

CC LAB 4

NAME: AVANEE UPADHYAYA

SRN: PES2UG23CS108

SECTION: B

SS1:

```
avanee@Avanee:~$ export SRN=PES2UG23CS108
avanee@Avanee:~$ echo $SRN
PES2UG23CS108
avanee@Avanee:~$ export PS1="[\u@$SRN \w]\$ "
[avanee@PES2UG23CS108 ~]$ docker run hello-world

The command 'docker' could not be found in this WSL 2 distro.
We recommend to activate the WSL integration in Docker Desktop settings.

For details about using Docker Desktop with WSL 2, visit:
https://docs.docker.com/go/wsl2/

[avanee@PES2UG23CS108 ~]$ 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/

[avanee@PES2UG23CS108 ~]$
```

SS2:

```
Docker Compose version v5.0.2
[avanee@PES2UG23CS108 ~]$ sudo docker compose version
Docker Compose version v5.0.2
[avanee@PES2UG23CS108 ~]$
```

SS3:

```
[avanee@PES2UG23CS108 docker-advanced-lab]$ sudo docker ps
[sudo] password for avanee:
CONTAINER ID        IMAGE               COMMAND             CREATED            STATUS              PORTS
 NAMES
b9f780db9e92      rabbitmq:3-management   "docker-entrypoint.s..."  40 seconds ago   Up 39 seconds   4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691-15692/tcp,
25672/tcp          rabbitmq
[avanee@PES2UG23CS108 docker-advanced-lab]$
```

SS4:

```
[avanee@PES2UG23CS108 docker-advanced-lab]$ sudo 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):
```

SS5:

```
[avanee@PES2UG23CS108 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
Sent by unknown-user: hello
Type message:
Received from unknown-user: hello friend
Type message: hope you're enjoying the lab
Sent by unknown-user: hope you're enjoying the lab
Type message:
Received from unknown-user: yeah this typing thing is fun actually
Type message: |
```

SS6:

```
avanee@Avanee:~$ 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: hello friend
Sent by unknown-user: hello friend
Type message:
Received from unknown-user: hope you're enjoying the lab
Type message: yeah this typing thing is fun actually
Sent by unknown-user: yeah this typing thing is fun actually
Type message:
```

SS7:

```
[avanee@PES2UG23CS108 docker-advanced-lab]$ docker stop user-a user-b rabbitmq
user-a
user-b
rabbitmq
[avanee@PES2UG23CS108 docker-advanced-lab]$ docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
[avanee@PES2UG23CS108 docker-advanced-lab]$ docker network rm chat-net
chat-net
[avanee@PES2UG23CS108 docker-advanced-lab]$
```

