

Cloud Computing Lab 4

03-02-2026

A R KEERTHANA

PES2UG23CS001

SS1

```
0.3s
keerthana@Keerthana:~/PES2UG23CS001-docker-advanced-lab$ export SRN=PES2UG23
CS001
keerthana@Keerthana:~/PES2UG23CS001-docker-advanced-lab$ echo $SRN
PES2UG23CS001
keerthana@Keerthana:~/PES2UG23CS001-docker-advanced-lab$ export PS1="[u@$SR
N \w]\$ "
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker run hell
o-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/

[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$
```

SS2

```
~/local/bin/docker-compose
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker compose
version
Docker Compose version v5.0.1
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$
```

SS3

```
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker run -d --name rabbitmq rabbitmq:3-management
39ddda78aa04bcee9e4e93cc79d4f770b356a25192e4d607b6fba26eeb47218f
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker ps
```

CONTAINER ID	IMAGE	COMMAND	CREATED
39ddda78aa04	rabbitmq:3-management	"docker-entrypoint.s..."	18 seconds ago

```
Up 17 seconds 4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691-15692/tcp, 25672/tcp rabbitmq
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$
```

SS4

```
[keerthana@PES2UG23CS001 PES2UG23CS001-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
```

SS5

```
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker run
-it --name user-a \--network chat-net \-e RABBIT_HOST=rabbitmq \-e QUE
UE_NAME=queue_a \-e TARGET_QUEUE=queue_b \chat-app

--- No Previous Chat History ---

--- Chat Started (unknown-user connecting to rabbitmq) ---
Type message: Hi how are you???
Sent by unknown-user: Hi how are you???
Type message:
Received from unknown-user: what are u doing
Type message:
```

SS6

```
rabbitmq
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker run -d -
--name rabbitmq --network chat-net rabbitmq:3-management
66efcd42d0fb333036631e6c8db4cf26471fc6480433b17a1bb08327b1d7ae49
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker run -it
--name user-b \--network chat-net \-e RABBIT_HOST=rabbitmq \-e QUEUE_NAME=qu
eue_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: Hi how are you???
Type message: what are u doing
Sent by unknown-user: what are u doing
Type message:
```

SS7

```
120.7/ connection reset by peer
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker stop use
r-a user-b rabbitmq
user-a
user-b
rabbitmq
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker rm user-
a user-b rabbitmq
user-a
user-b
rabbitmq
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker network
rm chat-net
chat-net
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$
```

