

# Computer Networks I

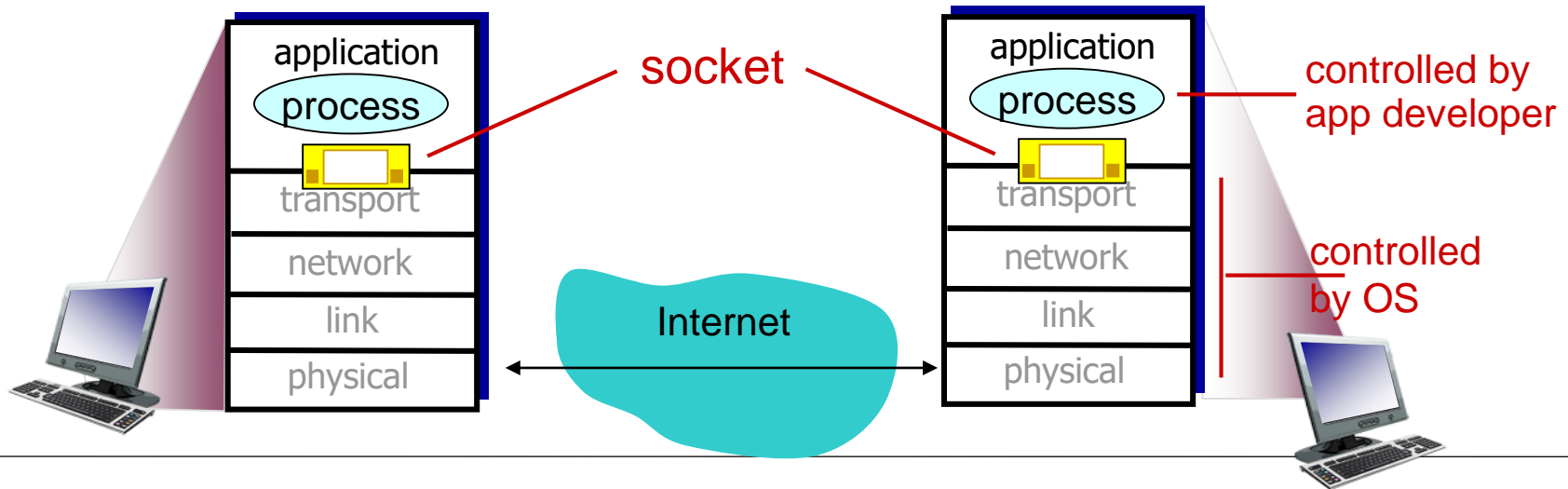
## Socket Programming

Amitangshu Pal  
Computer Science and Engineering  
IIT Kanpur

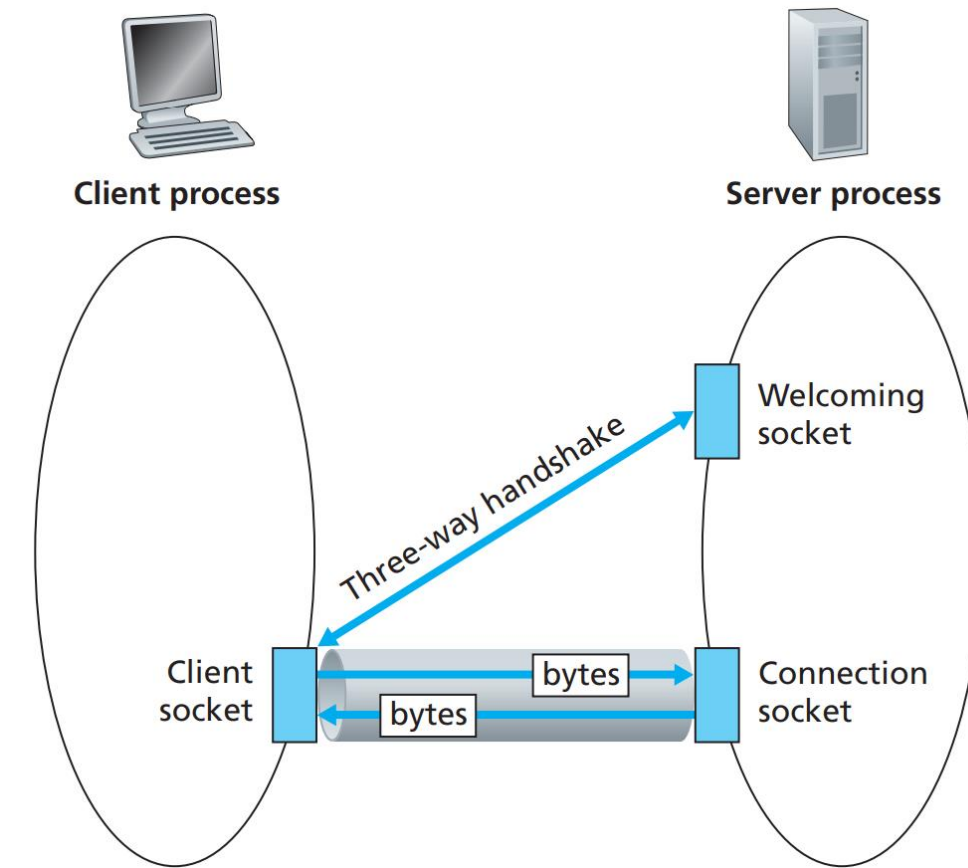
# Socket programming

**Goal:** learn how to build client/server applications that communicate using sockets

**Socket:** door between application process and end-end-transport protocol



# Client/server socket interaction: TCP



# Client/server socket interaction: TCP

## server (running on `hostid`)

## client

create socket,  
port=`x`, for incoming  
request:  
`serverSocket = socket()`

wait for incoming  
connection request  
`connectionSocket =`  
`serverSocket.accept()`

read request from  
`connectionSocket`

write reply to  
`connectionSocket`

close  
`connectionSocket`

