

Hello over UDP (Server)

## Problem description

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You are tasked with building a simple UDP server that listens on IP 127.0.0.1 and port 12345.

Your server should:

- Wait for an incoming UDP message.
- If the message content is exactly "Hello, Server!", it must respond to the client with "Hello, Client!".
- For any other message, it should not respond.

Your task is to implement the UDP server that correctly handles client messages.

## Input

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The server receives input over the network (UDP packet). There is no input from stdin.

## Output

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The server prints the following to stdout when a message is received (without unit test):

Received from ('<ip>', <port>): <message>

where <ip> and <port> are the sender's address and <message> is the message content as a string. Output with unit test is shown below:

Test handle\_client\_message ...

Received from ('127.0.0.1', 54321): Hello, Server!

sendto called with: call(b'Hello, Client!', ('127.0.0.1', 54321))

Test start\_server ...

UDP server listening on 127.0.0.1:12345 ...

Received from ('127.0.0.1', 54321): Hello, Server!

bind called with: call(('127.0.0.1', 12345))

recvfrom called with: call(1024)

## Implementation constraints

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- Use the Python socket module and SOCK\_DGRAM (UDP).
- The server must bind to 127.0.0.1 and port 12345.
- Use recvfrom() and sendto() for receiving and replying.
- Do not crash on unknown messages; just ignore them.
- Close the socket on termination (KeyboardInterrupt or loop break).