

CSE3241: Operating System and System Programming

Class-11

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November 14, 2017

What is Socket?

- Sockets are a form of interprocess communication that exists between two unrelated processes.
- They exist on the transport layer.
- Two commonly used sockets are:
 1. Stream Socket: It uses TCP.
 2. Datagram Socket: It uses UDP.

Socket on the Server Side

■ The steps involved in establishing a socket on the server side are as follows:

1. Create a socket with the `socket()` system call.
2. Bind the socket to an address using the `bind()` system call. For a server socket on the Internet, an address consists of a port number on the host machine.
3. Listen for connections with the `listen()` system call
4. Accept a connection with the `accept()` system call. This call typically blocks until a client connects with the server.
5. Send and receive data.
 - ▶ There are a number of ways to transmit data.
 - ▶ The simplest is to use the `read()` and `write()` system calls.

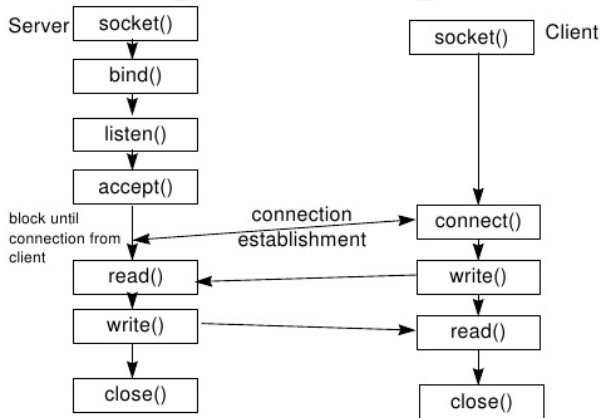
Socket on the Client Side

■ The steps involved in establishing a socket on the client side are as follows:

1. Create a socket with the `socket()` system call.
2. Connect the socket to the address of the server using the `connect()` system call
3. Send and receive data.

Socket in Server-Client Model

Figure: Taken from <https://image.slidesharecdn.com/programming-tcpip-with-sockets-1228580701559173-9/95/programming-tcpip-with-sockets-8-728.jpg?cb=1228552242>



References