SS8

```
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker compose up rabbitmq
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it
o avoid potential confusion
WARN[0000] No services to build
[*] up 1/2
[*] up 1/2 pes2ug23cs001-docker-advanced-lab_chat-net Created 0.1s
[*] up 2/2 pes2ug23cs001-docker-advanced-lab_chat-net Created 0.1s
✓Network pes2ug23cs001-docker-advanced-lab_chat-net Created 0.1s
✓Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Created 0.3s
Attaching to rabbitmq-1
rabbitmq-1 | 2026-02-03 09:17:05.146865+00:00 [notice] <0.44.0> Application syslog exited with reason: stopped
rabbitmq-1 | 2026-02-03 09:17:05.157430+00:00 [notice] <0.254.0> Logging: switching to configured handler(s); following messages may not be visible in th
log output
rabbitmq-1 | 2026-02-03 09:17:05.160163+00:00 [notice] <0.254.0> Logging: configured log handlers are now ACTIVE
rabbitmq-1 | 2026-02-03 09:17:05.179015+00:00 [info] <0.254.0> ra: starting system quorum_queues
rabbitmq-1 | 2026-02-03 09:17:05.179125+00:00 [info] <0.254.0> starting Ra system: quorum_queues in directory: /var/lib/rabbitmq/mnesia/rabbit@lcd6aeabf7c
/quorum/rabbit@lcd6aeabf7c
rabbitmq-1 | 2026-02-03 09:17:05.288988+00:00 [info] <0.268.0> ra system 'quorum_queues' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-03 09:17:05.308949+00:00 [info] <0.269.0> ra: meta data store initialised for system quorum_queues. 0 record(s) recovered
rabbitmq-1 | 2026-02-03 09:17:05.337216+00:00 [notice] <0.274.0> WAL: ra_log_wal init, open tbls: ra_log_open_mem_tables, closed tbls: ra_log_closed_mem_
bles
rabbitmq-1 | 2026-02-03 09:17:05.380269+00:00 [info] <0.254.0> ra: starting system coordination
rabbitmq-1 | 2026-02-03 09:17:05.380384+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@lcd6aeabf7c
coordination/rabbit@lcd6aeabf7c
rabbitmq-1 | 2026-02-03 09:17:05.387170+00:00 [info] <0.282.0> ra system 'coordination' running pre init for 0 registered servers
rabbitmq-1 | 2026-02-03 09:17:05.389388+00:00 [info] <0.283.0> ra: meta data store initialised for system coordination. 0 record(s) recovered
rabbitmq-1 | 2026-02-03 09:17:05.389853+00:00 [notice] <0.288.0> WAL: ra_coordination_log_wal init, open tbls: ra_coordination_log_open_mem_tables, close
tbls: ra_coordination_log_closed_mem_tables
rabbitmq-1 | 2026-02-03 09:17:05.396486+00:00 [info] <0.254.0> ra: starting system coordination
rabbitmq-1 | 2026-02-03 09:17:05.396571+00:00 [info] <0.254.0> starting Ra system: coordination in directory: /var/lib/rabbitmq/mnesia/rabbit@lcd6aeabf7c
coordination/rabbit@lcd6aeabf7c
rabbitmq-1 | 2026-02-03 09:17:05.636872+00:00 [info] <0.254.0> Waiting for Khepri leader for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-03 09:17:05.661609+00:00 [notice] <0.292.0> RabbitMQ metadata store: candidate -> leader in term: 1 machine version: 1
rabbitmq-1 | 2026-02-03 09:17:05.683254+00:00 [info] <0.254.0> Khepri leader elected
rabbitmq-1 | 2026-02-03 09:17:05.683708+00:00 [info] <0.254.0> Waiting for Khepri projections for 30000 ms, 9 retries left
rabbitmq-1 | 2026-02-03 09:17:06.240559+00:00 [info] <0.254.0>
rabbitmq-1 | 2026-02-03 09:17:06.240559+00:00 [info] <0.254.0> Starting RabbitMQ 3.13.7 on Erlang 26.2.5.16 [jit]
rabbitmq-1 | 2026-02-03 09:17:06.240559+00:00 [info] <0.254.0> Copyright (c) 2007-2024 Broadcom Inc and/or its subsidiaries
rabbitmq-1 | 2026-02-03 09:17:06.240559+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 | ## ##
```

SS9

```
keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] No services to build
[+] 1/1t 1/11
✓Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
Image pes2ug23cs001-docker-advanced-lab-user-a Building
[+] Building 5.4s (13/13) FINISHED
=> [internal] load local bake definitions 0.0s
=> => reading from stdin 602B 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 3.5s
=> [auth] library/python:pull token for registry-1.docker.io 0.0s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16b 0.1s
=> => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b16b 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 0.3s
=> => exporting layers 0.0s
=> => exporting manifest sha256:c1ec3608051ea67311b70b4f6d9fd632bbb4 0.0s
=> => exporting config sha256:68d4ae03a81f94b24f7e167dfec5a38f9ef7d9 0.0s
=> => exporting attestation manifest sha256:96aab687a69422f91ad39904 0.1s
=> => exporting manifest list sha256:7f91bf44d25ef044affda59d83014cb 0.0s
=> => naming to docker.io/library/pes2ug23cs001-docker-advanced-lab- 0.0s
=> => unpacking to docker.io/library/pes2ug23cs001-docker-advanced-l 0.0s
=> resolving provenance for metadata file 0.0s
Image pes2ug23cs001-docker-advanced-lab-user-a Built
Container pes2ug23cs001-docker-advanced-lab-user-a-run-b4f098a299d9 Creating
Container pes2ug23cs001-docker-advanced-lab-user-a-run-b4f098a299d9 Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: holaaaaa
Sent by user-a: holaaaaa
Type message: wassup??
Sent by user-a: wassup??
```

