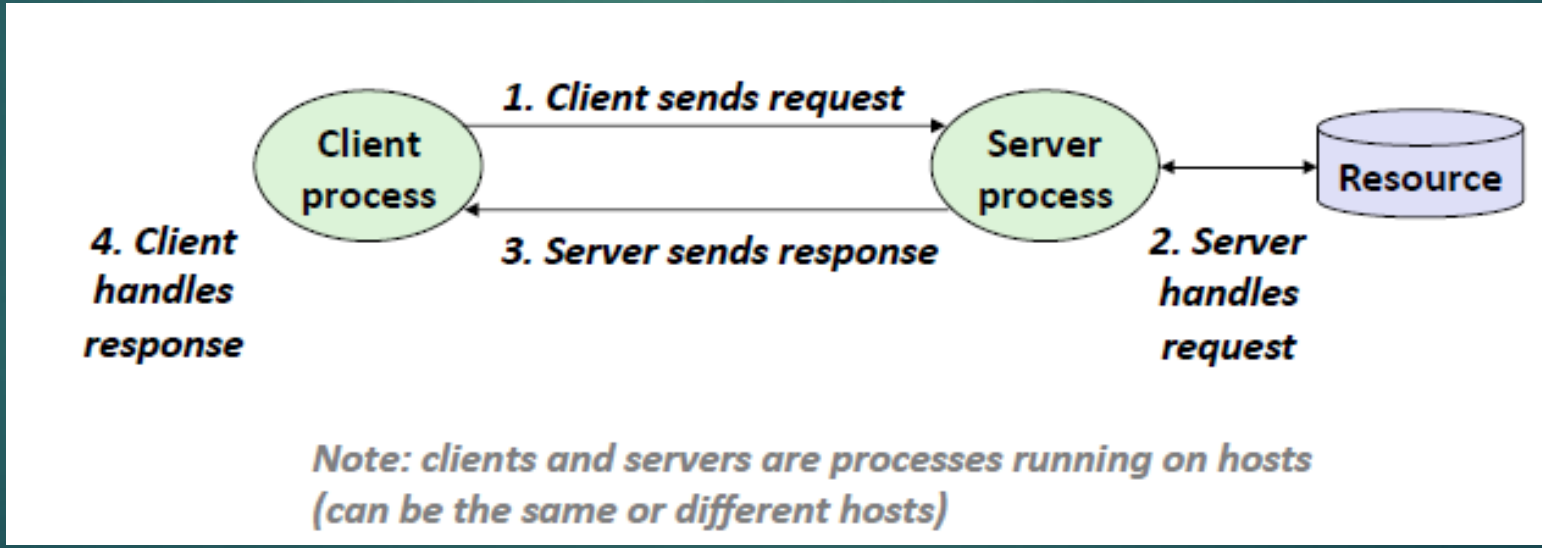
CS 361 – Lab 9

Network Programming

MONDAY, APRIL 8TH 2019.

Client-Server Model

- Client connects to a server to request information
- Clients and servers communicate with each other by reading from and writing to **socket** descriptors



- **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 e.g., read() and write() system calls

- **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
  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

http://www.cs.rpi.edu/~moorthy/Courses/os98/Pgms/socket.html

- Creates a socket descriptor:
  - **int socket(int domain, int type, int protocol)**
- A client establishes a connection with a server by calling connect:
  - **int connect(int clientfd, SA *addr, socklen_t addrlen);**
- To get an IP address for a hostname:
  - **struct hostent *gethostbyname(const char *name);**

Task

- The client first connects to the server, the server will then send the message “Hello World” and the client will finally print the received message. Code for server(server.c) is available at https://github.com/uic-cs361/Labs. You have to write the C code for client. Choose port numbers between 2000 and 65535.