

CAPSTONE : 4

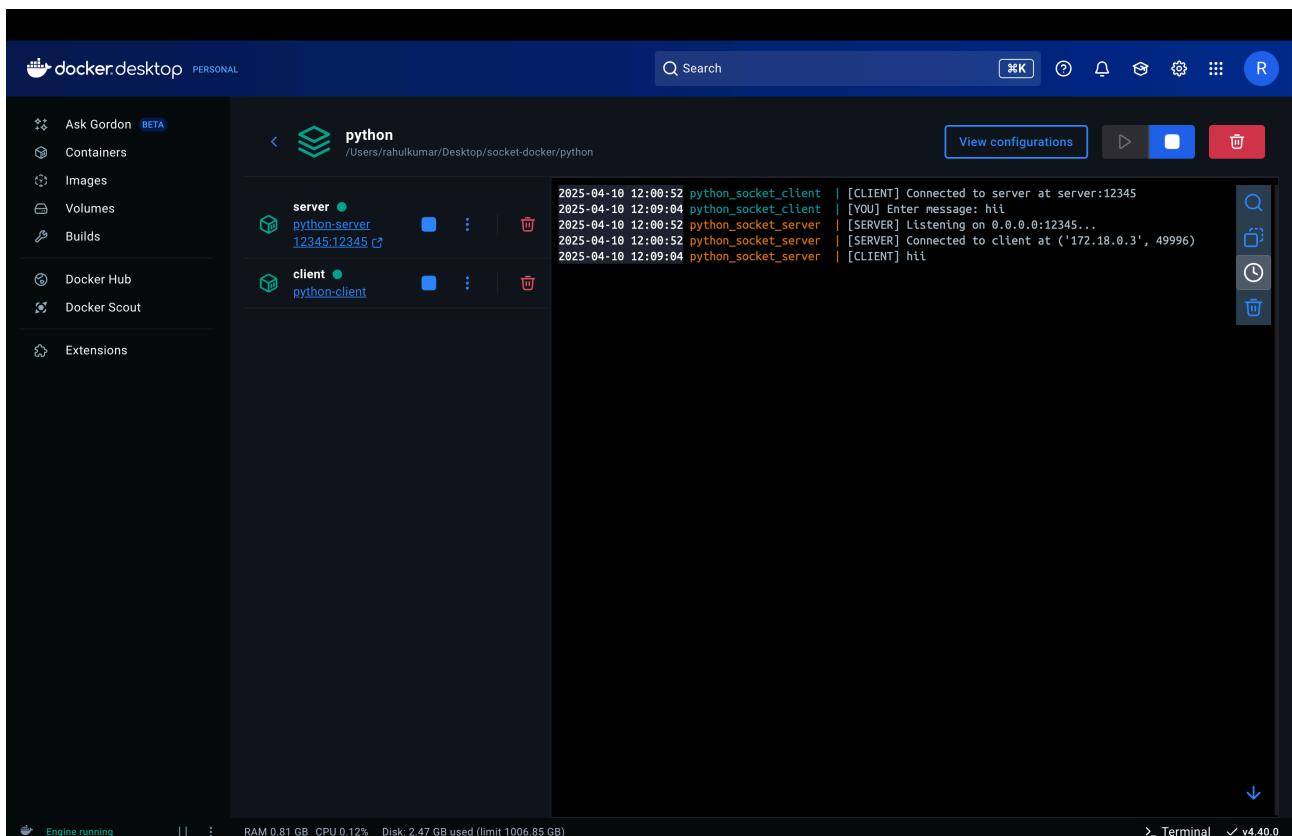
Using python-docker

The screenshot shows three terminal windows running on a Mac OS X desktop. The leftmost window displays the output of a 'docker-compose up --build' command for a 'python' service. It includes a warning about the 'version' attribute being obsolete and a note about using 'COMPOSE_BAKE=true'. The middle window shows the output of a 'docker attach' command for a 'python_socket_client' container, where the user types 'hi'. The rightmost window shows the output of a 'docker attach' command for a 'python_socket_server' container, which responds with '[YOU] Enter response:'. The desktop dock at the bottom contains icons for various Mac applications like Mail, Safari, and Finder.

```
python - docker-compose up --build -- 59x34
Last login: Thu Apr 10 11:43:57 on ttys010
rahulkumar@Rahuls-MacBook-Air ~ % cd Desktop/socket-docker
rahulkumar@Rahuls-MacBook-Air socket-docker % cd python
rahulkumar@Rahuls-MacBook-Air python % docker-compose up --
build
WARN[0000] /Users/rahulkumar/Desktop/socket-docker/python/docker-compose.yml: the attribute `version` is obsolete, it will be ignored, please remove it to avoid potential confusion
Compose can now delegate builds to bake for better performance.
To do so, set COMPOSE_BAKE=true.
[+] Building 18.3s (16/16) FINISHED
      docker:desktop-linux
=> [server internal] load build definition from Dockerfile
      0.0s
=> => transferring dockerfile: 199B
      0.0s
=> [client internal] load metadata for docker.io/library/python:3.10
      6.9s
=> [server auth] library/python:pull token for registry-1.docker.io
      0.0s
=> [server internal] load .dockignore
      0.0s
=> => transferring context: 2B
      0.0s
=> [client 1/3] FROM docker.io/library/python:3.10@sha256:e2c7fb05741c735679b26eda7dd345 10.9s
=> => resolve docker.io/library/python:3.10@sha256:e2c7fb05741c735679b26eda7dd34575151079 0.0s
=> => sha256:f39bc547981ad8de0d3a62cc3b446aea35c557d74ba71453e52bc951255cbc3 250B / 250B 0.8s
=> => sha256:d9694b0f0b37995d619220d6b7ef938cf941c0c1f92fe
f3c03b5bf2c2 20.82MB / 20.82MB 10.6s
```

```
python - docker attach python_socket_client - 103x24
Last login: Thu Apr 10 12:05:31 on ttys012
rahulkumar@Rahuls-MacBook-Air ~ % docker attach python_socket_client
hi!
```

```
python - docker attach python_socket_server - 80x25
Last login: Thu Apr 10 12:04:24 on ttys012
rahulkumar@Rahuls-MacBook-Air ~ % docker attach python_socket_server
[CLIENT] hi
[YOU] Enter response: 
```



Using C-docker

Compose can now delegate builds to bake for better performance.
To do so, set COMPOSE_BAKE=true.

