CC Lab 4

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SRN - PES2UG23CS485

Class - 6H

ss1

```
rtk@RithvikYoga:/mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab$ export SRN=PES2UG23CS485
rtk@RithvikYoga:/mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab$ echo $SRN
PES2UG23CS485
rtk@RithvikYoga:/mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab$ export PS1="[\u@$SRN \W]\$ "
[rtk@PES2UG23CS485 docker-advanced-lab]$ ls
Dockerfile  chat.py  docker-compose.yml
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker run hello-world
Unable to find image 'hello-world:latest' locally
latest: Pulling from library/hello-world
17eec7bbc9d7: Pull complete
ea52d2000f90: Download complete
Digest: sha256:05813aedc15fb7b4d732e1be879d3252c1c9c25d885824f6295cab4538cb85cd
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 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/

[rtk@PES2UG23CS485 docker-advanced-lab]$
```

ss2

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ sudo docker compose version
[sudo] password for rtk:
Docker Compose version v5.0.1
[rtk@PES2UG23CS485 docker-advanced-lab]$
```

ss3

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker run -d --name rabbitmq rabbitmq:3-management
87493d1bfce12e34260fc729af9aad30cd54387a56a3f6f728f9952f5c627892
[rtk@PES2UG23CS485 docker-advanced-lab]$ sudo docker ps
CONTAINER ID   IMAGE                COMMAND              CREATED          STATUS          PORTS
                              NAMES
87493d1bfce1   rabbitmq:3-management  "docker-entrypoint.s…"   21 seconds ago   Up 21 seconds   4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691
-15692/tcp, 25672/tcp   rabbitmq
[rtk@PES2UG23CS485 docker-advanced-lab]$
```

ss4

```
[rtk@PES2UG23CS485 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

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
i'm lonely
Sent by unknown-user (standalone): i'm lonely
Type message (standalone): i'm lonely
Sent by unknown-user (standalone): i'm lonely
Type message (standalone): |
```

ss5

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker run -it --name user-a \
eue_b \
  chat-app
>   --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:
Received from unknown-user: hii
Type message: heyaa
Sent by unknown-user: heyaa
Type message:
Received from unknown-user: hope u're enjoying the lab
Type message: hmm not really
Sent by unknown-user: hmm not really
Type message:
Received from unknown-user: why not ? its pretty fun!
Type message: oh is it so, hope u enjoy it , seeya
Sent by unknown-user: oh is it so, hope u enjoy it , seeya
Type message:
Received from unknown-user: bye bye
Type message:
```

ss6

```
[rtk@PES2UG23CS485 CC-Lab-4]$ docker rm -f user-b
user-b
[rtk@PES2UG23CS485 CC-Lab-4]$ docker run -it --name user-b  --network chat-net  -e RABBIT_HOST=rabbitmq  -e QUEUE_NAME=queue_b  -e TA
RGET_QUEUE=queue_a  chat-app

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message: hii
Sent by unknown-user: hii
Type message:
Received from unknown-user: heyaa
Type message: hope u're enjoying the lab
Sent by unknown-user: hope u're enjoying the lab
Type message:
Received from unknown-user: hmm not really
Type message: why not ? its pretty fun!
Sent by unknown-user: why not ? its pretty fun!
Type message:
Received from unknown-user: oh is it so, hope u enjoy it , seeya
Type message: bye bye
Sent by unknown-user: bye bye
Type message:
```

ss7

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker stop user-a user-b rabbitmq
tmq
docker network rm chat-netuser-a
user-b
rabbitmq
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker network rm chat-net
chat-net
[rtk@PES2UG23CS485 docker-advanced-lab]$
```

