

CC LAB 4

Name: Laharesh S

SRN: PES2UG23CS298

SS1:

```
laharish@PES2UG23CS298:~$ export SRN=pes2ug23cs298
laharish@PES2UG23CS298:~$ echo $SRN
pes2ug23cs298
laharish@PES2UG23CS298:~$ export PS1="[\u@$SRN \W]\$ "
[laharish@pes2ug23cs298 ~]$ sudo 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/>

```
[laharish@pes2ug23cs298 ~]$ █
```

SS2:

```
laharish@PES2UG23CS298:~$ sudo docker compose version
Docker Compose version v5.0.2
laharish@PES2UG23CS298:~$ █
```

SS3:

```

lharish@PES2UG23CS29B: ~ cd docker-advanced-lab
lharish@PES2UG23CS29B: ~/docker-advanced-lab$ ls
chat.py docker-compose.yml Dockerfile
lharish@PES2UG23CS29B: ~/docker-advanced-lab$ sudo docker build -t chat-app .
[+] Building 2.4s (11/11) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 32B
=> [internal] load metadata for docker.io/library/python:3.9-slim
=> [auth] library/python:pull token for registry-1.docker.io
=> [internal] load .dockerrcignore
=> = transferring context: 2B
[1/5] FROM docker.io/library/python:3.9-slim@sha256:d97f6910b16bd33d3060f261f53f144965f755599aab1acdade13cf1731b1b
=> resolve docker.io/library/python:3.9-slim@sha256:d97f6910b16bd33d3060f261f53f144965f755599aab1acdade13cf1731b1b
=> [internal] load build context
=> = transferring context: 29B
=> 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:bcdb08206967385965b1895565c38e97fa92e49e93ddbcfcfa0e1693f62955e
=> = exporting config sha256:d94a35b214c56a1637b8963fad6b014959dcf02c0f0433247a82c436d38f46
=> = exporting attestation manifest sha256:979eb2815cc717d3ebf87fb18a36ffec0b79c853c3cdecc08ec43956f4daa3d2597b0e9686256d2
=> = exporting manifest list sha256:7e9ef42256875140bc94418b5969484f43956f4daa3d2597b0e9686256d2
=> = naming to docker.io/library/chat-app:latest
=> = unpacking to docker.io/library/chat-app:latest
lharish@PES2UG23CS29B: ~/docker-advanced-lab$ sudo docker run -d --name rabbitmq rabbitmq:3-management
bbde4b32e5a0b8c3a4b0e3a5d085d62c9d23724bd2bb803dc33956c551fb07f6
CONTAINER ID IMAGE COMMAND CREATED STATUS PORTS NAMES
bbde4b32e5a0 rabbitmq:3-management "docker-entrypoint.s..." About a minute ago Up About a minute 4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 25672/tcp rabbitmq
lharish@PES2UG23CS29B: ~/docker-advanced-lab$
```

SS4:

```
laharish@PES2UG23CS298:~/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

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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): Hii I am Laharesh S
Sent by unknown-user (standalone): Hii I am Laharesh S
Type message (standalone): Hello
Sent by unknown-user (standalone): Hello
Type message (standalone): |
```

SS5:

```
laharish@PES2UG23CS298:~/docker-advanced-lab
Laharish@PES2UG23CS298:~/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: Hii I am Laharish S
Sent by unknown-user: Hii I am Laharish S
Type message:
Received from unknown-user: Hello I am Niranjan
Type message: How are you??
Sent by unknown-user: How are you??
Type message:
Received from unknown-user: I am fine wbu??
Type message: Yeah good
Sent by unknown-user: Yeah good
Type message: █
```

SS6:

```
laharish@PES2UG23CS298:~/docker-advanced-lab
Laharish@PES2UG23CS298:~/docker-advanced-lab$ 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: Hii I am Laharish S
Type message: Hello I am Niranjan
Sent by unknown-user: Hello I am Niranjan
Type message:
Received from unknown-user: How are you??
Type message: I am fine wbu??
Sent by unknown-user: I am fine wbu??
Type message:
Received from unknown-user: Yeah good
Type message: █
```

SS7:

```
laharish@PES2UG23CS298:~/docker-advanced-lab$ sudo docker stop user-a user-b rabbitmq
user-a
user-b
rabbitmq
laharish@PES2UG23CS298:~/docker-advanced-lab$ sudo docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
laharish@PES2UG23CS298:~/docker-advanced-lab$ sudo docker network rm chat-net
chat-net
laharish@PES2UG23CS298:~/docker-advanced-lab$
```

SS8:

```
rabbitmq-1 | 2026-02-13 09:22:54.020332+00:00 [info] <0.254.0> Running boot step networking defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.020345+00:00 [info] <0.254.0> Running boot step rabbit_quorum_queue_periodic_membership_reconciliation defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.020437+00:00 [info] <0.254.0> Running boot step rabbit_definition_import_worker_pool defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.020466+00:00 [info] <0.315.0> Starting worker pool 'definition_import_pool' with 7 processes in it
rabbitmq-1 | 2026-02-13 09:22:54.021414+00:00 [info] <0.254.0> Running boot step cluster_name defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.022685+00:00 [info] <0.254.0> Initialising internal cluster ID to 'rabbitmq-cluster-id=0uaxPy-H.BBcJiQXEHsZtw'
rabbitmq-1 | 2026-02-13 09:22:54.044190+00:00 [info] <0.254.0> Running boot step virtual_host_reconciliation defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.044430+00:00 [info] <0.254.0> Running boot step direct_client defined by app rabbit
rabbitmq-1 | 2026-02-13 09:22:54.044497+00:00 [info] <0.254.0> Running boot step rabbit_federation_exchange defined by app rabbitmq_federation
rabbitmq-1 | 2026-02-13 09:22:54.044610+00:00 [info] <0.254.0> Running boot step rabbit_management_load_definitions defined by app rabbitmq_management
rabbitmq-1 | 2026-02-13 09:22:54.044680+00:00 [info] <0.686.0> Resetting node maintenance status
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0> Deprecated features: 'management_metrics_collection': Feature 'management_metrics_collection' is deprecated.
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0> By default, this feature can still be used for now.
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0> Its use will not be permitted by default in a future minor RabbitMQ version and the feature will be removed from a future major RabbitMQ version; actual versions to be determined.
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0> To continue using this feature when it is not permitted by default, set the following parameter in your configuration
:
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0>     "deprecated_features.permit.management_metrics_collection = true"
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
rabbitmq-1 | 2026-02-13 09:22:54.049853+00:00 [warning] <0.715.0>     "deprecated_features.permit.management_metrics_collection = false"
rabbitmq-1 | 2026-02-13 09:23:00.723827+00:00 [info] <0.752.0> Management plugin: HTTP (non-TLS) listener started on port 15692
rabbitmq-1 | 2026-02-13 09:23:00.723979+00:00 [info] <0.782.0> Statistics database started.
rabbitmq-1 | 2026-02-13 09:23:00.724040+00:00 [info] <0.781.0> Starting worker pool 'management_worker_pool' with 3 processes in it
rabbitmq-1 | 2026-02-13 09:23:00.739351+00:00 [info] <0.800.0> Prometheus metrics: HTTP (non-TLS) listener started on port 15692
rabbitmq-1 | 2026-02-13 09:23:00.739599+00:00 [info] <0.686.0> Ready to start client connection listeners
rabbitmq-1 | 2026-02-13 09:23:00.747087+00:00 [info] <0.844.0> started TCP listener on [:]:5672
rabbitmq-1 | 2026-02-13 09:23:01.058211+00:00 [info] <0.686.0> Server startup complete; 5 plugins started.
rabbitmq-1 | 2026-02-13 09:23:01.058211+00:00 [info] <0.686.0> * rabbitmq_prometheus
rabbitmq-1 | 2026-02-13 09:23:01.058211+00:00 [info] <0.686.0> * rabbitmq_federation
rabbitmq-1 | 2026-02-13 09:23:01.058211+00:00 [info] <0.686.0> * rabbitmq_management
rabbitmq-1 | 2026-02-13 09:23:01.058211+00:00 [info] <0.686.0> * rabbitmq_management_agent
rabbitmq-1 | completed with 5 plugins.
rabbitmq-1 | 2026-02-13 09:23:01.102009+00:00 [info] <0.9.0> Time to start RabbitMQ: 17787 ms
```

SS9:

