

CLOUD COMPUTING LAB-4

NAME: Aakanksha Palavalli

SRN: PES2UG23CS925

SEC: A

Git hub link: <https://github.com/PES2UG23CS925/Cloud-Computing-lab>

SS1:

```
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925$ 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/>

```
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925$ |
```

SS2:

```
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925$ sudo curl -L "https://github.com/docker/compose/releases/download/$(curl -s https://api.github.com/repos/docker/compose/releases/latest | grep 'tag_name' | cut -d '"' -f4)/docker-compose-$(uname -s)-$(uname -m)" -o /usr/local/bin/docker-compose
cut: the delimiter must be a single character
Try 'cut --help' for more information.
[sudo] password for aakanksha:
% Total    % Received % Xferd  Average Speed   Time    Time     Time  Current
           Dload  Upload   Total   Spent    Left   Speed
  0  100    0     0    0     0      0      0  --:--:-- --:--:-- --:--:--    0
  9  100    9     0    0     0      0      0  --:--:-- --:--:-- --:--:--    0
100  100  100  14.0k    0     0  14.0k    0  --:--:-- --:--:-- --:--:--  14.0k
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925$ sudo chmod +x /usr/local/bin/docker-compose
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925$ sudo docker compose version
Docker Compose version v5.0.1
```

SS3:

```
aakanksha@Aakanksha: /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced$ sudo docker ps
CONTAINER ID   IMAGE          COMMAND                  CREATED        STATUS        PORTS
07d816b21e96   rabbitmq:3-management   "docker-entrypoint.s..."  12 seconds ago   Up 11 seconds   4369/tcp, 5671-5672/tcp, 15671-15672/tcp, 15691-15692/tcp,
```

SS4:

```
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ 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:

```
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ 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: no it's pretty boring :(
Type message:
```

SS6:

```
Type message: aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ 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: no it's pretty boring :(
Sent by unknown-user: no it's pretty boring :(
Type message: |
```

SS7:

```
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ docker stop user-a user-b rabbitmq
user-a
user-b
rabbitmq
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ docker rm user-a user-b rabbitmq
user-a
user-b
rabbitmq
```

```
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ sudo docker network rm chat-net
chat-net
```

SS8:

```
rabbitmq-1 | 2026-02-03 09:25:59.701036+00:00 [info] <0.254.0> Running boot step pre_flight defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.701057+00:00 [info] <0.254.0> Running boot step notify_cluster defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.701074+00:00 [info] <0.254.0> Running boot step networking defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.703084+00:00 [info] <0.254.0> Running boot step rabbit_quorum_queue_periodic_membership_reconciliation defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.703796+00:00 [info] <0.254.0> Running boot step definition_import_worker_pool defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.703864+00:00 [info] <0.315.0> Starting worker pool 'definition_import_pool' with 14 processes in it
rabbitmq-1 | 2026-02-03 09:25:59.704132+00:00 [info] <0.254.0> Running boot step cluster_name defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.704210+00:00 [info] <0.254.0> Initialising internal cluster ID to 'rabbitmq-cluster-id-EVXkgx70AWL20lwxP0iddQ'
rabbitmq-1 | 2026-02-03 09:25:59.710176+00:00 [info] <0.254.0> Running boot step virtual_host_reconciliation defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.710503+00:00 [info] <0.254.0> Running boot step direct_client defined by app rabbitmq-1
rabbitmq-1 | 2026-02-03 09:25:59.710571+00:00 [info] <0.254.0> Running boot step rabbit_federation_exchange defined by app rabbitmq_federation
rabbitmq-1 | 2026-02-03 09:25:59.710674+00:00 [info] <0.254.0> Running boot step rabbit_management_load_definitions defined by app rabbitmq_management
rabbitmq-1 | 2026-02-03 09:25:59.711834+00:00 [info] <0.700.0> Resetting node maintenance status
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> Deprecated features: 'management_metrics_collection': Feature 'management_metrics_collection' is deprecated.
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> By default, this feature can still be used for now.
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> 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 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> To continue using this feature when it is not permitted by default, set the following parameter in your configuration:
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> "deprecated_features.permit.management_metrics_collection = true"
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> To test RabbitMQ as if the feature was removed, set this in your configuration:
rabbitmq-1 | 2026-02-03 09:25:59.886705+00:00 [warning] <0.729.0> "deprecated_features.permit.management_metrics_collection = false"
rabbitmq-1 | 2026-02-03 09:26:03.074049+00:00 [info] <0.766.0> Management plugin: HTTP (non-TLS) listener started on port 15672
rabbitmq-1 | 2026-02-03 09:26:03.074211+00:00 [info] <0.796.0> Statistics database started.
rabbitmq-1 | 2026-02-03 09:26:03.074301+00:00 [info] <0.795.0> Starting worker pool 'management_worker_pool' with 3 processes in it
rabbitmq-1 | 2026-02-03 09:26:03.083323+00:00 [info] <0.814.0> Prometheus metrics: HTTP (non-TLS) listener started on port 15692
rabbitmq-1 | 2026-02-03 09:26:03.083612+00:00 [info] <0.700.0> Ready to start client connection listeners
rabbitmq-1 | 2026-02-03 09:26:03.087668+00:00 [info] <0.858.0> started TCP listener on [::]:5672
rabbitmq-1 | completed with 5 plugins.
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> Server startup complete; 5 plugins started.
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> * rabbitmq_prometheus
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> * rabbitmq_federation
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> * rabbitmq_management
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> * rabbitmq_management_agent
rabbitmq-1 | 2026-02-03 09:26:03.185596+00:00 [info] <0.700.0> * rabbitmq_web_dispatch
rabbitmq-1 | 2026-02-03 09:26:03.332037+00:00 [info] <0.9.0> Time to start RabbitMQ: 9179 ms
```

