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EX NO: 2

Study of Basic functions of Socket programming.

S. S. Every procia
RA1911003010778
D2

Aim: To study basic functions of socket programming.

man connect

- To initiate a connection on a socket.
- If the connection or binding succeeds, zero is returned.
- Otherwise, an error -1 is returned and error number is set appropriately.

man accept

- accept / reject job is sent to a destination.
- It instructs the printing system to accept print jobs to the specified destination.
- -r → sets the reason for rejecting print jobs.
- -e → forces encryption when connecting to server.

man send

- send a message from socket.
- send, sendto, sendmsg.
- send can only be used when the socket is in a connected state.
- The parameter is the file descriptor of sending socket.

man recv

- receive a message from a socket.
- recv, recvfrom, recvmsg.
- If from is not null and the underlying protocol provides the src addr, this src addr is filled in.

man read

- Reads from a socket.
- read, readonly, return

man write

- sends a message to another user
- write allows you to communicate with other users say copying lines from terminal.
- If other user wants to reply they must run write as well

If config

- ↳ configures a network interface
- used at boot time to setup interfaces as necessary.
- After that, needed only when debugging or running ~~is the~~
- If no arguments are given, ifconfig displays the status of currently active interfaces.

man bind

- ↳ binds a unique local name to the socket with description socket.
- binding of a socket is done to address and port in order to receive data on this socket.

man htons / man htonl

- ↳ converts value between host and network byte order.

→ `htonl()` function converts the unsigned integer host long from host byte order to network byte order.

→ `htons()` converts the unsigned short integer host short from host byte order to network byte order.

→ `ntohl()` converts the unsigned integer net long from network byte order to host.

man gethostname

→ `gethostname / sethostname` → To get/set host name.

→ used to change the host name of the current process.

→ `gethostname()` returns NULL terminated hostname in the array name that has a length of len bytes.

→ NULL terminated then hostname does not fit, no error is returned, hostname is truncated.

man gethostbyname

→ `gethostbyname, gethostbyaddr, sethostent, endhostent, herror, hstr - error - get network host entry.`

→ `gethostbyname()` returns a struct of type `hostent` for the given hostname.

→ Name → hostname or IPv4 / IPv6 with dot notation

→ `gethostbyaddr()` - struct of type `hostent` / host address length.

→ Address types - AF_INET, AF_INET6.

→ setsockopt() → stay open as true(1)

→ TCP socket connection should be open during queries.

→ Server queries for UDP datagram

→ endhostend() - ends the use for TCP connection.

→ member are, h_name, h_aliases, h_addrtype, h_length, h_addr_list, h_addr.

Result

Thus the basic functions used for socket programming was studied

Successfully.