```
Laharish@PE52U023CS298:~/docker-advanced-lab$ sudo docker compose run --rm user-a
[sudo] password for Laharish:
WARN[0000] /home/laharish/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] 1/it 1/1
✓ Container docker-advanced-lab-rabbitmq-1 Running
Image docker-advanced-lab-user-a Building
[+] Building 2.8s (13/13) FINISHED
   = [internal] load local bake definitions
   => reading from stdin 544B
   = [internal] load build definition from Dockerfile
   => transferring Dockerfile: 323B
   = [internal] load metadata for docker.io/library/python:3.9-slim
   = [auth] library/python:pull token for registry-1.docker.io
   = [internal] load .dockerrcignore
   => transferring context: 2B
   = [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3960f261f53f144965f755599aabla
     cdale13cf1731bib
   => resolving docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3960f261f53f144965f755599aabla
     cdale13cf1731bib
   = [internal] load build context
   => transferring context: 29B
   = [CACHED 1/5] RUN pip install pika
   = CACHED [4/5] COPY chat.py .
   = CACHED [5/5] RUN mkdir -p /app/data
   => exporting layers
   => exporting manifest sha256:9cb6d9f31e79cefa9bc1bd811313e00afcd2a64c48483c74c39596598fbfb2f
   => exporting config sha256:1258b0b8ea655f4dc9c96cbad8ef4930a08243701b60137842bd458213726c
   => exporting attestation manifest sha256:3b6f36256ed9745296645a9d172615fffbiddif5f0e138ace4dfad893289125
   => exporting manifest list sha256:f364b9b33d104f285fb72a548e2f10c755402b3f6e07ebc4932ad3186237154
   => 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-62f02b445e77 Creating
Container docker-advanced-lab-user-a-run-62f02b445e77 Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message: Hello
Sent by user-a: Hello
Type message:
Received from user-b: Hi! what are you doing
```

SS10:

```
Laharish@PE52U023CS298:~/docker-advanced-lab$ sudo docker compose run --rm user-b
[sudo] password for Laharish:
WARN[0000] /home/laharish/docker-advanced-lab/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] 1/it 1/1
✓ Container docker-advanced-lab-rabbitmq-1 Running
Image docker-advanced-lab-user-b Building
[+] Building 1.8s (12/12) FINISHED
   = [internal] load local bake definitions
   => reading from stdin 544B
   = [internal] load build definition from Dockerfile
   => transferring Dockerfile: 323B
   = [internal] load metadata for docker.io/library/python:3.9-slim
   = [internal] load .dockerrcignore
   => transferring context: 2B
   = [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3960f261f53f144965f755599aabla
     cdale13cf1731bib
   => resolving docker.io/library/python:3.9-slim@sha256:2d97f6910b16bd338d3960f261f53f144965f755599aabla
     cdale13cf1731bib
   = [internal] load build context
   => transferring context: 29B
   = [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 layers
   => exporting manifest sha256:be94d9aeab662f5b66b3b55c34aaa0b25e6fb74d880d6888c570c776f1f17b0
   => exporting config sha256:2c7f52359f124ae49deabec3a1659fce23fc804dc0b9a16557730354c55c79
   => exporting attestation manifest sha256:2b46e643b938c65a983703af5d0e16ecad42b6f3cb195d3d96c5352144a79a
   => exporting manifest list sha256:12240a9a3fd25fd7b0229a532be71e3df1e6e5da69768537d57a7112995857
   => naming to docker.io/library/docker-advanced-lab-user-b:latest
   => unpacking to docker.io/library/docker-advanced-lab-user-b:latest
   = resolving provenance for metadata file
Image docker-advanced-lab-user-b Built
Container docker-advanced-lab-user-b-run-964b09e3910d Creating
Container docker-advanced-lab-user-b-run-964b09e3910d Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: Hello
Type message: Hi! what are you doing
Sent by user-b: Hi! what are you doing
Type message:
```

SS11:

```
laharish@PES2UG23CS298:~/docker-advanced-lab$ docker compose run --rm user-a
WARN[0000] /home/laharish/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-11904b72ed9f Creating
Container docker-advanced-lab-user-a-run-11904b72ed9f Created

... Chat History ...
Sent by user-b: Hi How are you?
Sent by user-a (standalone): Hello
Sent by user-a (standalone): clear
--- End of History ---

... Chat Started (user-a connecting to rabbitmq) ---
Type message: Hi
Sent by user-a: Hi
Type message:
Received from user-b: Hello moto
Type message: █
```

SS12:

```
laharish@PES2UG23CS298:~/docker-advanced-lab$ docker compose run --rm user-b
WARN[0000] /home/laharish/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-6a137fd38216 Creating
Container docker-advanced-lab-user-b-run-6a137fd38216 Created

... Chat History ...
Sent by user-b: Hi How are you?
Sent by user-a (standalone): Hello
Sent by user-a (standalone): clear
--- End of History ---

... Chat Started (user-b connecting to rabbitmq) ---
Type message:
Received from user-a: Hi
Type message: Hello moto
Sent by user-b: Hello moto
Type message: █
```