SS8:

```
chat-net
[avanee@PES2UG23CS108 docker-advanced-lab]$ docker compose up rabbitmq
[WARN] [0000] /home/avanee/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 | 2026-02-12 09:24:45.469215+00:00 [notice] <0.44.0> Application syslog exited with reason: stopped
rabbitmq-1 | 2026-02-12 09:24:45.477173+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 09:24:45.478151+00:00 [notice] <0.254.0> Logging: configured log handlers are now ACTIVE
rabbitmq-1 | 2026-02-12 09:24:45.491587+00:00 [info] <0.254.0> ra: starting system quorum_queues
rabbitmq-1 | 2026-02-12 09:24:45.491721+00:00 [info] <0.254.0> starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@14e36571d01a
/quorum/rabbit@14e36571d01a
rabbitmq-1 | 2026-02-12 09:24:45.562122+00:00 [info] <0.268.0> ra system 'quorum_queues' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-12 09:24:45.573283+00:00 [info] <0.269.0> ra: meta data store initialised for system quorum_queues. 0 record(s) recovered
rabbitmq-1 | 2026-02-12 09:24:45.589203+00:00 [notice] <0.274.0> WAL: ra_log_wal init, open tbls: ra_log_open_mem_tables, closed tbls: ra_log_closed_mem_ta
bles
rabbitmq-1 | 2026-02-12 09:24:45.605786+00:00 [info] <0.254.0> ra: starting system coordination
rabbitmq-1 | 2026-02-12 09:24:45.605853+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@14e36571d01a/
coordination/rabbit@14e36571d01a
rabbitmq-1 | 2026-02-12 09:24:45.607475+00:00 [info] <0.282.0> ra system 'coordination' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-12 09:24:45.608493+00:00 [info] <0.283.0> ra: meta data store initialised for system coordination. 0 record(s) recovered
rabbitmq-1 | 2026-02-12 09:24:45.608699+00:00 [notice] <0.288.0> WAL: ra_coordination_log_wal init, open tbls: ra_coordination_log_open_mem_tables, closed
tbls: ra_coordination_log_closed_mem_tables
rabbitmq-1 | 2026-02-12 09:24:45.611088+00:00 [info] <0.254.0> ra: starting system coordination
rabbitmq-1 | 2026-02-12 09:24:45.611140+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@14e36571d01a/
coordination/rabbit@14e36571d01a
rabbitmq-1 | 2026-02-12 09:24:45.714607+00:00 [info] <0.254.0> Waiting for Khepri leader for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-12 09:24:45.719964+00:00 [notice] <0.292.0> RabbitMQ metadata store: candidate -> leader in term: 1 machine version: 1
rabbitmq-1 | 2026-02-12 09:24:45.738915+00:00 [info] <0.254.0> Khepri leader elected
rabbitmq-1 | 2026-02-12 09:24:45.739000+00:00 [info] <0.254.0> Waiting for Khepri projections for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-12 09:24:46.363734+00:00 [info] <0.254.0>
rabbitmq-1 | 2026-02-12 09:24:46.363734+00:00 [info] <0.254.0> Starting RabbitMQ 3.13.7 on Erlang 26.2.5.16 [jit]
rabbitmq-1 | 2026-02-12 09:24:46.363734+00:00 [info] <0.254.0> Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | 2026-02-12 09:24:46.363734+00:00 [info] <0.254.0> Licensed under the MPL 2.0. Website: https://rabbitmq.com
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 |
```

SS9:

```
avanee@Avanees-MacBook-Pro-2:~$ cd ~/docker-advanced-lab
avanee@Avanees-MacBook-Pro-2:~/docker-advanced-lab$ ls
chat.py  docker-compose.yml  Dockerfile
avanee@Avanees-MacBook-Pro-2:~/docker-advanced-lab$ docker compose run --rm user-a
[WARN] [0000] /home/avanee/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential
confusion
[+] 1/1
  ✓ Container docker-advanced-lab-rabbitmq-1  Running
Image docker-advanced-lab-user-a  Building
[+] Building 3.4s (13/13) FINISHED
  => [internal] load local build definitions          0.0s
  => reading from stdin 540B                          0.0s
  => [internal] load build definition from Dockerfile 0.0s
  =>   transferring dockerfile: 32B                   0.0s
  => [internal] load metadata for docker.io/library/python:3.9-slim 0.0s
  => [auth] library/python:pull token for registry-1.docker.io 0.0s
  => [internal] load .dockercfg                    0.0s
  =>   transferring context: 2B                      0.0s
  => [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97ff6910b16bd338d3868f261f53f1404965f755599aablaclade13cf 0.0s
  => => resolve docker.io/library/python:3.9-slim@sha256:2d97ff6910b16bd338d3868f261f53f1404965f755599aablaclade13cf 0.0s
  => [internal] load build context                  0.0s
  =>   transferring context: 298                     0.0s
  => CACHED [2/5] RUN pip install pika             0.0s
  => CACHED [3/5] WORKDIR /app                      0.0s
  => CACHED [4/5] COPY chat.py                      0.0s
  => CACHED [5/5] RUN mkdir -p /app/data            0.0s
  => exporting to image                            0.2s
  =>   exporting layers                           0.0s
  =>   exporting manifest sha256:a257e27513bf1ffe4967cc04dc65c898b1e4a0f11a282163bb2e6f14046c2814e0 0.0s
  =>   => exporting config sha256:23ce971cb3a6a29c287a36c5cea124c49606d0da68a4231a92ae7f7c56a3b8 0.0s
  =>   => exporting attestation manifest sha256:492b56cf61e4f8836b726c7fba23e9aa70e8b55336a9d1ee7f6cf6abc56e32 0.0s
  =>   => exporting manifest list sha256:8323f16c27faa8ed15a8aff16ee76d5477a113a7ea09707c4f2668c5edf3ba4 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-317da0abc7ca  Creating
Container docker-advanced-lab-user-a-run-317da0abc7ca  Created
--- No Previous Chat History ---
--- Chat Started (user-a connecting to rabbitmq) ---
Type message: |
```