[+] Building 41.5s (22/22) FINISHED docker:desktop-linux

```
[+] [server internal] load build definition from Dockerfile... 0.0s
=> [server internal] transfering dockerfile: 374B 0.0s
[+] [client internal] load metadata for docker.io/library/gcc:latest 9.1s
=> [server auth] library/gcc/pull token for registry-1.docker.io 0.0s
[+] [server internal] load .dockercfgignore 0.0s
=> [server internal] transfering context: 2.04MB 0.0s
[+] [client internal] load build context: 2.04MB 0.0s
=> [server internal] resolve docker.io/library/gcc:latest@sha256:5f598ea2b2c90... 31.3s
=> [client internal] resolve docker.io/library/gcc:latest@sha256:5f598ea2b2c90... 0.0s
=> sha256:4276e51f233498fb2a5c9d171472d3889acdb9b1... 1.89kB 0.9s
=> sha256:5e79fb1bbba0ce4fc876f1ee7cb9508a441831c... 9.61kB / 9.61kB 1.3s
=> sha256:d8a9e1eb875d7fa2298bf49c82aae5b5a4536... 149.26MB / 149.26MB 29.9s
=> sha256:02e41066bb3993c776d894a2e729999b83148b3b... 2.73MB / 2.73MB 3.7s
=> extracting sha256:4276e51f233498fb2a5c9d171472d3889acdb9b1... 0.0s
=> extracting sha256:5e79fb1bbba0ce4fc876f1ee7cb9508a441831c... 1.5s
=> extracting sha256:d8a9e1eb875d7fa2298bf49c82aae5b5a4536... 1.5s
=> extracting sha256:5e79fb1bbba0ce4fc876f1ee7cb9508a441831c44ac... 0.0s
=> extracting sha256:4879a51f233498fb02a5c85d91c171472d35894cd60591c... 0.0s
[+] [server internal] load build context... 0.0s
=> transferring context: 3.10kB 0.0s
=> CACHED [client 2/61] WORKDIR /app 0.2s
=> [server 3/61] COPY server.c . 0.0s
[+] [server 4/61] COPY client.c . 0.0s
=> [server 5/61] RUN gcc -o server server.c 0.2s
[+] [server 6/61] RUN gcc -o client client.c 0.1s
[+] [client] exporting to image 0.1s
=> exporting layers... 0.1s
=> exporting manifest sha256:c92503fec4bdc9c9e12fec... 0.0s
=> exporting config sha256:b473c4e3ba9a9c4abc88fe80bd8400c523edc... 0.0s
=> exporting attestation manifest sha256:7993a157c6653c5fcf11d2242fa... 0.0s
=> exporting manifest list sha256:f9ae877f02a0f42708b0d3e40ae31bddb... 0.0s
=> naming to docker.io/library/c-server:latest 0.0s
=> unpacking docker.io/library/c-server:latest 0.0s
[+] [server internal] resolving provenance for metadata file 0.0s
[+] [client internal] load build definition from Dockerfile... 0.0s
=> [server internal] transfering dockerfile: 374B 0.0s
[+] [client internal] load .dockercfgignore 0.0s
=> [client internal] transfering context: 2B 0.0s
[+] [client internal] load build context... 0.0s
=> [client internal] transferring context: 224B 0.0s
=> CACHED [client 3/61] COPY server.c . 0.0s
=> CACHED [client 4/61] COPY client.c . 0.0s
=> CACHED [client 5/61] RUN gcc -o server server.c 0.0s
=> CACHED [client 6/61] RUN gcc -o client client.c 0.0s
[+] [client] exporting to image 0.0s
=> exporting layers... 0.0s
=> exporting manifest sha256:8e9ae34799308867c9fad... 0.0s
=> exporting config sha256:1ec3a4cc5770944698fc42e79456fbcd35376328... 0.0s
=> exporting attestation manifest sha256:7993a157c6653c5fcf11d2242fa... 0.0s
=> exporting manifest list sha256:726673bd5dace158bcfa09066943a47f1... 0.0s
=> coming to docker.io/library/c-client:latest 0.0s
=> unpacking to docker.io/library/c-client:latest 0.0s
[+] [client] resolving provenance for metadata file 0.0s
```

