SNEHA VERMA
PES1UG23AM309
CC-LAB 4

SS 1 Check Docker

```
PES1UG23AM309@h:~$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
17eec7bbc9d7: Pull complete
Digest: sha256:05813aedc15fb7b4d732e1be879d3252c1c9c25d885824f6295cab4538cb
85cd
Status: Downloaded newer image for hello-world:latest

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 th
e
    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/

PES1UG23AM309@h:~$ |
```
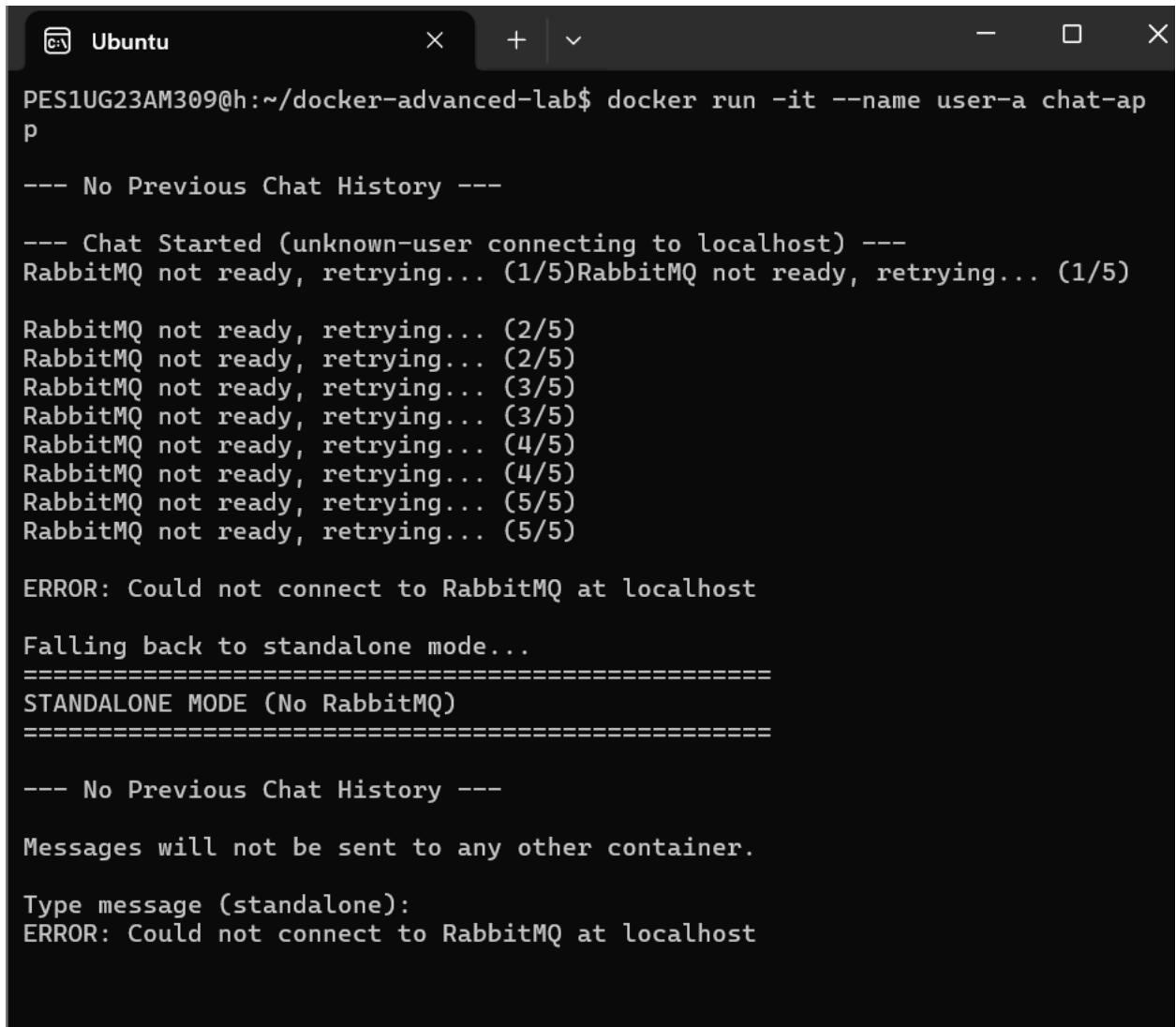
SS 2 Docker Compose check

```
PES1UG23AM309@h:~$ docker-compose --version
docker-compose version 1.29.2, build unknown
PES1UG23AM309@h:~$
```

