

MATLAB SOCKET SERVER

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Matlab tcp/ip and udp network server used to connect and execute commands sent from clients written in PHP and Delphi languages.

The toolbox used in Matlab is PNET. This function can be called with different options/commands to operate on tcp/ip and udp connection in Matlab. It supports data transfer with different data types and byte orders. The function is implemented as an MEX-file that needs to be: `pnet('command',...)` or `ppet(con,'command',...)`. The 'command' parameter is a string specifying what to do. The "con" parameter is a connection handler holding a number that refers to an already open connection/socket (`con=pnet('tcpconnect','hostname',port)`). In the cases where "con" is specified before 'command' is the commands associated to operate on that connection/socket. Connection handler number (and some other numbers like size values) can be specified as either a scalar value or a string containing the scalar number.

The tcp/ip client was written with the help of `php_sockets` extension. The socket extension implements a low-level interface to the socket communication functions based on the popular BSD sockets, providing the possibility to act as a socket server as well as a client. The commands used in the PHP client are : `socket_create`, `socket_connect`, `socket_write`, `socket_read`, `socket_close`. The `socket_create` creates and returns a socket resource, also referred to as an endpoint of communication. A typical network connection is made up of 2 sockets, one performing the role of the client, and another performing the role of the server. The `socket_connect` will initiate a connection to *address* using the socket resource *socket* , which must be a valid socket resource created with `socket_create()`. The function `socket_write` writes to the *socket* from the given *buffer*. The function `socket_read` reads from the socket resource *socket* created by the `socket_create` functions. The `socket_close` closes the socket resource given by *socket* . This function is specific to sockets and cannot be used on any other type of resources.

Bibliography:

- 1- Numerical Computing with MATLAB- Cleve Moler.
- 2- <http://www.apl.utoronto.ca/projects/ipnet.m>
- 3- www.php.net