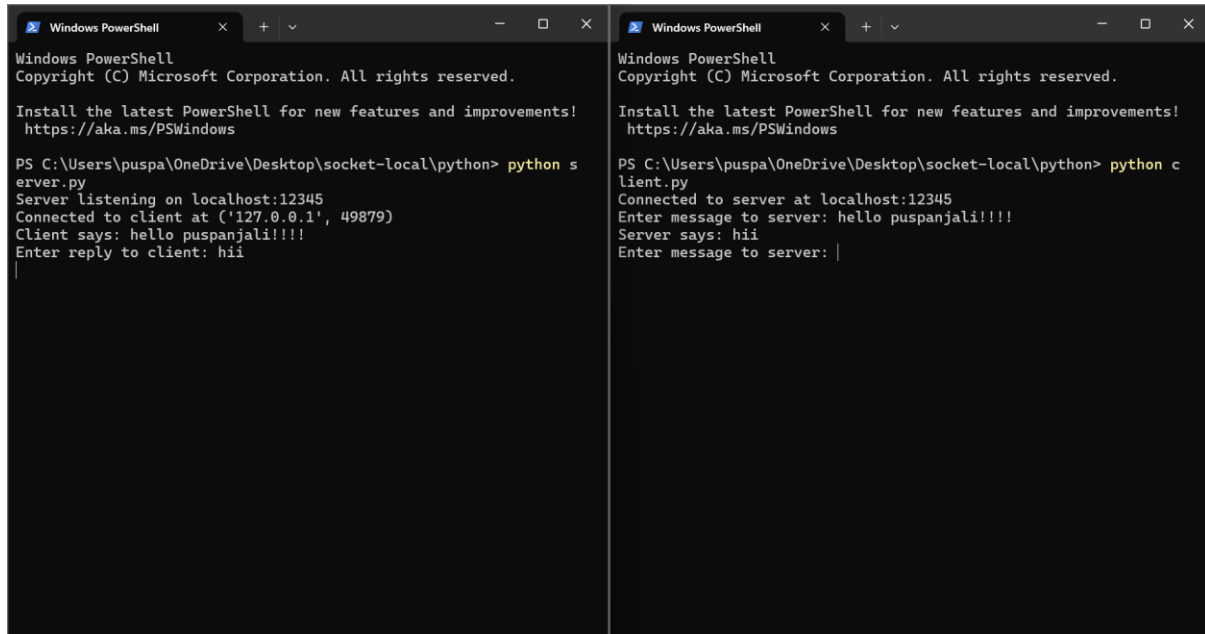


CAPSTONE-4

NAME-PUSPANJALI TARAI

REGD_NO-2141020006

PYTHON LOCAL CODE –



The image shows two side-by-side Windows PowerShell windows. The left window displays the output of running a Python server script. The right window displays the output of running a Python client script.

```
Windows PowerShell
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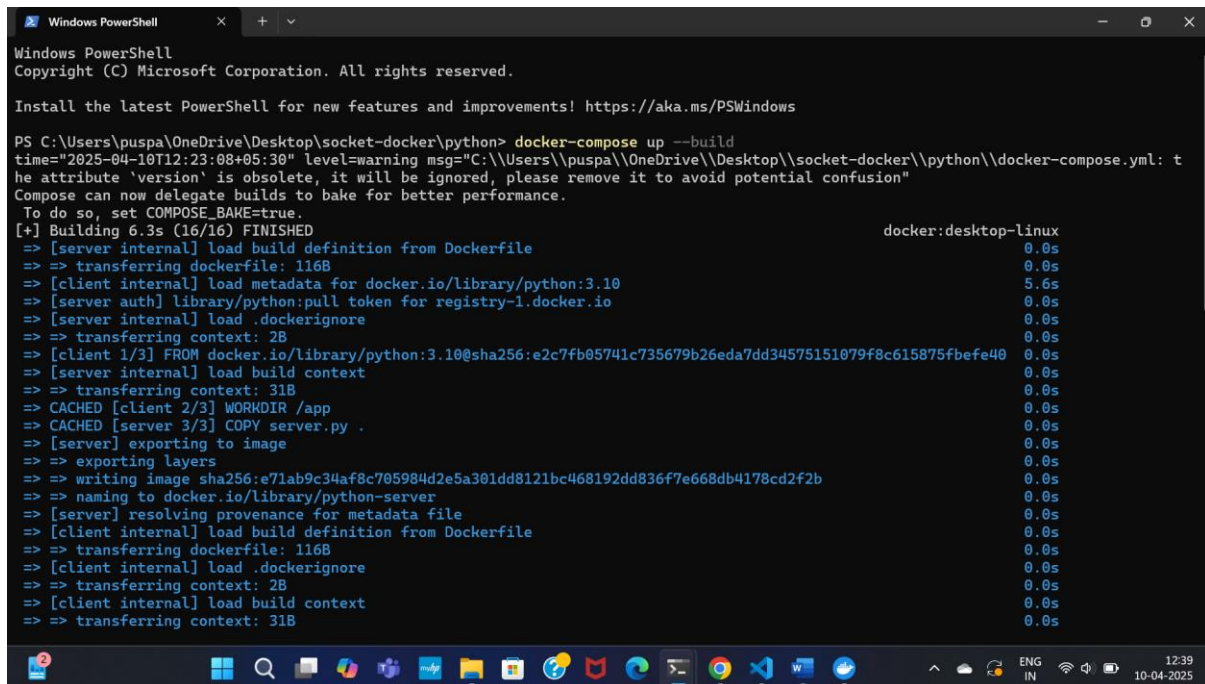
PS C:\Users\puspa\OneDrive\Desktop\socket-local\python> python s
erver.py
Server listening on localhost:12345
Connected to client at ('127.0.0.1', 49879)
Client says: hello puspanjali!!!!
Enter reply to client: hii
```

```
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PS C:\Users\puspa\OneDrive\Desktop\socket-local\python> python c
lient.py
Connected to server at localhost:12345
Enter message to server: hello puspanjali!!!!
Server says: hii
Enter message to server: |
```

