

The client sends requests to the server over a TCP socket connection, and the server responds to these requests with appropriate data.

Here are the basic steps involved in integrating software systems or components using TCP socket communication:

1. Choose a protocol: TCP/IP is a common protocol for socket communication, but other protocols like UDP can also be used depending on the requirements.
2. Determine the message format: Decide on the format of the messages that will be exchanged between the client and server. This could be a simple text-based format or a more complex binary format.
3. Define the communication interface: Define the functions or APIs that will be used for communication between the client and server.
4. Set up the server: Write the code for the server that listens for incoming client connections and handles incoming requests.
5. Set up the client: Write the code for the client that connects to the server and sends requests.
6. Handle errors: Implement error handling mechanisms to ensure that communication errors are handled gracefully and do not cause the system to crash or become unstable.
7. Test and iterate: Test the system thoroughly and make any necessary changes or improvements to ensure that it is functioning correctly.

Summary:

- Socket ::= IP address + (TCP/UDP) port number
- TCP Sockets provides 'real-time' data transfer
  - binary data transfer but can be normal text or XML as well
  - no direct method sharing (can be done by hand)
  - TCP and UDP connections are possible. UDP is 3 times quicker but one-way communication
- Persistent or On-Demand communication channel
  - because of connection time-loss usually persistent channels are better, but periodically 'ping' messages should be sent. (in order to avoid connection closing). In case of any problems reconnection is possible
  - in case of UDP channels an extra TCP channel is available for synchronizing - in online games
- Results in the fastest possible transmission.
  - Where the number of transactions per second up to ~ 20 transactions, there should have been applied. (50ms / sec transfer)

From:

<https://edu.iit.uni-miskolc.hu/> - Institute of Information Science - University of Miskolc

Permanent link:

[https://edu.iit.uni-miskolc.hu/tanszek:oktatas:integration\\_based\\_on\\_tcp\\_ip\\_sockets?rev=1678032183](https://edu.iit.uni-miskolc.hu/tanszek:oktatas:integration_based_on_tcp_ip_sockets?rev=1678032183)

Last update: **2023/03/05 16:03**