[+] Building 2/2

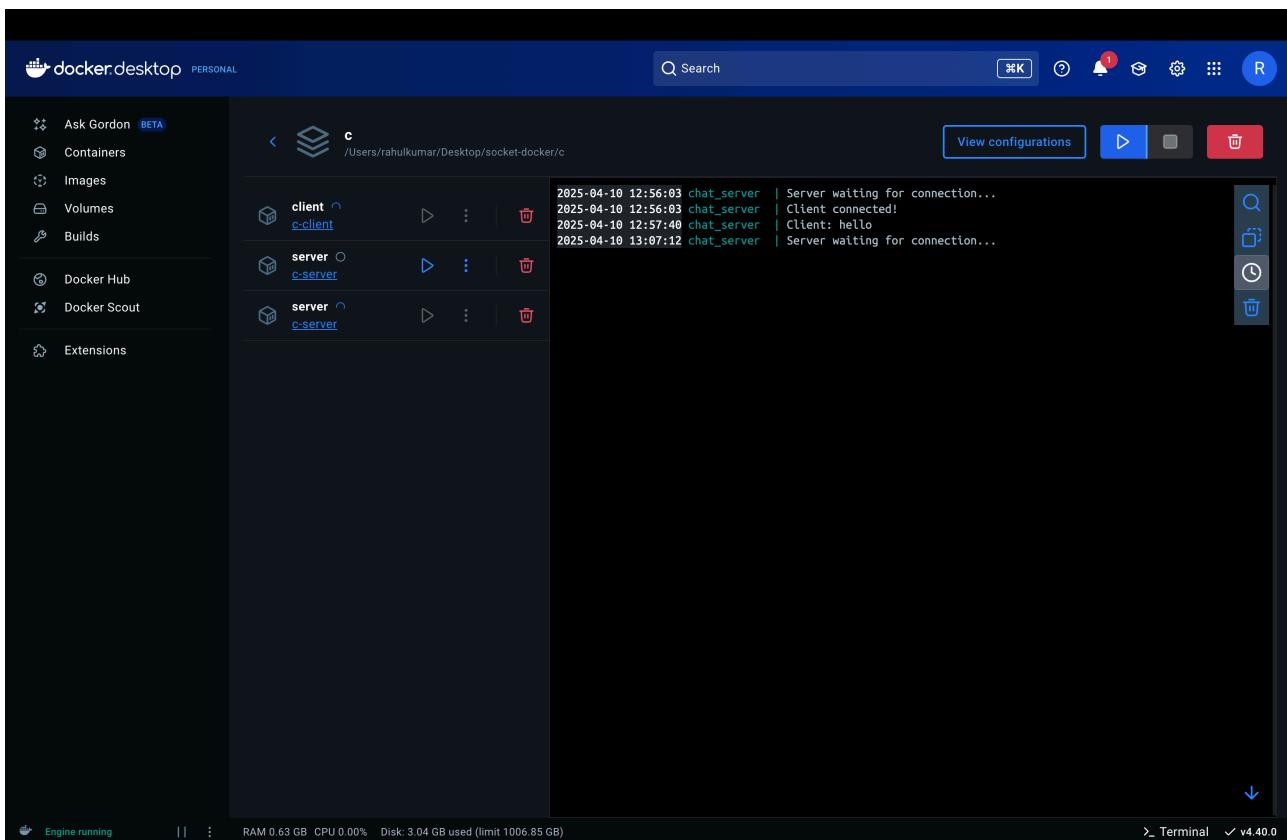