PYTHON DOCKER CODE-



The image shows a Windows PowerShell window with the output of a Docker Compose command. The command is used to build and run a Python application in a Docker container.

```
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PS C:\Users\puspa\OneDrive\Desktop\socket-docker\python> docker-compose up --build
time="2025-04-10T12:23:08+05:30" level=warning msg="C:\\Users\\puspa\\OneDrive\\Desktop\\socket-docker\\python\\docker-compose.yml: t
he attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"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 6.3s (16/16) FINISHED                                docker:desktop-linux
=> [server internal] load build definition from Dockerfile        0.0s
=> => transferring dockerfile: 116B                               0.0s
=> [client internal] load metadata for docker.io/library/python:3.10 5.6s
=> [server auth] library/python:pull token for registry-1.docker.io 0.0s
=> [server internal] load .dockerignore                           0.0s
=> => transferring context: 2B                                       0.0s
=> [client 1/3] FROM docker.io/library/python:3.10@sha256:e2c7fb05741c735679b26eda7dd34575151079f8c615875fbefe40 0.0s
=> [server internal] load build context                           0.0s
=> => transferring context: 31B                                       0.0s
=> CACHED [client 2/3] WORKDIR /app                               0.0s
=> CACHED [server 3/3] COPY server.py .                           0.0s
=> [server] exporting to image                                    0.0s
=> => exporting layers                                              0.0s
=> => writing image sha256:e71ab9c34af8c705984d2e5a301dd8121bc468192dd836f7e668db4178cd2f2b 0.0s
=> => naming to docker.io/library/python-server                   0.0s
=> [server] resolving provenance for metadata file                0.0s
=> [client internal] load build definition from Dockerfile        0.0s
=> => transferring dockerfile: 116B                               0.0s
=> [client internal] load .dockerignore                           0.0s
=> => transferring context: 2B                                       0.0s
=> [client internal] load build context                           0.0s