SS-3 Copy project files

```
PES1UG23AM309@h:~/docker-advanced-lab$ ls
Dockerfile                      chat.py:Zone.Identifier
Dockerfile:Zone.Identifier      docker-compose.yml
chat.py                         docker-compose.yml:Zone.Identifier
PES1UG23AM309@h:~/docker-advanced-lab$
```

SS-4 Run RabbitMQ

```
Ubuntu                                                  —    □    ×

PES1UG23AM309@h:~/docker-advanced-lab$ docker run -it --name user-a chat-ap
p

--- 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

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):
ERROR: Could not connect to RabbitMQ at localhost
```
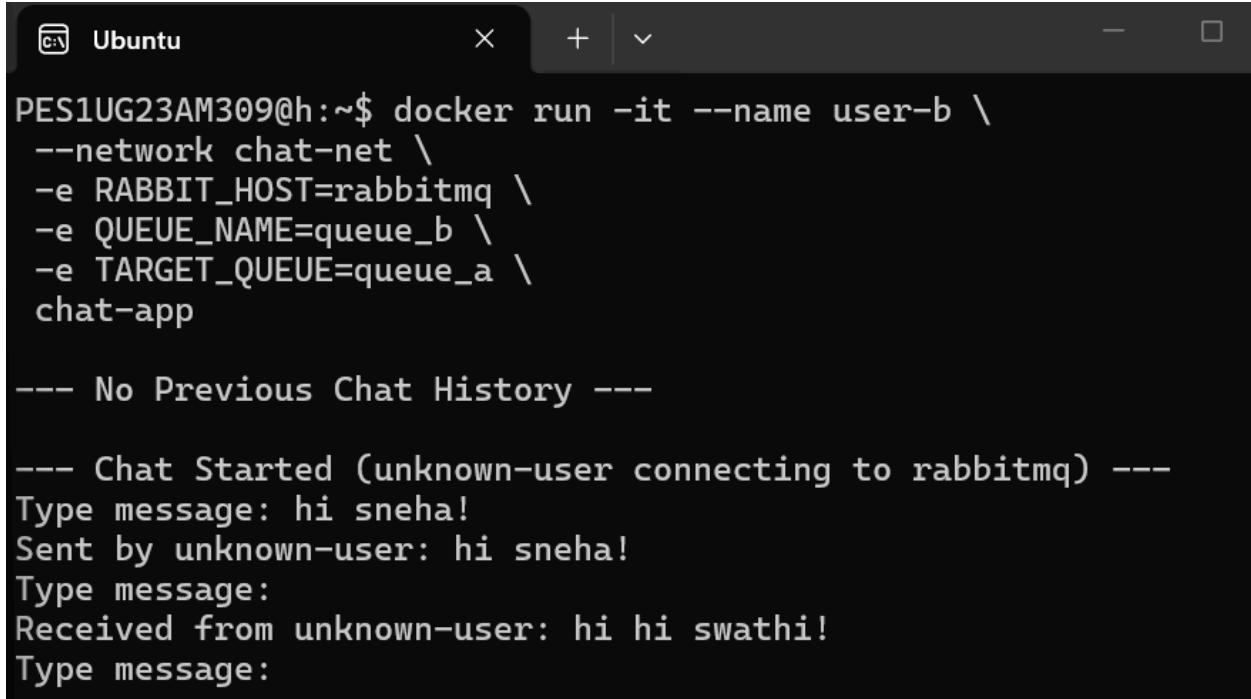
## SS-5 Docker Network

```
 ---> Removed intermediate container 10cf2ee99145
 ---> 4761c0d6bdfb
Step 4/6 : COPY chat.py .
 ---> 9f1f89079a58
Step 5/6 : RUN mkdir -p /app/data
 ---> Running in 85d329d2b347
 ---> Removed intermediate container 85d329d2b347
 ---> 81ac3efc06d1
Step 6/6 : CMD ["python", "-u", "chat.py"]
 ---> Running in 1c9c7ec4521f
 ---> Removed intermediate container 1c9c7ec4521f
 ---> 3ada69e283b3
Successfully built 3ada69e283b3
Successfully tagged chat-app:latest
PES1UG23AM309@h:~/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
20043066d3d5: Pull complete
3fadc669ef11: Pull complete
7084ac8f4ab6: Pull complete
beb0d870d438: Pull complete
d63c4408fdb7: Pull complete
efa05c660812: Pull complete
f4e7f62f4b80: Pull complete
5e1c03b67a78: Pull complete
14e6209d5fa8: Pull complete
d686b50ce172: Pull complete
Digest: sha256:e582c0bc7766f3342496d8485efb5a1df782b5ce3886ad017e2eaae442311f69
Status: Downloaded newer image for rabbitmq:3-management
b60351855c9320318bdce3541a979b41ea0ed0a225b80404854a99d975414865
PES1UG23AM309@h:~/docker-advanced-lab$ docker ps
CONTAINER ID   IMAGE                     COMMAND               CREATED         STATUS         PORTS
            NAMES
b60351855c93   rabbitmq:3-management     "docker-entrypoint.s…"   13 seconds ago   Up 11 seconds   4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691-15692/tcp,
25672/tcp   rabbitmq
PES1UG23AM309@h:~/docker-advanced-lab$
```

