755599aabiadale13cf1731b1b
=> => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b10bd33bd3060f261f53f144965f755599aabiadale13cf1731b1b
=> [internal] load build context
=> => transferring context: 25B
=> CACHED [2/5] RUN pip install pika
=> CACHED [3/5] WORKDIR /app
=> CACHED [4/5] COPY chat.py
=> CACHED [5/5] RUN mkdir -p /app/data
=> exporting to image
=> => exporting layers
=> => exporting manifest sha256:c7a2ed3addb32aab710b4cc3310f715ffff9b80f287a16894c71177a80593d1c9
=> => exporting config sha256:343a03931db3bd6d65058159bc911aid5f8030249976127a26acc1e32aeb41b
=> => exporting attestation manifest sha256:4bc07ee79f874252eca9c10e08cfe3f99a52ef8a07270faa37b0cdc009503020
=> => exporting manifest list sha256:4d40a10d4ef970b70c3a2030e2130e33109c1e77db44e937be0b27ae2f9a5a
=> => naming to docker.io/library/docker-advanced-lab-user-b:latest
=> => unpacking to docker.io/library/docker-advanced-lab-user-b:latest
=> [internal] saving context for future file
Image docker-advanced-lab-user-b built
Container docker-advanced-lab-user-b-run-d78eae56c84c Creating
Container docker-advanced-lab-user-b-run-d78eae56c84c 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
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
[+] 1/1t 1/1t
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
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
[+] 1/1t 1/1t
Container docker-advanced-lab-rabbitmq-1 Running
Container docker-advanced-lab-user-b-run-bb27dcddee5 Creating
Container docker-advanced-lab-user-b-run-bb27dcddee5 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-b connecting to rabbitmq) ---
Type message: █
```