=> => transferring context: 31B                                       0.0s
```

```
Windows PowerShell
=> CACHED [client 2/3] WORKDIR /app 0.0s
=> CACHED [server 3/3] COPY server.py . 0.0s
=> [server] exporting to image 0.0s
=> => exporting layers 0.0s
=> => writing image sha256:e71ab9c34af8c705984d2e5a301dd8121bc468192dd836f7e668db4178cd2f2b 0.0s
=> => naming to docker.io/library/python-server 0.0s
=> [server] resolving provenance for metadata file 0.0s
=> [client internal] load build definition from Dockerfile 0.0s
=> => transferring dockerfile: 116B 0.0s
=> [client internal] load .dockerignore 0.0s
=> => transferring context: 2B 0.0s
=> [client internal] load build context 0.0s
=> => transferring context: 31B 0.0s
=> CACHED [client 3/3] COPY client.py . 0.0s
=> [client] exporting to image 0.0s
=> => exporting layers 0.0s
=> => writing image sha256:f0c60025878ee69abebc0a329168bb20ad26099b6de49623b6d71fddfaa10dda 0.0s
=> => naming to docker.io/library/python-client 0.0s
=> [client] resolving provenance for metadata file 0.0s
[+] Running 4/4
✔client Built 0.0s
✔server Built 0.0s
✔Container python_socket_server Created 0.0s
✔Container python_socket_client Created 0.0s
Attaching to python_socket_client, python_socket_server
python_socket_server | [SERVER] Listening on 0.0.0.0:12345...
python_socket_server | [SERVER] Connected to client at ('172.18.0.3', 51574)
python_socket_client | [CLIENT] Connected to server at server:12345
python_socket_client | [YOU] Enter message: hi
python_socket_server | [CLIENT] hi
python_socket_server | [YOU] Enter response: hello
python_socket_client | [SERVER] hello
```

```
Windows PowerShell
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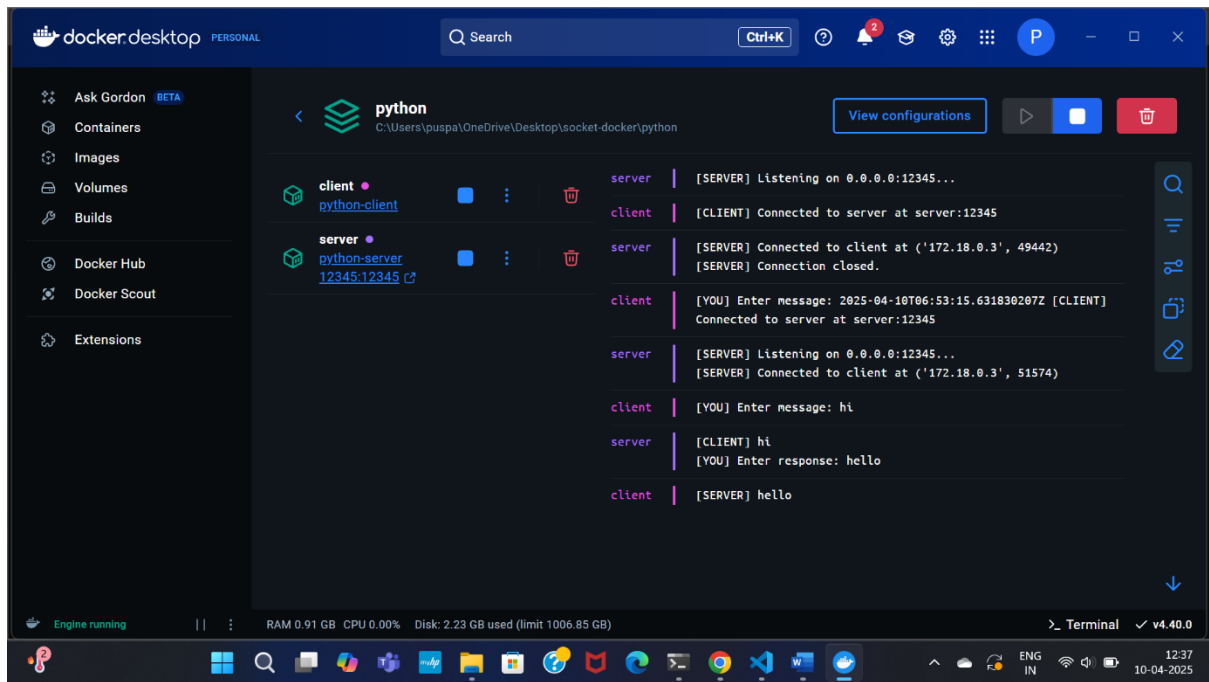
Install the latest PowerShell for new features and improvements!
https://aka.ms/PSWindows

PS C:\Users\puspa\OneDrive\Desktop\socket-docker\python> docker attach python_socket_client
hi
[SERVER] hello
[YOU] Enter message:

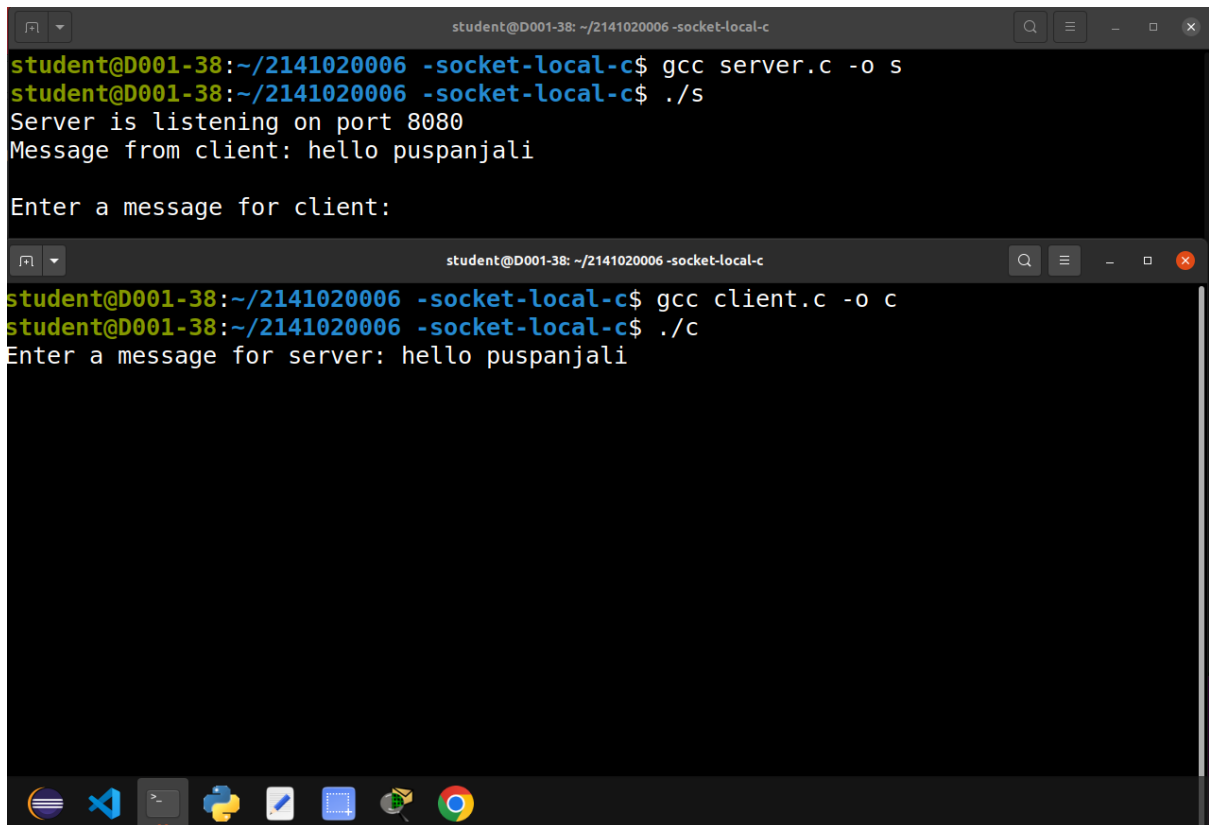
Windows PowerShell
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Install the latest PowerShell for new features and improvements!
https://aka.ms/PSWindows

PS C:\Users\puspa\OneDrive\Desktop\socket-docker\python> docker attach python_socket_server
[CLIENT] hi
[YOU] Enter response: hello
```



