CPSC 441
Tutorial-2

Department of Computer Science
University of Calgary
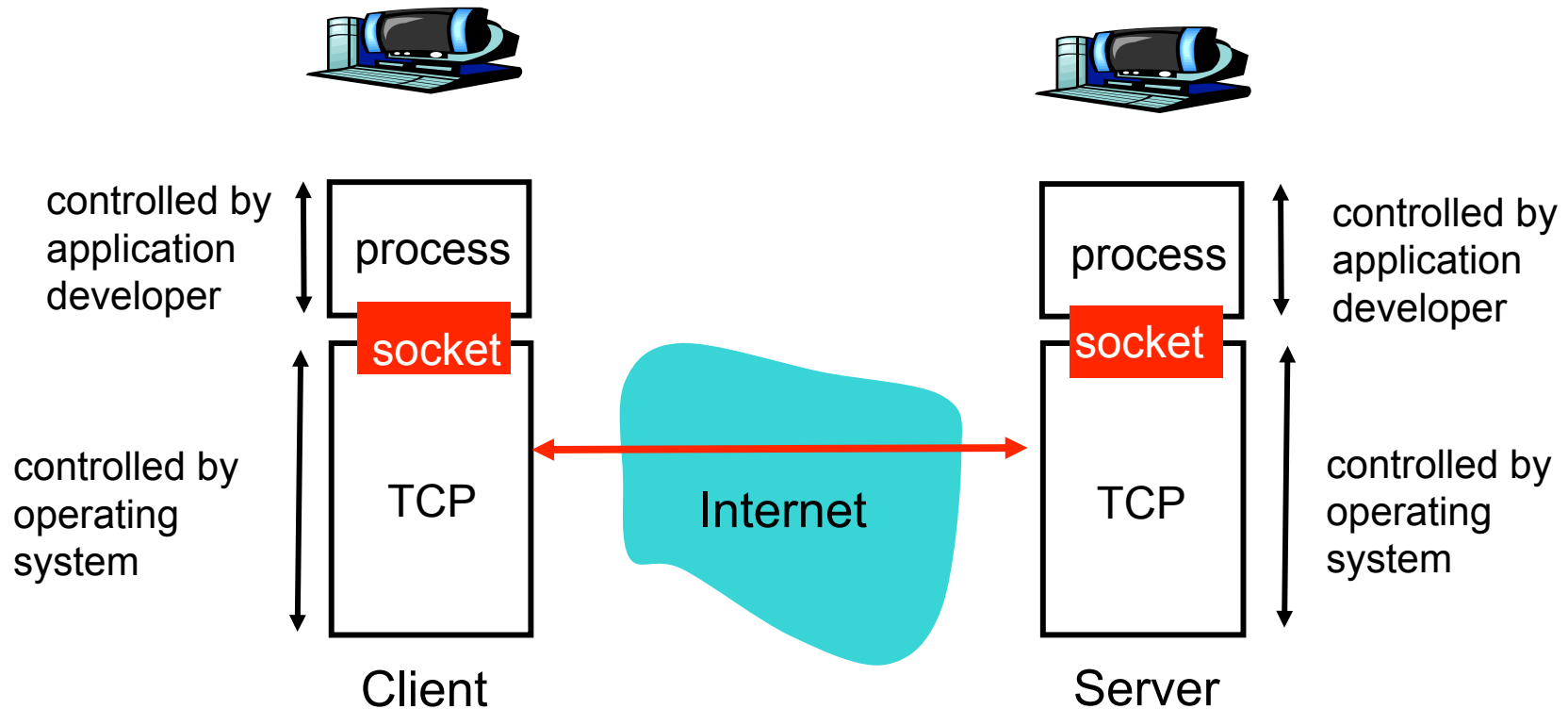
Socket Programming

❖ Goal: learn how to build client application that communicates using socket with an echo server

> **Socket**: An interface (a "door") into which
> application process can both send and
> receive messages to/from another application process

Socket Programming with TCP

TCP service: reliable transfer of **bytes** from one process to another

TCP Client

```
public class TCPClient {

public static void main(String[] args)
{
            String s, tmp;
            Scanner inputStream;
            PrintWriter outputStream;
            Scanner userinput;
            try
            {
```

Connect to server
```
Socket socket = new Socket("localhost", 8888);
```

Create streams
```
outputStream = new PrintWriter(new
DataOutputStream(socket.getOutputStream()));
inputStream = new Scanner(new InputStreamReader(socket.getInputStream()));
userinput = new Scanner(System.in);
```

```
                          while(true)
                          {
                                       System.out.println("Enter Text Message for Echo Server: ");

       Send  user input                tmp = userinput.nextLine();
       message to the                  // Send user input message to server
   server and receive                  outputStream.println(tmp);
   response. Exit on                   //Flush to make sure message is send
                 "bye"                 outputStream.flush();
                                       s = inputStream.nextLine();
                                       System.out.println(s);
                                       // Exit if message from server is "bye"
                                       if(s.equalsIgnoreCase("bye"))
                                                   break;
                          }
                          inputStream.close();
                          outputStream.close();
                          }
                          catch (Exception e)
                          {
                          System.out.println("Error: " + e.getMessage());
                          }
                  }
         }
```