✓ client Built 0.0s

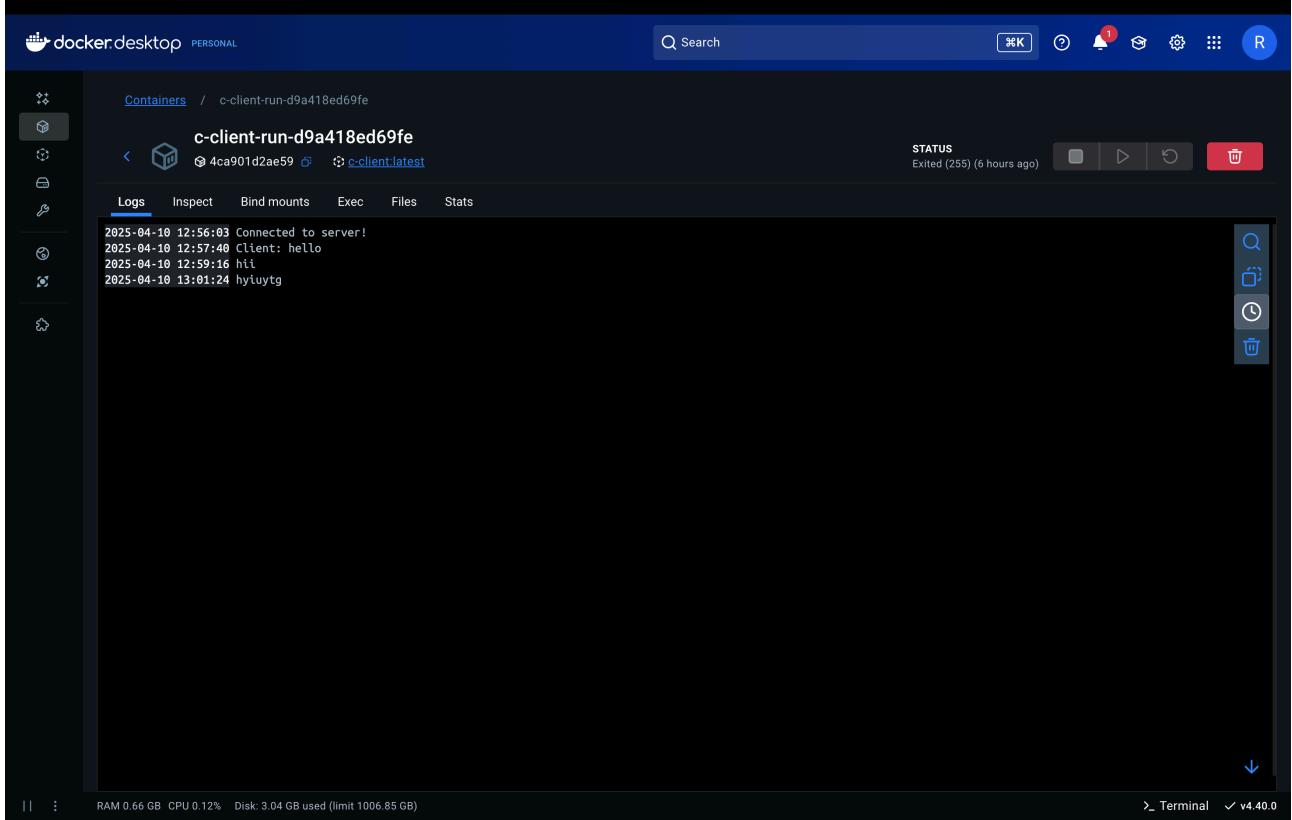
