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# PYTHON-DOCKER

```
Windows PowerShell
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PS C:\Users\USER> cd C:\Users\USER\Desktop/socket-docker-python
PS C:\Users\USER\Desktop/socket-docker-python> docker-compose up --build
INFO[02-06-2022] 19:46:08: [WARNING] mgr-C:\Users\USER\Desktop\socket-docker-python/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
To do so, set COMPOSE_COMPAT_MODE=1 to have better performance.
[+] Building 9.7s (2/2) FINISHED
=> [server internal] load build definition from Dockerfile                                docker-desktop-linux    0.0s
=> [server internal] load metadata for docker.io/library/python:3.8                  0.0s
=> [server internal] load metadata for docker.io/library/python:3.8                  0.0s
[+] Building 1.0s (0/0) FINISHED
=> [client internal] load metadata for docker.io/library/python:3.8 failed to do request: head "https://registry-1.docker.io/v2/library/python/manifests/3.8": net/http: TLS handshake timeout
PS C:\Users\USER\Desktop/socket-docker-python> docker-compose up --build
INFO[02-06-2022] 19:46:08: [WARNING] mgr-C:\Users\USER\Desktop\socket-docker-python/docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion
To do so, set COMPOSE_COMPAT_MODE=1 to have better performance.
[+] Building 2.8s (16/16) FINISHED
=> [server internal] load build definition from Dockerfile                                docker-desktop-linux    0.0s
=> [server internal] load metadata for docker.io/library/python:3.8                  0.0s
=> [server auth] library/python pull token for registry-1.docker.io                   0.0s
=> [server internal] load .dockerignore                                               0.0s
=> [server internal] transfer context: 20                                           0.0s
=> [server internal] FIDR docker.io/library/python:3.8sha256:c2c7f95d974c1736679926eda7dd345751187ff9ec53187753bfceaf 0.0s
=> [server internal] load build context                                             0.0s
=> [server internal] transfer context: 18                                           0.0s
=> CACHED [client 3/3] WORKDIR /app                                                 0.0s
=> CACHED [client 3/3] COPY server.py .                                              0.0s
=> [client exporting to image]                                                       0.0s
=> writing image sha256:a8d119acc0cf9cd8fc721132d1588ab7368801843d1587f0d2128c78cc41 0.0s
=> naming to docker.io/library/python-server                                       0.0s
=> [server] pushing presence for metadata file                                     0.0s
=> [client internal] load build definition from Dockerfile                          0.0s
=> [server internal] load metadata for docker.io/library/python:3.8                  0.0s
=> [server internal] transfer context: 20                                           0.0s
=> [client internal] load build context                                             0.0s
=> [server internal] transfer context: 18                                           0.0s
=> CACHED [client 3/3] COPY client.py .                                              0.0s
=> [client exporting to image]                                                       0.0s
=> writing image sha256:d8528cfedd8e0c97f64c3bdac90c96522da07f8409293f91d87fa2886dcdb 0.0s
=> naming to docker.io/library/python-client                                        0.0s
=> [client] pushing presence for metadata file                                     0.0s
[+] Building 0.4s
=> client                                                                            Built
=> server                                                                            Built
=> Container python_socket_server Created
=> Container python_socket_client Created
Attaching to python_socket_client, python_socket_server
python_socket_server | [SRVND] Listening on 0.0.0.0:12345...
python_socket_client | [CLIENT] Connected to server at 12345
python_socket_client | [SRVND] Connected to client at {172.18.0.3} : MErrr)
python_socket_client | [YOU] Enter message: Hi!
python_socket_server | [CLIENT] Hi!
python_socket_server | [YOU] Enter response: Hello
python_socket_client | [SRVND] Hello
```

```
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PS C:\Users\USER> docker attach python_socket_server
[CLIENT] Hii
[YOU] Enter response: Hello
```

```
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PS C:\Users\USER> docker attach python_socket_client
Hi!
[SERVER] Hello
[YOU] Enter message: |
```