ss8

```
rabbitmq-1  | 2026-02-03 09:08:03.904378+00:00 [info] <0.254.0> Running boot step notify_cluster defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.904481+00:00 [info] <0.254.0> Running boot step networking defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.904518+00:00 [info] <0.254.0> Running boot step rabbit_quorum_queue_periodic_membership_reconciliation defined by app rabb
it
rabbitmq-1  | 2026-02-03 09:08:03.904703+00:00 [info] <0.254.0> Running boot step definition_import_worker_pool defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.904755+00:00 [info] <0.315.0> Starting worker pool 'definition_import_pool' with 8 processes in it
rabbitmq-1  | 2026-02-03 09:08:03.905773+00:00 [info] <0.254.0> Running boot step cluster_name defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.905971+00:00 [info] <0.254.0> Initialising internal cluster ID to 'rabbitmq-cluster-id-ed4EBUTaSKXOAwxVw8dBIg'
rabbitmq-1  | 2026-02-03 09:08:03.921913+00:00 [info] <0.254.0> Running boot step virtual_host_reconciliation defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.922435+00:00 [info] <0.254.0> Running boot step direct_client defined by app rabbit
rabbitmq-1  | 2026-02-03 09:08:03.922685+00:00 [info] <0.254.0> Running boot step rabbit_federation_exchange defined by app rabbitmq_federation
rabbitmq-1  | 2026-02-03 09:08:03.922956+00:00 [info] <0.254.0> Running boot step rabbit_management_load_definitions defined by app rabbitmq_management
rabbitmq-1  | 2026-02-03 09:08:03.923101+00:00 [info] <0.688.0> Resetting node maintenance status
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0> Deprecated features: `management_metrics_collection`: Feature `management_metrics_collect
ion` is deprecated.
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0> By default, this feature can still be used for now.
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0> 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  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0> To continue using this feature when it is not permitted by default, set the following par
ameter in your configuration:
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0>     "deprecated_features.permit.management_metrics_collection = true"
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
rabbitmq-1  | 2026-02-03 09:08:04.401800+00:00 [warning] <0.717.0>     "deprecated_features.permit.management_metrics_collection = false"
rabbitmq-1  | 2026-02-03 09:08:13.441770+00:00 [info] <0.754.0> Management plugin: HTTP (non-TLS) listener started on port 15672
rabbitmq-1  | 2026-02-03 09:08:13.442059+00:00 [info] <0.784.0> Statistics database started.
rabbitmq-1  | 2026-02-03 09:08:13.442149+00:00 [info] <0.783.0> Starting worker pool 'management_worker_pool' with 3 processes in it
rabbitmq-1  | 2026-02-03 09:08:13.455144+00:00 [info] <0.802.0> Prometheus metrics: HTTP (non-TLS) listener started on port 15692
rabbitmq-1  | 2026-02-03 09:08:13.455458+00:00 [info] <0.688.0> Ready to start client connection listeners
rabbitmq-1  | 2026-02-03 09:08:13.463313+00:00 [info] <0.846.0> started TCP listener on [::]:5672
rabbitmq-1  |  completed with 5 plugins.
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0> Server startup complete; 5 plugins started.
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0>  * rabbitmq_prometheus
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0>  * rabbitmq_federation
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0>  * rabbitmq_management
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0>  * rabbitmq_management_agent
rabbitmq-1  | 2026-02-03 09:08:13.871373+00:00 [info] <0.688.0>  * rabbitmq_web_dispatch
rabbitmq-1  | 2026-02-03 09:08:14.014148+00:00 [info] <0.9.0> Time to start RabbitMQ: 24650 ms

v View in Docker Desktop  o View Config  w Enable Watch  d Detach
```

ss9

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remov
e it to avoid potential confusion
WARN[0000] No services to build
[+] 1/1t 1/11
 ✔ Container docker-advanced-lab-rabbitmq-1 Running                                                                        0.0s
Image docker-advanced-lab-user-a Building
[+] Building 5.2s (13/13) FINISHED
 => [internal] load local bake definitions                                                                                0.0s
 => => reading from stdin 586B                                                                                            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                                                        2.6s
 => [auth] library/python:pull token for registry-1.docker.io                                                             0.0s
 => [internal] load .dockerignore                                                                                         0.1s
 => => transferring context: 2B                                                                                           0.1s
 => [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f144965f755599aab1acda1e13cf1731b1b   0.0s
 => => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f144965f755599aab1acda1e13cf1731b1b   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
 => 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 sha256:385ff7060e2a08b6e8c9d5762fc8522c599b20340775254ccc7ed7ce026ac3f4                          0.0s
 => => exporting config sha256:dfc9096c6cc25eda96180711934166d1a32a10583c3aa1b838630e579035de61                           0.0s
 => => exporting attestation manifest sha256:88e2192e964904086167898ca6efeccdaea8a382e4a5a47db885202c0ac8f0d0             0.0s
 => => exporting manifest list sha256:0894d141f8628d38beeebf0cae474c70af4b51157fca5515842e21123d3cdba2                     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-90dba617d96b Creating
Container docker-advanced-lab-user-a-run-90dba617d96b Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: helooo
Sent by user-a: helooo
Type message:
Received from user-b: wazzzuuuuuhhhhh
Type message:
```

ss10