SS10

```
keerthana@ PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it t
o avoid potential confusion
WARN[0000] No services to build
[*] create 1/1
[*] start 1/1pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
[*] /liner pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
✓Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
Image pes2ug23cs001-docker-advanced-lab-user-b Building
[*] Building 2.9s (12/12) FINISHED
=> [internal] load local bake definitions 0.0s
=> => reading from stdin 602B 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 1.6s
=> [internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f 0.1s
=> => resolve docker.io/library/python:3.9-slim@sha256:2d97f 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 0.3s
=> => exporting layers 0.0s
=> => exporting manifest sha256:11971dc38dd5fba7660c3b2ba58c 0.0s
=> => exporting config sha256:6eb40191951efcc23e5b70dccc46e6 0.0s
=> => exporting attestation manifest sha256:5649217a007d8803 0.1s
=> => exporting manifest list sha256:406499ad5a84c5ca1999e1f 0.0s
=> => naming to docker.io/library/pes2ug23cs001-docker-advan 0.0s
=> => unpacking to docker.io/library/pes2ug23cs001-docker-ad 0.0s
=> resolving provenance for metadata file 0.0s
Image pes2ug23cs001-docker-advanced-lab-user-b Built
Container pes2ug23cs001-docker-advanced-lab-user-b-run-c7cc0361fe86 Creating
Container pes2ug23cs001-docker-advanced-lab-user-b-run-c7cc0361fe86 Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: holaaaaa
Type message:
Received from user-a: wassup??
```

SS11

```
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] No services to build
[+] 1/1t 1/11
✔Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container pes2ug23cs001-docker-advanced-lab-user-a-run-49fd7319829c Creating
Container pes2ug23cs001-docker-advanced-lab-user-a-run-49fd7319829c Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: hii konichiwaaa
Sent by user-a: hii konichiwaaa
Type message: let's see if history will get saved now!
Sent by user-a: let's see if history will get saved now!
Type message: byeee
Sent by user-a: byeee
Type message: ^C
Chat ended.
[keerthana@PES2UG23CS001 PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-a
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
WARN[0000] No services to build
[+] 1/1t 1/11
✔Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container pes2ug23cs001-docker-advanced-lab-user-a-run-5312df590111 Creating
Container pes2ug23cs001-docker-advanced-lab-user-a-run-5312df590111 Created

--- Chat History ---
Sent by user-a: hii konichiwaaa
Received from user-a: hii konichiwaaa
Sent by user-a: let's see if history will get saved now!
Received from user-a: let's see if history will get saved now!
Sent by user-a: byeee
Received from user-a: byeee
--- End of History ---

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

SS12

```
[keerthana@ PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it t
o avoid potential confusion
WARN[0000] No services to build
[+] create 1/1
[+] start 1/1pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
[+] 1/1liner pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
✓Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container pes2ug23cs001-docker-advanced-lab-user-b-run-0fd5c3583ced Creating
Container pes2ug23cs001-docker-advanced-lab-user-b-run-0fd5c3583ced Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: hii konichiwa
Type message:
Received from user-a: let's see if history will get saved now!
Type message:
Received from user-a: byeee
Type message: ^C
Chat ended.
[keerthana@ PES2UG23CS001-docker-advanced-lab]$ docker compose run --rm user-b
WARN[0000] /home/keerthana/PES2UG23CS001-docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it t
o avoid potential confusion
WARN[0000] No services to build
[+] create 1/1
[+] start 1/1pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
[+] 1/1liner pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.
✓Container pes2ug23cs001-docker-advanced-lab-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container pes2ug23cs001-docker-advanced-lab-user-b-run-4cb0898de9ee Creating
Container pes2ug23cs001-docker-advanced-lab-user-b-run-4cb0898de9ee Created

--- Chat History ---
Sent by user-a: hii konichiwa
Received from user-a: hii konichiwa
Sent by user-a: let's see if history will get saved now!
Received from user-a: let's see if history will get saved now!
Sent by user-a: byeee
Received from user-a: byeee
--- End of History ---

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