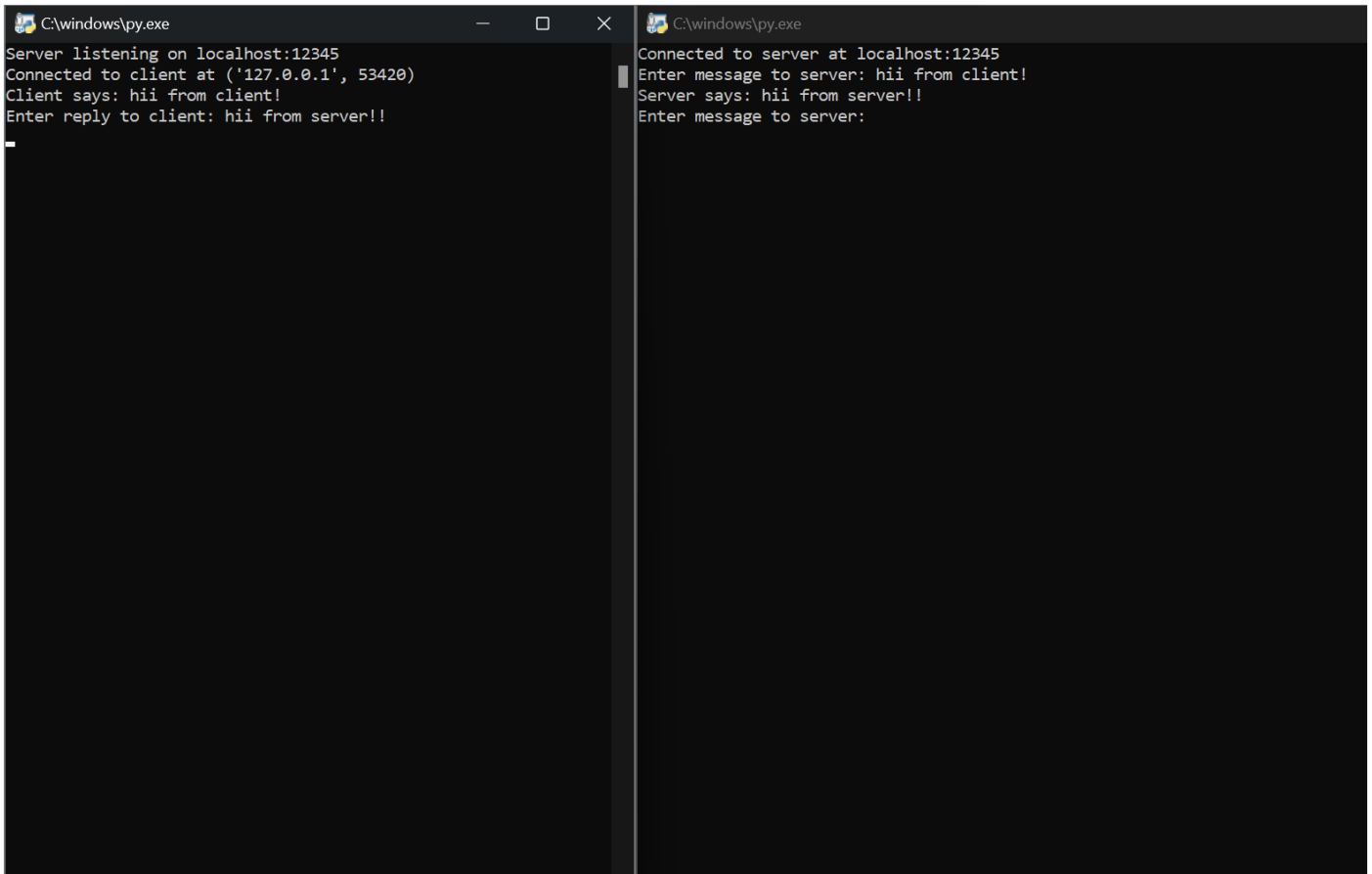


# Capstone 4

## PYTHON LOCAL :-

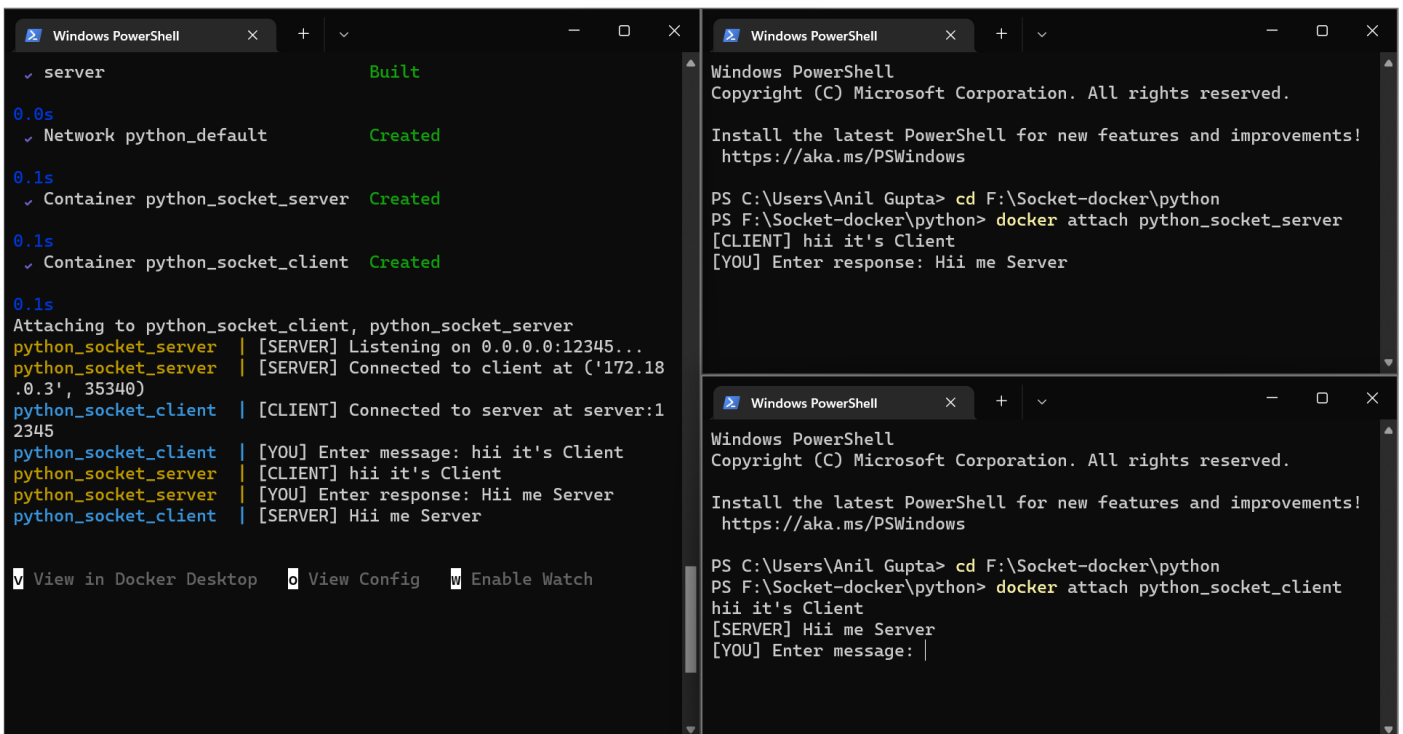


The image shows two side-by-side terminal windows. The left window, titled 'C:\windows\py.exe', shows a server listening on localhost:12345. It receives a connection from '127.0.0.1' at port 53420. The client sends the message 'hii from client!'. The server responds with 'hii from server!!'. The right window, also titled 'C:\windows\py.exe', shows the client's perspective. It connects to the server at localhost:12345, enters the message 'hii from client!', and receives the response 'hii from server!!' from the server.

```
C:\windows\py.exe
Server listening on localhost:12345
Connected to client at ('127.0.0.1', 53420)
Client says: hii from client!
Enter reply to client: hii from server!!
-

C:\windows\py.exe
Connected to server at localhost:12345
Enter message to server: hii from client!
Server says: hii from server!!
Enter message to server:
```