```
rtk@RithvikYoga:/mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab$ docker compose run --rm user-b
WARN[0000] /mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remov
e it to avoid potential confusion
WARN[0000] No services to build
[+] 1/1t 1/11
 ✔ Container docker-advanced-lab-rabbitmq-1 Running                                                                        0.0s
Image docker-advanced-lab-user-b Building
[+] Building 3.7s (12/12) FINISHED
 => [internal] load local bake definitions                                                                                0.0s
 => => reading from stdin 586B                                                                                            0.0s
 => [internal] load build definition from Dockerfile                                                                      0.1s
 => => transferring dockerfile: 323B                                                                                      0.0s
 => [internal] load metadata for docker.io/library/python:3.9-slim                                                        1.3s
 => [internal] load .dockerignore                                                                                         0.1s
 => => transferring context: 2B                                                                                           0.0s
 => [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f144965f755599aab1acda1e13cf1731b1b   0.1s
 => => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3060f261f53f144965f755599aab1acda1e13cf1731b1b   0.1s
 => [internal] load build context                                                                                         0.1s
 => => transferring context: 29B                                                                                          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                                                                                                    0.4s
 => => exporting layers                                                                                                   0.0s
 => => exporting manifest sha256:09e598f5eefcfc2bcefb87d44abe6c76d792b86f2801a314488ff7570d42d7f6                          0.0s
 => => exporting config sha256:bf37252dfefe57095645475b9da9e95d33c546e543ee7c1ced5e25ffb99060b9                           0.0s
 => => exporting attestation manifest sha256:33006ade860c7373091b8fe05c333132fea4af9b287afd5e1a483c45a991a35a             0.1s
 => => exporting manifest list sha256:2832a40f448b5334def2aad34e1062d1a6171b9de8d9f20539a40432467f13da                     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-409bf2128073 Creating
Container docker-advanced-lab-user-b-run-409bf2128073 Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: helooo
Type message: wazzzuuuuuhhhhh
Sent by user-b: wazzzuuuuuhhhhh
Type message:
```

Ss11

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remov
e it to avoid potential confusion
WARN[0000] No services to build
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                                                    0.0s
WARN[0000] No services to build
Container docker-advanced-lab-user-a-run-db920e4c9574 Creating
Container docker-advanced-lab-user-a-run-db920e4c9574 Created

--- Chat History ---
Sent by user-a: yelloooooooooooo
Received from user-a: yelloooooooooooo
Sent by user-b: belllooo
Received from user-b: belllooo
Sent by user-b: do u think the history will be saved
Received from user-b: do u think the history will be saved
Sent by user-a: maybe it will
Received from user-a: maybe it will
Sent by user-a: let's see
Received from user-a: let's see
Sent by user-b: yep let's do it
Received from user-b: yep let's do it
--- End of History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: wowww it actually got savedd!!!
Sent by user-a: wowww it actually got savedd!!!
Type message:
Received from user-b: wohooo
Type message:
Received from user-b: i'm sooo happy that the lab is almost over wohoooo
Type message:
```

ss12

```
[rtk@PES2UG23CS485 docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /mnt/c/Users/rithv/sem6/CC/CC-Lab-4/docker-advanced-lab/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remov
e it to avoid potential confusion
WARN[0000] No services to build
[+]  1/1t 1/11
  ✔Container docker-advanced-lab-rabbitmq-1 Running                                                                                                    0.0s
WARN[0000] No services to build
Container docker-advanced-lab-user-b-run-db636c62c305 Creating
Container docker-advanced-lab-user-b-run-db636c62c305 Created

--- Chat History ---
Sent by user-a: yelloooooooooooo
Received from user-a: yelloooooooooooo
Sent by user-b: belllooo
Received from user-b: belllooo
Sent by user-b: do u think the history will be saved
Received from user-b: do u think the history will be saved
Sent by user-a: maybe it will
Received from user-a: maybe it will
Sent by user-a: let's see
Received from user-a: let's see
Sent by user-b: yep let's do it
Received from user-b: yep let's do it
--- End of History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: wowww it actually got savedd!!!
Type message: wohooo
Sent by user-b: wohooo
Type message: i'm sooo happy that the lab is almost over wohoooo
Sent by user-b: i'm sooo happy that the lab is almost over wohoooo
Type message:
```