## SS-6 Docker Network

```
 Ubuntu                              ×      +    ⌄                                    —    ☐

PES1UG23AM309@h:~$ 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: hi sneha!
Sent by unknown-user: hi sneha!
Type message:
Received from unknown-user: hi hi swathi!
Type message:
```

SS-7 Docker Network

```
PES1UG23AM309@h:~$ 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: hi
Received from unknown-user: hi sneha!
Type message: hi swathi!
Sent by unknown-user: hi hi swathi!
Type message:
```

SS-8 Docker Compose

```
PES1UG23AM309@h:~$ cd docker-advanced-lab
PES1UG23AM309@h:~/docker-advanced-lab$ docker compose run --rm user-a
unknown flag: --rm

Usage:  docker [OPTIONS] COMMAND [ARG...]

Run 'docker --help' for more information
PES1UG23AM309@h:~/docker-advanced-lab$
```

SS-9 Docker Compose

```
PES1UG23AM309@h:~$ cd docker-advanced-lab
PES1UG23AM309@h:~/docker-advanced-lab$ docker compose run --rm user-a
unknown flag: --rm

Usage:  docker [OPTIONS] COMMAND [ARG...]

Run 'docker --help' for more information
PES1UG23AM309@h:~/docker-advanced-lab$
```

SS-10 Docker Compose
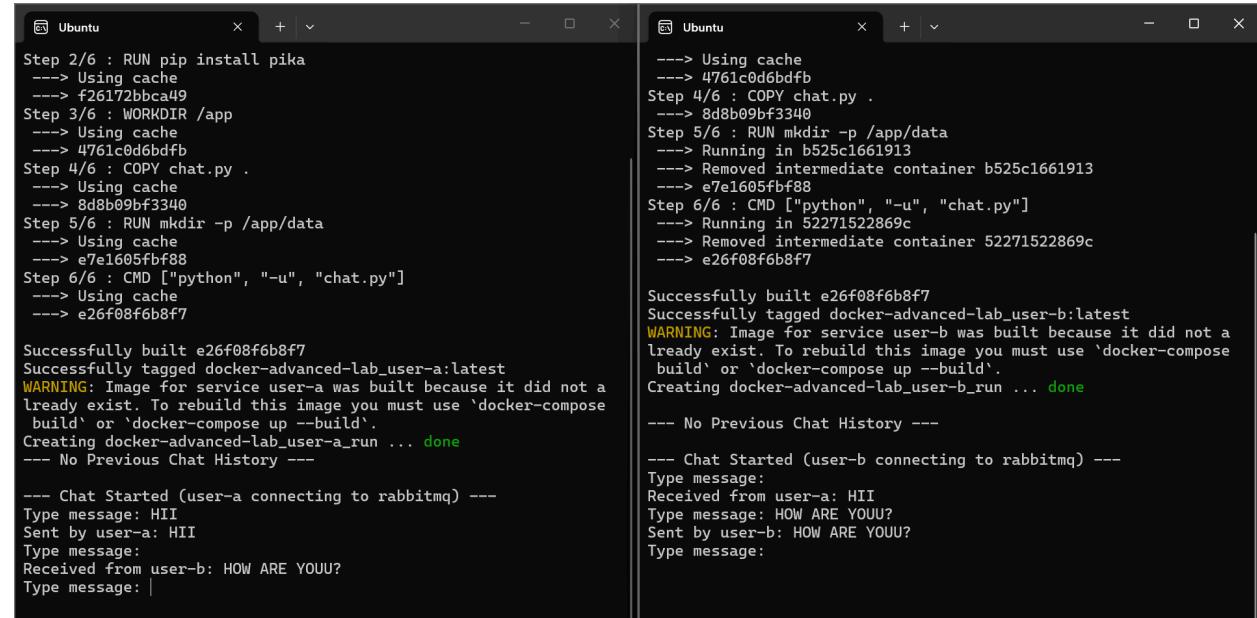
```
PES1UG23AM309@h:~$ cd docker-advanced-lab
PES1UG23AM309@h:~/docker-advanced-lab$ docker compose run --rm user-a
unknown flag: --rm

Usage:  docker [OPTIONS] COMMAND [ARG...]

Run 'docker --help' for more information
PES1UG23AM309@h:~/docker-advanced-lab$
```