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<input type="checkbox"/>	python	latest	f285e872b452	2 days ago	1.01 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>
<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-server	latest	e0d219acc8cf	28 minutes ag	1 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>
<input type="checkbox"/>	python-client	latest	95f528fc6ddd	24 minutes ag	1 GB	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>


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### Walkthroughs

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- FROM node
- RUN npm init -p
- WORKDIR /app
- COPY package

**How do I run a container?**  
6 mins

 **Run Docker Hub images**  
5 mins

Engine running || RAM 1.38 GB CPU 0.00% Disk: 2.23 GB used (limit 1006.85 GB) Terminal v4.40.0

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Container CPU usage 0.00% / 800% (8 CPUs available)

Container memory usage 7.28MB / 7.47GB [Show charts](#)

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	Name	Container ID	Image	Port(s)	CPU (%)	Last started	Actions
<input type="checkbox"/>	python	-	-	-	0%	2 minutes ago	<a href="#">▶</a> <a href="#">⋮</a> <a href="#">🗑️</a>



```
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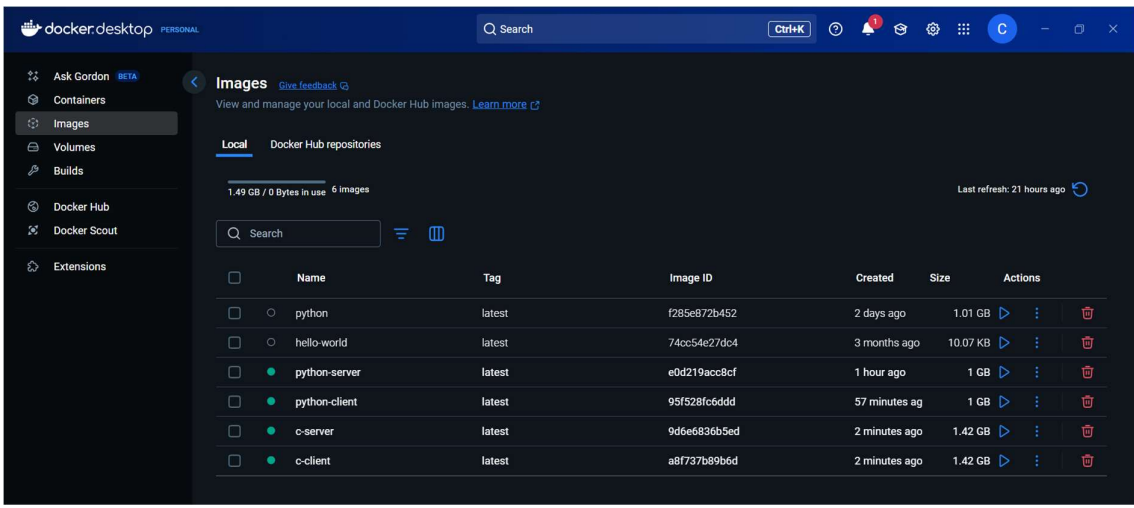
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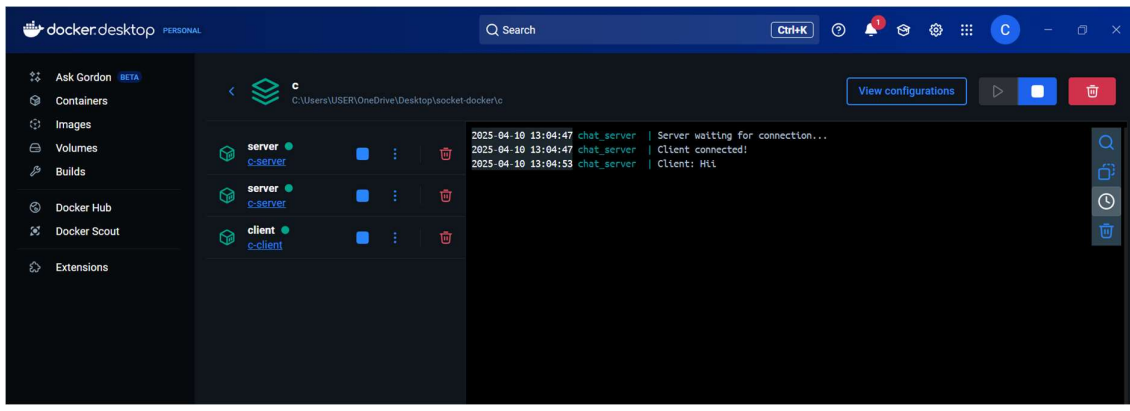
PS C:\Users\USER> cd C:\Users\USER\OneDrive\Desktop\socket-docker\c
PS C:\Users\USER\OneDrive\Desktop\socket-docker\c> docker-compose run server
times"2025-04-10T13:04:23+05:30" level=warning msg="C:\Users\USER\OneDrive\Desktop\socket-docker\c\docker-compose.yml: the attribute 'version' is obsolete, it will be ignored, please remove it to avoid potential confusion"
Server waiting for connection...
Hello
|
```