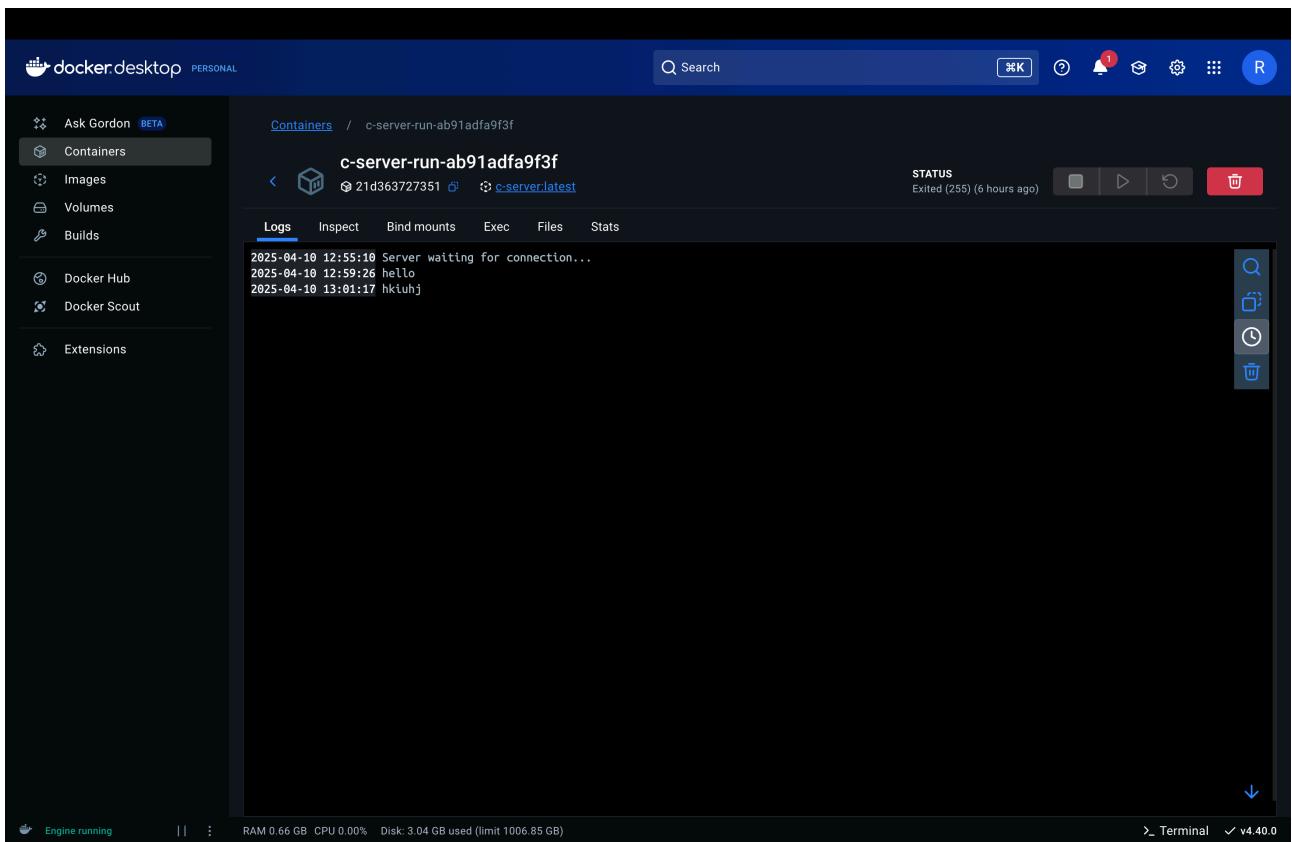
✓ server Built 0.0s