SS10:

```
avanee@Avanee:~/docker-advanced-lab$ cd ~/docker-advanced-lab$ docker compose run --rm user-b
WARN[0000] /home/avanee/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
Image docker-advanced-lab-user-b Building
[+] Building 2.3s (12/12) FINISHED
=> [Internal] load local build definitions 0.0s
=> reading from stdin 0.0s
=> [Internal] load build definition from Dockerfile 0.0s
=> transferring dockerfile: 323B 0.0s
=> [Internal] load metadata for docker.io/library/python:3.9-slim 1.3s
=> [Internal] load .dockerrcignore 0.0s
=> transferring context: 2B 0.0s
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f104965f755599aablaclale13cf 0.0s
=> => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f104965f755599aablaclale13cf 0.0s
=> [internal] load build context 0.0s
=> => transferring context: 29B 0.0s
=> CACHED [2/5] RUN pip install pika 0.0s
=> CACHED [3/5] WORKDIR /app 0.0s
=> COPY chat.py . 0.0s
=> CACHED [4/5] RUN mkdir -p /app/data 0.0s
=> exporting to image 0.2s
=> => exporting layers 0.0s
=> => exporting manifest sha256:a20a69ef1ab91ae819040927f742f77535ee3acd55c5217f85267f9d91ff7c65 0.0s
=> => exporting config sha256:ab856bde5b74abb6e994b2e52a87df41865a192f56c6a9f8d84be0b56f82b8 0.0s
=> => exporting attestation manifest sha256:427cfa08cb59c007250lhd7f501aa960c92946b23643d16576138ca5d817c5e 0.0s
=> => exporting manifest list sha256:7f3b0788a17hdc044dc26e18babac26aafc9750c4e6e39b8aa6abdbf3608cd63 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-416d93ddd402 Creating
Container docker-advanced-lab-user-b-run-416d93ddd402 Created

--- No Previous Chat History ---
--- Chat Started (user-b connecting to rabbitmq) ---
Type message: |
```

SS11:

```
avanee@Avanee:~/docker-advanced-lab$ docker compose run --rm user-a
WARN[0000] /home/avanee/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
Container docker-advanced-lab-user-a-run-d500f3185ea Creating
Container docker-advanced-lab-user-a-run-d500f3185ea Created

--- Chat History ---
Sent by user-a: hello
Received from user-a: hello
Sent by user-b: hi avnii
Received from user-b: hi avniii
Sent by user-a: someone just opened a diet coke lol
Received from user-a: someone just opened a diet coke lol
Sent by user-b: ikkkkk i heard it toooo
Received from user-b: ikkkkk i heard it toooo
--- End of History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: |
```

SS12:

```
avanee@Avanee:~/docker-advanced-lab$ docker compose run --rm user-b
WARN[0000] /home/avanee/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
Container docker-advanced-lab-user-b-run-c23d619453a8 Creating
Container docker-advanced-lab-user-b-run-c23d619453a8 Created

--- Chat History ---
Sent by user-a: hello
Received from user-a: hello
Sent by user-b: hi avnii
Received from user-b: hi avniii
Sent by user-a: someone just opened a diet coke lol
Received from user-a: someone just opened a diet coke lol
Sent by user-b: ikkkkk i heard it toooo
Received from user-b: ikkkkk i heard it toooo
--- End of History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message: |
```