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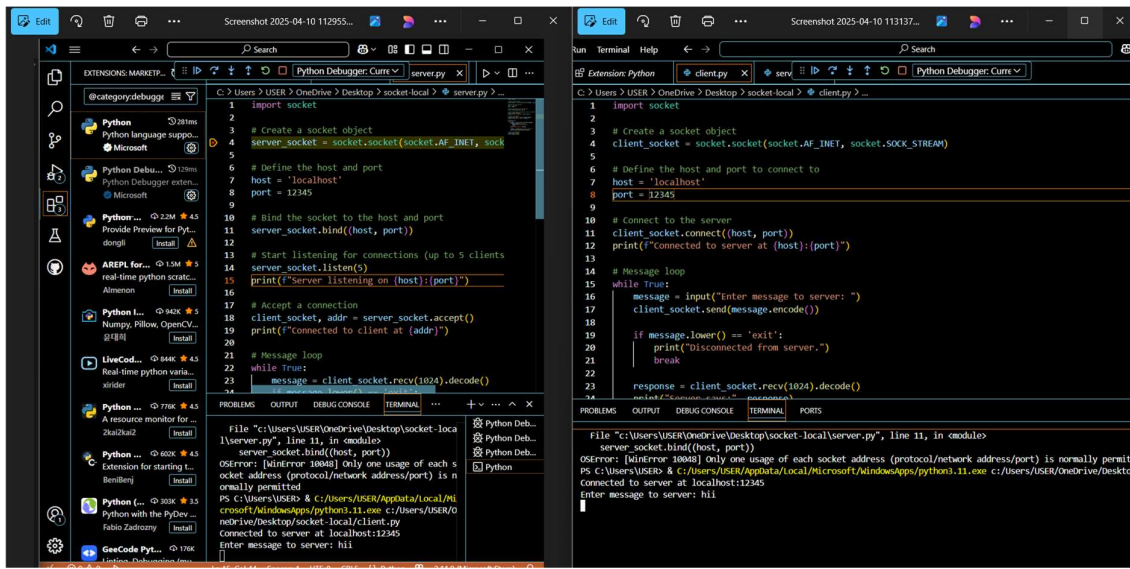
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\USER> cd C:\Users\USER\OneDrive\Desktop\socket-docker\c
PS C:\Users\USER\OneDrive\Desktop\socket-docker\c> docker-compose run client
times"2025-04-10T13:04:47+05:30" level=warning msg="C:\Users\USER\OneDrive\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 0.0s
[*] Running 1/1
  ✔ Container chat_server Started 0.1s
Connected to server!
Client: Hi
|
```






## PYTHON-LOCAL



## C-LOCAL