SS9:

```
aakanksha@Aakanksha:/mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced$ sudo docker compose run --rm user-a
WARN[0000] /mnt/c/Users/aakan/sem-6/cc/PES2UG23CS925/Docker_lab_advanced/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 docker_lab_advanced-rabbitmq-1 Running 0.0s
Image docker_lab_advanced-user-a Building
[+] Building 4.4s (12/12) FINISHED
=> [internal] load local bake definitions 0.0s
=> => reading from stdin 598B 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 3.1s
=> [internal] load .dockerignore 0.1s
=> => transferring context: 2B 0.0s
=> [1/6] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b16b 0.0s
=> => resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b16b 0.0s
=> [internal] load build context 0.1s
=> => transferring context: 4.17kB 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 sha256:86370d3c6972bc77e80ba8d5607a5a5869cf 0.0s
=> => exporting config sha256:b011320005584ccb8a4c6ec4469de973eb2735 0.0s
=> => exporting attestation manifest sha256:0dc87fd3d8b96c0dd0dd6f6fc 0.0s
=> => exporting manifest list sha256:6ed0783b27bd3567fe3753b57a624b 0.0s
=> => naming to docker.io/library/docker_lab_advanced-user-a:latest 0.0s
=> => unpacking to docker.io/library/docker_lab_advanced-user-a:late 0.0s
=> resolving provenance for metadata file 0.0s
Image docker_lab_advanced-user-a Built
Container docker_lab_advanced-user-a-run-e40945c7031b Creating
Container docker_lab_advanced-user-a-run-e40945c7031b Created

--- No Previous Chat History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message:
Received from user-b: hello
Type message: wazzzaaaaaa
Sent by user-a: wazzzaaaaaa
Type message: |
```

SS10:

```
aakanksha@aakanksha:/mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced$ sudo docker compose run --rm user-b
[sudo] password for aakanksha:
WARN[0000] /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced/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/it 1/11
✓Container docker_lab_advanced-rabbitmq-1 Running 0.0s
Image docker_lab_advanced-user-b Building
[+] Building 3.4s (12/12) FINISHED
=> [internal] load local bake definitions 0.0s
=> == reading from stdin 500B 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 1.5s
=> [internal] load .dockerignore 0.1s
=> == transferring context: 2B 0.1s
=> [1/5] FROM docker.io/library/python:3.9-slim@sha256:2d97f6910b10b 0.1s
=> == resolve docker.io/library/python:3.9-slim@sha256:2d97f6910b10b 0.1s
=> [internal] load build context 0.1s
=> == transferring context: 29B 0.1s
=> 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:bec80ae242784a73d367b9a8e08eda8b48e9 0.0s
=> == exporting config sha256:d2f8c7f6823fc6391500f2855c10396df8f71d1 0.0s
=> == exporting attestation manifest sha256:44e9493f454b4c3f469a5539 0.1s
=> == exporting manifest list sha256:a834c7264376392945104adcb97df66 0.0s
=> == naming to docker.io/library/docker_lab_advanced-user-b:latest 0.0s
=> == unpacking to docker.io/library/docker_lab_advanced-user-b:late 0.0s
=> == resolving provenance for metadata file 0.0s
Image docker_lab_advanced-user-b Built
Container docker_lab_advanced-user-b-run-1ed6e13462f3 Creating
Container docker_lab_advanced-user-b-run-1ed6e13462f3 Created

--- No Previous Chat History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message: hello
Sent by user-b: hello
Type message:
Received from user-a: wazzzaaaaaa
Type message: |
```

SS11:

```
aakanksha@aakanksha:/mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced$ sudo docker compose run --rm user-a
WARN[0000] /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential co
nfusion
WARN[0000] No services to build
[+] 1/it 1/11
✓Container docker_lab_advanced-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container docker_lab_advanced-user-a-run-5c1e5c8b673 Creating
Container docker_lab_advanced-user-a-run-5c1e5c8b673 Created

--- Chat History ---
Sent by user-b: hello
Received from user-b: hello
Sent by user-a: wazzzaaaaaa
Received from user-a: wazzzaaaaaa
--- End of History ---

--- Chat Started (user-a connecting to rabbitmq) ---
Type message:
Received from user-b: wow
Type message: we have the history saved, docker volumes are so fun
Sent by user-a: we have the history saved, docker volumes are so fun
Type message:
```

SS12:

```
aakanksha@aakanksha:/mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced$ sudo docker compose run --rm user-b
WARN[0000] /mnt/c/Users/aakan/sem-6/CC/PES2UG23CS925/Docker_lab_advanced/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/it 1/11
✓Container docker_lab_advanced-rabbitmq-1 Running 0.0s
WARN[0000] No services to build
Container docker_lab_advanced-user-b-run-c0823719333f Creating
Container docker_lab_advanced-user-b-run-c0823719333f Created

--- Chat History ---
Sent by user-b: hello
Received from user-b: hello
Sent by user-a: wazzzaaaaaa
Received from user-a: wazzzaaaaaa
--- End of History ---

--- Chat Started (user-b connecting to rabbitmq) ---
Type message: wow
Sent by user-b: wow
Type message:
Received from user-a: we have the history saved, docker volumes are so fun
Type message:
```