## PYTHON DOCKER:-



The image shows three terminal windows. The leftmost window is a Docker Desktop terminal showing the creation of a network 'python\_default' and two containers, 'python\_socket\_server' and 'python\_socket\_client'. It then shows the process of attaching to the 'python\_socket\_client' container and connecting it to the 'python\_socket\_server' container. The middle and right windows are Windows PowerShell terminals. The middle window shows the user navigating to 'F:\Socket-docker\python' and attaching to the 'python\_socket\_server' container, where they enter 'hii it's Client' and receive 'Hii me Server'. The right window shows the user attaching to the 'python\_socket\_client' container, where they enter 'hii it's Client' and receive 'Hii me Server' from the server.

```
Windows PowerShell
server Built
0.0s
Network python_default Created
0.1s
Container python_socket_server Created
0.1s
Container python_socket_client Created
0.1s
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', 35340)
python_socket_client | [CLIENT] Connected to server at server:1
2345
python_socket_client | [YOU] Enter message: hii it's Client
python_socket_server | [CLIENT] hii it's Client
python_socket_server | [YOU] Enter response: Hii me Server
python_socket_client | [SERVER] Hii me Server

View in Docker Desktop View Config Enable Watch

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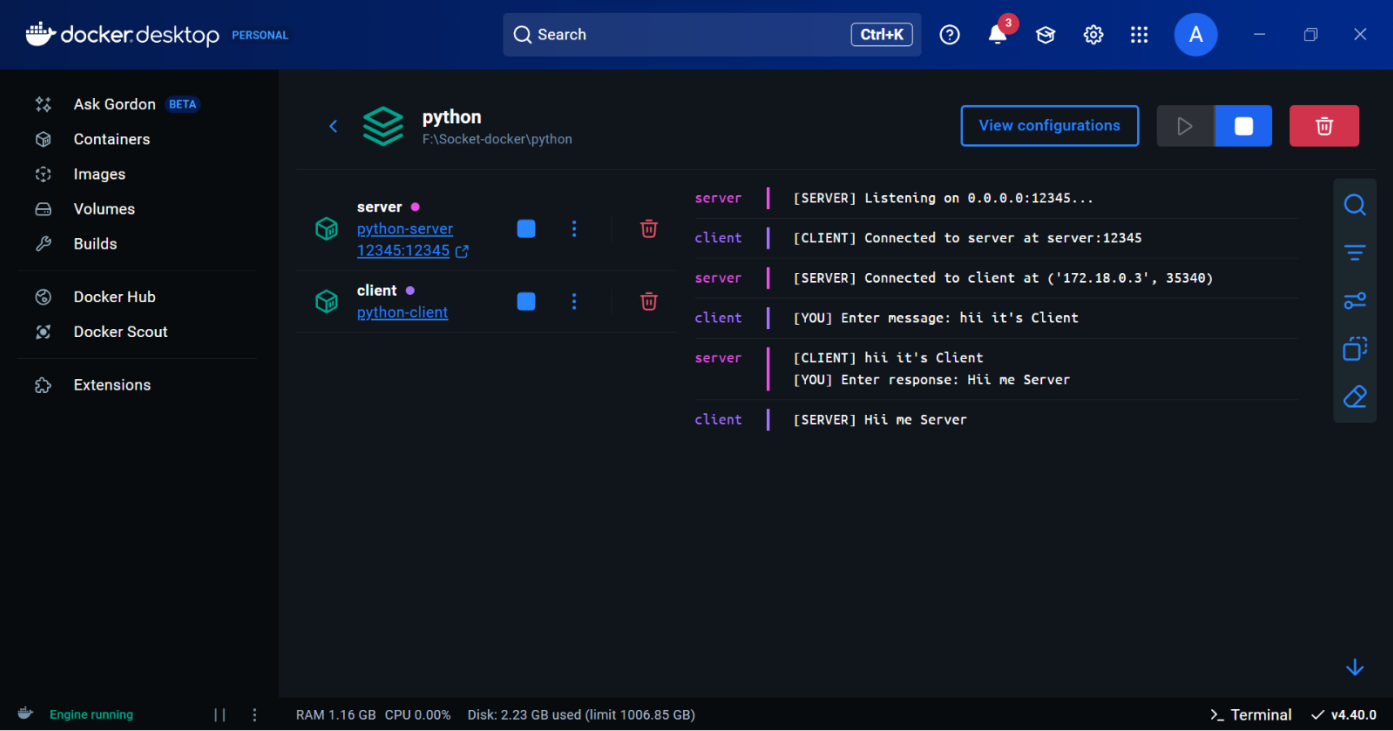
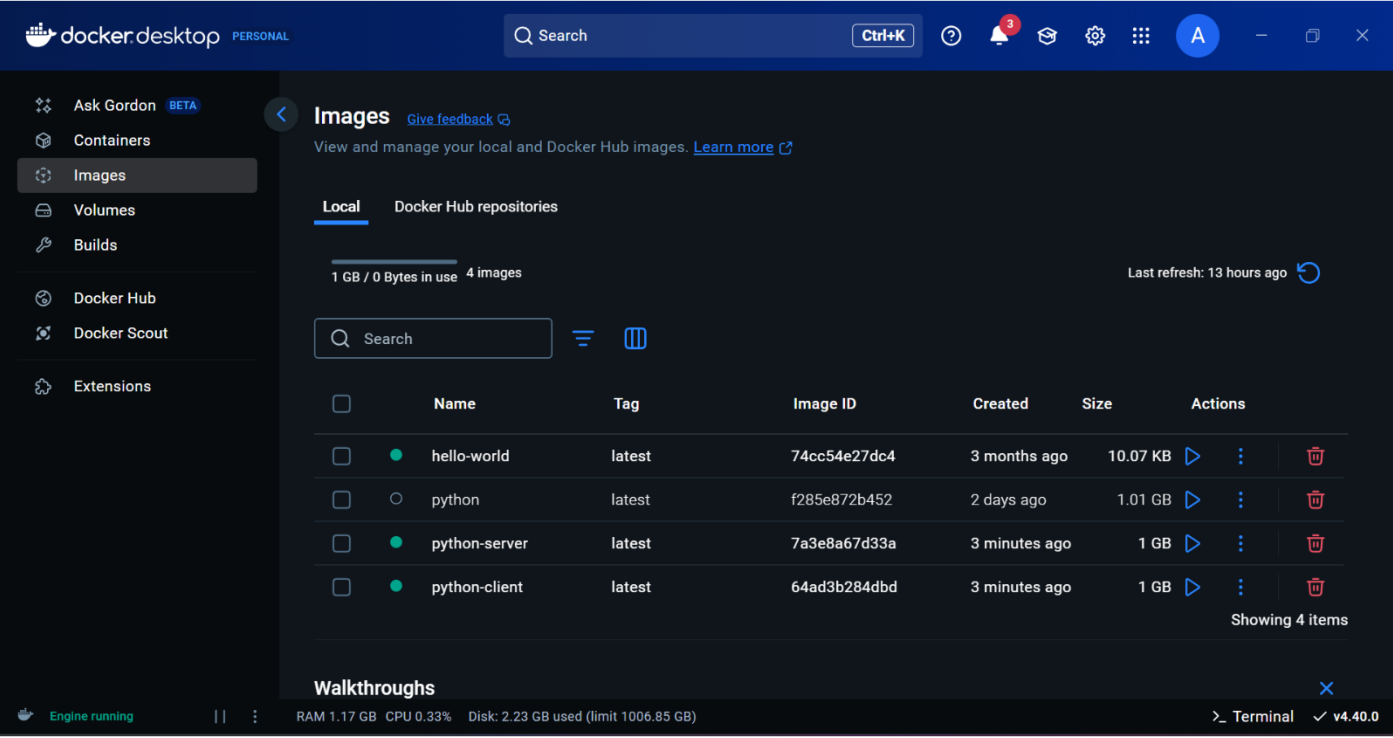
Install the latest PowerShell for new features and improvements!
https://aka.ms/PSWindows

PS C:\Users\Anil Gupta> cd F:\Socket-docker\python
PS F:\Socket-docker\python> docker attach python_socket_server
[CLIENT] hii it's Client
[YOU] Enter response: Hii me Server

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

PS C:\Users\Anil Gupta> cd F:\Socket-docker\python
PS F:\Socket-docker\python> docker attach python_socket_client
hii it's Client
[SERVER] Hii me Server
[YOU] Enter message: |
```