## SS-11

```
sion: 1
rabbitmq_1  | 2026-02-06 09:53:44.863905+00:00 [info] <0.254.0>
rabbitmq_1  | 2026-02-06 09:53:44.863905+00:00 [info] <0.254.0>  Starting RabbitMQ 3.13.7 on Erlang 26.2.5.16 [jit]
rabbitmq_1  | 2026-02-06 09:53:44.863905+00:00 [info] <0.254.0>  Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq_1  | 2026-02-06 09:53:44.863905+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 [jit]
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/docs/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  |
rabbitmq_1  |   Starting broker...2026-02-06 09:53:44.870831+00:00 [info] <0.254.0>
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> node            : rabbit@3ab615a881ae
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> home dir        : /var/lib/rabbitmq
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> config file(s)  : /etc/rabbitmq/conf.d/10-defaults.conf
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> cookie hash     : kQfZFpNZFJHJ9mGAd8xYAw==
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> log(s)          : <stdout>
rabbitmq_1  | 2026-02-06 09:53:44.870831+00:00 [info] <0.254.0> data dir        : /var/lib/rabbitmq/mnesia/rabbit@3ab615a881ae
```

## SS-12 - CHAT HISTORY COULDN'T BE RESTORED EVEN AFTER TRYING A LOT PLEASE CONSIDER

```
Step 2/6 : RUN pip install pika
 ---> Using cache
 ---> f26172bbca49
Step 3/6 : WORKDIR /app
 ---> Using cache
 ---> 4761c0d6bdfb
Step 4/6 : COPY chat.py .
 ---> Using cache
 ---> 8d8b09bf3340
Step 5/6 : RUN mkdir -p /app/data
 ---> Using cache
 ---> e7e1605fbf88
Step 6/6 : CMD ["python", "-u", "chat.py"]
 ---> Using cache
 ---> e26f08f6b8f7

Successfully built e26f08f6b8f7
Successfully tagged docker-advanced-lab_user-a:latest
WARNING: Image for service user-a was built because it did not a
lready exist. To rebuild this image you must use `docker-compose
 build` or `docker-compose up --build`.
Creating docker-advanced-lab_user-a_run ... done
--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: HII
Sent by user-a: HII
Type message:
Received from user-b: HOW ARE YOUU?
Type message: |
```

```
 ---> Using cache
 ---> 4761c0d6bdfb
Step 4/6 : COPY chat.py .
 ---> 8d8b09bf3340
Step 5/6 : RUN mkdir -p /app/data
 ---> Running in b525c1661913
 ---> Removed intermediate container b525c1661913
 ---> e7e1605fbf88
Step 6/6 : CMD ["python", "-u", "chat.py"]
 ---> Running in 52271522869c
 ---> Removed intermediate container 52271522869c
 ---> e26f08f6b8f7

Successfully built e26f08f6b8f7
Successfully tagged docker-advanced-lab_user-b:latest
WARNING: Image for service user-b was built because it did not a
lready exist. To rebuild this image you must use `docker-compose
 build` or `docker-compose up --build`.
Creating docker-advanced-lab_user-b_run ... done

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: HII
Type message: HOW ARE YOUU?
Sent by user-b: HOW ARE YOUU?
Type message:
```