

UDP SERVER/CLIENT

// PROTOCOL

The gist of the protocol:

Client (uclient): The important data (the service and its parameter) are passed in using *argv* in main. The format is:

uclient [address] [port] [service] [service parameters]

Where service is a flag determining which service you want to use (e.g. —DNS for a DNS request) and service parameters is the the input for the service (e.g. —DNS “www.google.com” does a DNS lookup on Google).

The client stuffs the parameters into a simple struct with a *int* (named cmd) that stores a number representing the service call (0 = ECHO, 1 = DNS, 3 = TIME) and a string that contains the service parameter. The struct instance is then sent over the socket to the server.

Server (userver): The server is very simple. Once the server gets the struct from the packet, it uses cmd to determine the right command and then processes the request. It sends a string back to the client with the result.

// SCREENSHOTS

<pre>Kelvins-MacBook-Pro:build kelvinrodriguez\$./uclient localhost 9009 --ECHO "Dr. Otte is really cool and handsome" Server message: Dr. Otte is really cool and handsome Kelvins-MacBook-Pro:build kelvinrodriguez\$./uclient localhost 9009 --DNS "www.polygon.com" Server message: www.polygon.com resolved to 54.208.103.21 Kelvins-MacBook-Pro:build kelvinrodriguez\$</pre>	<pre>Kelvins-MacBook-Pro:build kelvinrodriguez\$./userver 9009 Initializing server... Server has started... Received datagram from localhost (127.0.0.1) server received 138 bytes Cmd: DNS Args: www.polygon.com Sending to client: www.polygon.com resolved to 54.208.103.21</pre>
<pre>Kelvins-MacBook-Pro:build kelvinrodriguez\$./uclient localhost 9009 --TIME Server message: The time is 18:44 Kelvins-MacBook-Pro:build kelvinrodriguez\$</pre>	<pre>Received datagram from localhost (127.0.0.1) server received 138 bytes Cmd: TIME Args: Sending to client: The time is 18:44</pre>
<pre>Kelvins-MacBook-Pro:build kelvinrodriguez\$./uclient localhost 9009 --ECHO "Dr. Otte is really cool and handsome" Server message: Dr. Otte is really cool and handsome Kelvins-MacBook-Pro:build kelvinrodriguez\$</pre>	<pre>Received datagram from localhost (127.0.0.1) server received 138 bytes Cmd: ECHO Args: Dr. Otte is really cool and handsome Sending to client: Dr. Otte is really cool and handsome</pre>