

CS521 Assignment One DNS_Resolver_Server

---report for experiment and explanation of source code

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Notice: extra functions (1, 2, and 4) have been implemented.

1, Source code

There are five packages in source code. I mainly talk about resolver, app and DNSparsing packages.

Resolver package source code has responsibility to construct Resolver GUI and implement TCP listen (for app) then constructs corresponding thread to process app's requests. During processing inquiring DNS, the thread on resolver will send UDP message to DNS Server and wait for the response.

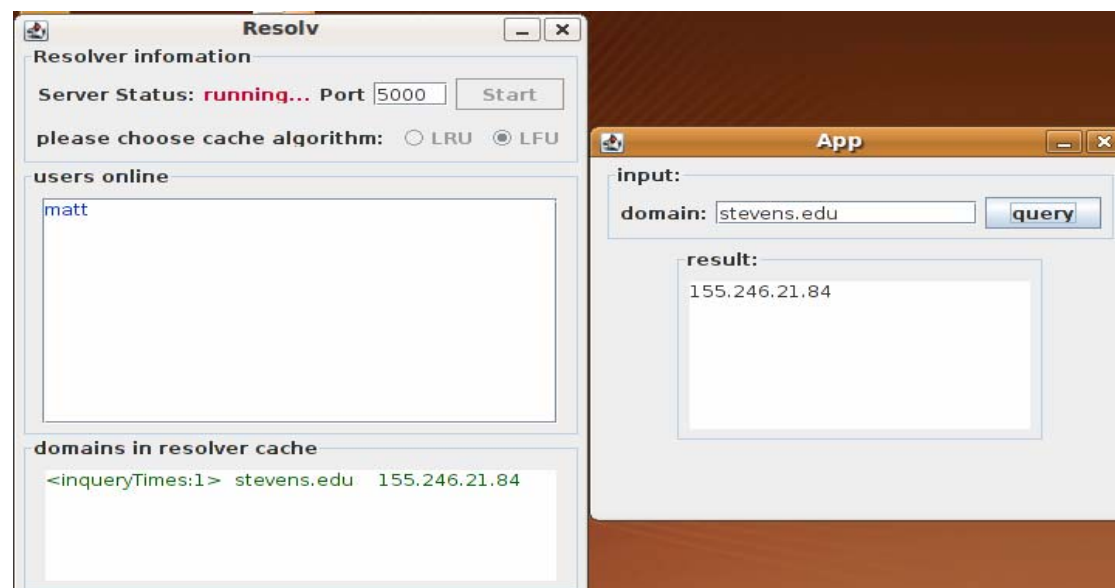
App package source code has responsibility to construct App GUI and implements Login function (to build TCP connection with resolver). Once the connection succeeds, app can inquire message through TCP connection.

DNSparsing package source code is used to send packages to DNS server and parse the response message. It has to construct the message header and the message content. In here, I make it one digit by one digit. Also, I must parse it and gain the part which I want and convert it to IP address.

You can find any explanation in the source code.

2, Experiment

- 1) Start Resolver, you can choose the cache mode---LRU or LFU which is used to store recent inquired domain records.
- 2) Start App to login. The server and port must be correct. Once login successfully, you can inquire domains.



- 3) You can observe the current situation in cache from Resolv. In this case, I used LFU algorithm. <inquiryTimes:1> indicate this domain is inquired just one time. You can inquire more domains and see the IP results or observe the changes in cache.
- 4) You also can login many Apps to connect to Resolv. But please notice that if you choose two one-way to login, you should be in different machines.

