

HW #1. Ping-Pong

(Due: 3/31/2015)

In this homework, you need to write a ping-pong client and server application in Elixir. When a client sends a ping message to the server, the server will respond with a pong message. There are four environment setups for your application (see the following). Please submit a report along with the code and scripts for reproducing your results.

Env1. Single Node (30%)

Both the client process and the server process runs on the same Elixir node.

Env2. Separate nodes on a single host (30%)

The client process and the server process run on two different Elixir nodes. Both nodes run on the same server.

Hint: You may need to use `:global.register_name(key, value)` and `value=:global.whereis_name(key)` to let the client and the server see each other's pid.

Env3. Separate hosts on the same LAN (30%)

The client process and the server process run on two different hosts

Hint: <http://benjamintan.io/blog/2014/05/25/connecting-elixir-nodes-on-the-same-lan/>

Env4. Separate hosts on different LANs (10%)

The client process and the server process run on two different hosts across Internet (i.e. the two hosts are not on the same local area network).

Hint: You may set up a VPN