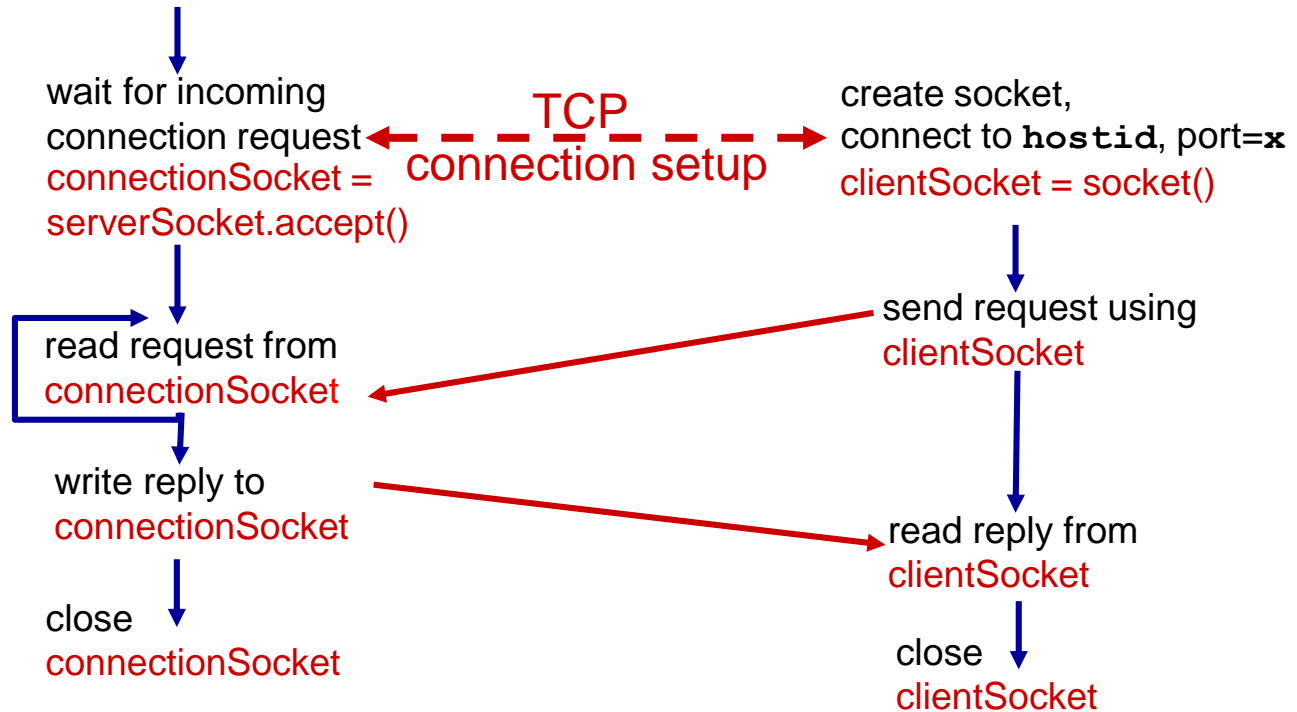
**TCP**  
connection setup

create socket,  
connect to `hostid`, port=`x`  
`clientSocket = socket()`

send request using  
`clientSocket`

read reply from  
`clientSocket`

close  
`clientSocket`



# Client/server socket interaction: UDP

## server (running on *serverIP*)

create socket, port= x:  
`serverSocket =  
socket(AF_INET,SOCK_DGRAM)`

↓  
read datagram from  
`serverSocket`

↓  
write reply to  
`serverSocket`  
specifying  
client address,  
port number

## client

create socket:  
`clientSocket =  
socket(AF_INET,SOCK_DGRAM)`

↓  
Create datagram with server IP and  
port=x; send datagram via  
`clientSocket`

↓  
read datagram from  
`clientSocket`

↓  
close  
`clientSocket`



# THANK YOU

QUESTIONS???

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