## LOCAL C:-

```
anil_pavilion@Anil-Pavilion: /mnt/ff/Socket-local/c/
anil_pavilion@Anil-Pavilion:~$ cd /mnt/ff/Socket-local/c/
anil_pavilion@Anil-Pavilion:/mnt/ff/Socket-local/c$ gcc client.c -o client
anil_pavilion@Anil-Pavilion:/mnt/ff/Socket-local/c$ ./client
Enter a message for server: hii it's Client
Message from server: hii it's Server!!
Enter a message for server: 
```

```
anil_pavilion@Anil-Pavilion: /mnt/ff/Socket-local/c
Setting up libc6-dev:amd64 (2.35-0ubuntu3.9) ...
Setting up gcc (4:11.2.0-1ubuntu1) ...
Processing triggers for man-db (2.10.2-1) ...
Processing triggers for libc-bin (2.35-0ubuntu3.8) ...
anil_pavilion@Anil-Pavilion:/mnt/ff/Socket-local/c$ gcc server.c -o server
anil_pavilion@Anil-Pavilion:/mnt/ff/Socket-local/c$ server
Command 'server' not found, did you mean:
  command 'serveo' from snap serveo (0.0.10)
  command 'serve' from snap serve (0.3.0)
  command 'semver' from deb node-semver (7.3.5+~7.3.8-1)
  command 'jserver' from deb freewnn-jserver (1.1.1~a021+cvs20130302-7build1)
  command 'cserver' from deb freewnn-cserver (1.1.1~a021+cvs20130302-7build1)
  command 'kserver' from deb freewnn-kserver (1.1.1~a021+cvs20130302-7build1)
See 'snap info <snapname>' for additional versions.
anil_pavilion@Anil-Pavilion:/mnt/ff/Socket-local/c$ ./server
Server is listening on port 8080
Message from client: hii it's Client
Enter a message for client: hii it's Server!!
```