C LOCAL CODE-



C DOCKER CODE-

```
PS C:\Users\puspa\OneDrive\Desktop\socket-docker> docker-compose build
time="2025-04-10T14:00:05+05:30" level=warning msg="C:\\Users\\puspa\\OneDrive\\Desktop\\socket-docker\\c\\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 22.3s (22/22) FINISHED
=> [server internal] load build definition from Dockerfile
=> => transferring dockerfile: 291B
=> [client internal] load metadata for docker.io/library/gcc:latest
=> [server auth] library/gcc:pull token for registry-1.docker.io
=> [server internal] load .dockerignore
=> => transferring context: 2B
=> [client 1/6] FROM docker.io/library/gcc:latest@sha256:95f598eea2b230fae0bca018c9e31ac1f9dc0599e5e06f2c70671f1
=> [server internal] load build context
=> => transferring context: 58B
=> CACHED [client 2/6] WORKDIR /app
=> CACHED [server 3/6] COPY server.c .
=> CACHED [server 4/6] COPY client.c .
=> CACHED [server 5/6] RUN gcc -o server server.c
=> CACHED [server 6/6] RUN gcc -o client client.c
=> [server] exporting to image
=> => exporting layers
=> => writing image sha256:566e8194c08fb795e36a4b72ac9c62d59ffd7d8f39a7988919cedd339613ccd
=> => naming to docker.io/library/c-server
=> [server] resolving provenance for metadata file
=> [client internal] load build definition from Dockerfile
=> => transferring dockerfile: 291B
=> [client internal] load .dockerignore
=> => transferring context: 2B
=> [client internal] load build context
=> => transferring context: 58B
=> CACHED [client 3/6] COPY server.c .
```

```
PS C:\Users\puspa\OneDrive\Desktop\socket-docker> docker build -t client .
[+] Building 0/2
=> [client] exporting to image 0.0s
=> => exporting layers 0.0s
=> => writing image sha256:93c4ffa27b2bf011194b3d046cd1a4b2aabb8515ba4ac4ac4c036f1a5b6fb684 0.0s
=> => naming to docker.io/library/c-client 0.0s
=> [client] resolving provenance for metadata file 0.0s
[+] Building 2/2
✓client Built 0.0s
✓server Built 0.0s
PS C:\Users\puspa\OneDrive\Desktop\socket-docker>
```

[illegible]