rahulkumar@Rahuls-MacBook-Air ~ %

rahulkumar@Rahuls-MacBook-Air ~ % cd /Users/rahulkumar/Desktop/socket-docker/c
rahulkumar@Rahuls-MacBook-Air c % docker-compose run client
WARN[0000] /Users/rahulkumar/Desktop/socket-docker/c/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] Creating 1/1
 ✓ Container chat_server Created 0.1s
[+] Running 1/1
 ✓ Container chat_server Started 0.1s
 Connected to server!
Client: hello
hi
hiuytg

rahulkumar@Rahuls-MacBook-Air ~ % cd /Users/rahulkumar/Desktop/socket-docker/c
rahulkumar@Rahuls-MacBook-Air c % docker-compose run server
WARN[0000] /Users/rahulkumar/Desktop/socket-docker/c/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
[+] Creating 1/1
 ✓ Network c_chatnet Created 0.0s
 Server waiting for connection...
hello
hello
hkiuhj





Using C-local

The image shows two side-by-side Terminal windows on a Mac OS X desktop. The left window is titled 'rahlkumar — sever — sever — 121x59' and contains the following text:

```
hu Apr 10 14:17:03 on ttys012
user/Desktop/socket-local/c/sever ; exit;
rhulku...MacBook-Air: ~ /Users/rahlkumar/Desktop/socket-local/c/sever ; exit;
tuning on port 8088
client: hii
ge for client: hii
```

The right window is titled 'c — client — 100x59' and contains the following text:

```
Last login: Thu Apr 10 14:20:05 on ttys011
rahlkumar@Rahul's-MacBook-Air: ~ cd /Users/rahlkumar/Desktop/socket-local/c
rahlkumar@Rahul's-MacBook-Air: ~ % gcc client.c -o client
rahlkumar@Rahul's-MacBook-Air: ~ % ./client
Enter a message for server: hii
Message from server: hii
Enter a message for server: 
```

At the bottom of the screen is the Mac OS X dock with various application icons.

Using python-local