## DOCKER C:-

```
Windows PowerShell
> == transferring context: 2B
> [client internal] load build context
> == transferring context: 58B
> CACHED [client 3/6] COPY server.c .
> CACHED [client 4/6] COPY client.c .
> CACHED [client 5/6] RUN gcc -o server server.c
> CACHED [client 6/6] RUN gcc -o client client.c
> [client] exporting to image
> == exporting layers
> == writing image sha256:efc71f9ad8ea4f45321f4e6ca3e2192164d27b8226f88bab34b3c8fbbf8037fa
> == naming to docker.io/library/c-client
> [client] resolving provenance for metadata file
[+] Building 2/2
  ✓ client Built
  ✓ server Built
PS F:\Socket-docker\c>
```

```
PS F:\Socket-docker\c> docker-compose run client
time="2025-04-10T15:03:46+05:30" level=warning msg="F:\\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
[+] Running 1/1
  ✓ Container chat_server Started
Connected to server!
Client: Message to server
```

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

PS F:\Socket-docker\c> docker-compose run server
time="2025-04-10T15:03:28+05:30" level=warning msg="F:\\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
Server waiting for connection...
```

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c


F:\Socket-docker\c

View configurations












server

c-server








server


Server waiting for connection...


Server waiting for connection...




server

c-server









client


Connected to server!




client

c-client









client


Client connected!




client

c-client










client


Client: Message to server



server











server


Client: Message to server











Engine running

RAM 1.23 GB CPU 0.00% Disk: 2.69 GB used (limit 1006.85 GB)

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Container CPU usage 0.00% / 1200% (12 CPUs available)

Container memory usage 1.49MB / 3.48GB



















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Only show running containers

<input type="checkbox"/>	Name	Container ID	Image	Port(s)	CPU (%)	Last sta	Actions
<input type="checkbox"/>	ecstatic_hai	f547aa5a1937	<a href="#">hello-world</a>		0%	11 hours	  
<input type="checkbox"/>	quizzical_galile	3c61c4ba551b	<a href="#">hello-world</a>		0%	11 hours	  
<input type="checkbox"/>	server-run-1d8e	ee34a831ed96	<a href="#">c-server</a>		0%	2 minute	  
<input type="checkbox"/>	client-run-0078c	8bcee3774805	<a href="#">c-client</a>		0%	2 minute	  
<input type="checkbox"/>	python	-	-	-	0%	11 minut	  
<input type="checkbox"/>	c	-	-	-	0%	2 minute	  

Showing 6 items

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RAM 1.23 GB CPU 0.17% Disk: 2.69 GB used (limit 1006.85 GB)

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1.49 GB / 0 Bytes in use 6 images

Last refresh: 13 hours ago

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	Name	Tag	Image ID	Created	Size	Actions
<input type="checkbox"/>	hello-world	latest	74cc54e27dc4	3 months ago	10.07 KB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>
<input type="checkbox"/>	python	latest	f285e872b452	2 days ago	1.01 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>
<input type="checkbox"/>	python-server	latest	7a3e8a67d33a	11 minutes ag	1 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>
<input type="checkbox"/>	python-client	latest	64ad3b284dbd	11 minutes ag	1 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>
<input type="checkbox"/>	c-server	latest	f0e33126c8c7	4 minutes ago	1.42 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑</a>

Showing 6 items

Engine running

RAM 1.23 GB CPU 0.00% Disk: 2.69 GB used (limit 1006.85 GB)

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	Name	ID	Builder	Duration	Created	Author
<input type="checkbox"/>	c	rm812f	desktop-linux	1.5s	4 minutes ago	N/A
<input type="checkbox"/>	c	kqrbdc	desktop-linux	50.6s	5 minutes ago	N/A
<input type="checkbox"/>	client	xbvxms	desktop-linux	1.0s	12 minutes ago	N/A
<input type="checkbox"/>	server	v62tah	desktop-linux	16.5s	12 minutes ago	N/A

Rows per page: 10 1-4 of 4

Engine running

RAM 1.21 GB CPU 0.00% Disk: 2.69 GB used (limit 1006.85 GB)

Terminal v4.40.0

Name :- Anil Gupta  
Reg. No. :- 2141007073