

Lecture 2: Network Programming (aka socket programming)

Layered protocol stack

Application Layer <----- us today

Transport Layer

Network Layer

Link Layer

Physical Layer

Socket API

`socket()` - create an empty / anonymous socket

`connect()` - specify end-point

`send()`

`recv()`

`shutdown()`

`bind()` - specify listening port and address

`listen()` - waits for incoming connection

`accept()` - creates socket connected to client

`select()` - wait for several sockets

`gethostbyname()` - resolve host name to IP address

server program structure:

socket

bind(address, port)

listen() <--- until we get a connection

client_socket = accept();

send(client_socket, "Welcome!")

recv()

shutdown()