

Internet Tech Phase I
DNS Client Server
Alan Sempruch
Sarah Khasawneh

ReadMe

Usage:

Machine 1 : `$python3 ts.py`

Machine 1: `$python3 rs.py`

Machine 2: `$python3 client.py`

(No additional arguments required when running the programs)

Description

The purpose of this project is to demonstrate server socket understanding and a simplified DNS. One client is connected to an RS server, and if needed a TS server. Both TS and RS servers maintain internal DNS_tables which consist of three fields: *hostname*, *IP*, *flag (A or NS)*. If, as the client sends an IP request for a hostname that contains an A flag, the RS server sends back to the client the string: *Hostname: IP_Address A*. If it sends a string with an NS flag, the RS server connects to the TS server and sends it the original string to search within its DNS_table. Similarly, if it finds the string with an A flag, it sends it back to the client, which is written in the Results.txt file. However, if it contains an NS flag, it returns an error string: *Hostname - Error: HOST NOT FOUND*".

Note: Both the client and RS_Server are run on the same machine, while the TS_Server is run on `grep.cs.rutgers.edu`.

Design

Helpers > `loadFromFile.py`

Used as a helper to extract the data from each respective file for both TS and RS servers.

It returns a dictionary file for each.

Includes custom print statements.

Server > `rs.py / ts.py`

Includes both RS and TS python code.

Client > `client.py`

Client code. All ports are hard coded in this file. Function calls made to call on servers based off of the flags as well as hostnames when lines split.

All ports close when program is killed.