```
server.c
1 #include <stdio.h>
2 #include <string.h>
3 #include <stdlib.h>
4 #include <unistd.h>
5 #include <arpa/inet.h>
6
7 #define PORT 8080
8 #define BUFFER_SIZE 1024
9
10 int main() {
11     int server_fd, new_socket;
12     struct sockaddr_in address;
13     int addrlen = sizeof(address);
14     char buffer[BUFFER_SIZE] = {0};
15     char message[BUFFER_SIZE];
16
17     // Creating socket file descriptor
18     if ((server_fd = socket(AF_INET, SOCK_STREAM, 0)) == 0) {
19         perror("Socket failed");
20         exit(EXIT_FAILURE);
21     }
22
23     address.sin_family = AF_INET;
24     address.sin_addr.s_addr = INADDR_ANY;
25     address.sin_port = htons(PORT);
26
27     // Binding the socket to the specified port
28     if (bind(server_fd, (struct sockaddr *)&address, sizeof(address)) < 0) {
29         perror("Bind failed");
30         close(server_fd);
31         exit(EXIT_FAILURE);
32     }
33
34     // Listening for incoming connections
35     if (listen(server_fd, 3) < 0) {
36         perror("Listen failed");
37         close(server_fd);
38         exit(EXIT_FAILURE);
39     }
40
41     printf("Server is listening on port %d\n", PORT);
42
43     // Accepting a connection
44     if ((new_socket = accept(server_fd, (struct sockaddr *)&address,
```

Open 

client.c  
~/socket-local/c

```
1 #include <stdio.h>
2 #include <string.h>
3 #include <stdlib.h>
4 #include <unistd.h>
5 #include <arpa/inet.h>
6
7 #define PORT 8080
8 #define BUFFER_SIZE 1024
9
10 int main() {
11     int sock = 0;
12     struct sockaddr_in serv_addr;
13     char buffer[BUFFER_SIZE] = {0};
14     char message[BUFFER_SIZE];
15
16     // Creating socket file descriptor
17     if ((sock = socket(AF_INET, SOCK_STREAM, 0)) < 0) {
18         perror("Socket failed");
19         exit(EXIT_FAILURE);
20     }
21
22     serv_addr.sin_family = AF_INET;
23     serv_addr.sin_port = htons(PORT);
24
25     // Converting IP address to binary form and setting it
26     if (inet_pton(AF_INET, "127.0.0.1", &serv_addr.sin_addr) <= 0) {
27         perror("Invalid address or Address not supported");
28         close(sock);
29         exit(EXIT_FAILURE);
30     }
31
32     // Connecting to the server
33     if (connect(sock, (struct sockaddr *)&serv_addr, sizeof(serv_addr)) < 0) {
34         perror("Connection failed");
35         close(sock);
36         exit(EXIT_FAILURE);
37     }
38
39     while (1) {
40         // Sending message to server
41         printf("Enter a message for server: ");
42         fgets(message, BUFFER_SIZE, stdin);
43         send(sock, message, strlen(message), 0);
44
45         // Reading message from server
46         memset(buffer, 0, BUFFER_SIZE);
```



```
chinmayee@Chinmayee: ~/socket-local/c
chinmayee@Chinmayee:~$ mkdir socket-local
mkdir: cannot create directory 'socket-local': File exists
chinmayee@Chinmayee:~$ cd socket-local
chinmayee@Chinmayee:~/socket-local$ cd c
chinmayee@Chinmayee:~/socket-local/c$ gedit server.c
chinmayee@Chinmayee:~/socket-local/c$ gcc server.c -o s
chinmayee@Chinmayee:~/socket-local/c$ ./s
Connection failed: Connection refused
chinmayee@Chinmayee:~/socket-local/c$ gcc server.c -o s
chinmayee@Chinmayee:~/socket-local/c$ ./s
Connection failed: Connection refused
chinmayee@Chinmayee:~/socket-local/c$ gcc server.c -o s
chinmayee@Chinmayee:~/socket-local/c$ ./s
Server is listening on port 8080
Message from client: Hi!

Enter a message for client: Hello

```



```
chinmayee@Chinmayee: ~/socket-local/c
chinmayee@Chinmayee:~/socket-local/c$ gedit client.c
chinmayee@Chinmayee:~/socket-local/c$ gcc client.c -o c
chinmayee@Chinmayee:~/socket-local/c$ ./c
Enter a message for server: Hii
Message from server: Hello

Enter a message for server: 
```