

Resources / Lab Exercises (/COMP3331/18s2/resources/17340) / Lab Exercise 3: DNS

# Lab Exercise 3: DNS

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**There are 7 labs during this course. For each student, the 5 best performing labs will contribute to your final lab mark.**

## Objectives:

- Gain insights into the operation of the DNS protocol
- Dig deep into DNS server organisation
- Get familiar with the socket programming

## Prerequisites & Links:

- Week 2 & 3 Lectures
- Relevant Parts of Chapter 2 of the textbook
- Introduction to Tools of the Trade (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/17358>)
- Basic understanding of Linux. A good resource is here (<http://www.ee.surrey.ac.uk/Teaching/Unix/>) but there are several other resources online.
- Several socket programming resources and sample code for all 3 programming languages are available here (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/17240>) .
- dns-ethereal-trace-2 (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/17305>)
- index.html (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/20132>)

## Marks: 10 marks.

- This lab requires submission (5 Marks) as well as demonstration (5 Marks)
- Please attend the lab in your allocated lab time slot
- This lab comprises of a number of exercises. Please note that not all the exercises for this lab are marked. You have to submit a report containing answers to selected exercises only (Exercises 3 & 4)
- We expect the students to go through as much of the lab exercises as they can at home and come to the lab for clarifying any doubts in procedure/specifications
- Exercise 5 marked with (\*) is to be demonstrated in the lab to the tutor for marking purpose
- Please attend your allocated lab and show/explain the answers of the marked exercises to your tutor
- If lab exercise involves diagrams or plots, you require to show them to the tutor as well
- Please make sure you **sign the marking form** once the tutor marked your lab. Signing this form implies that you agreed on the mark you received

## Deadline:

*Demonstration:* You need to attend the lab for demonstration of Exercise 4 on your allocated lab slot. Please note that there would not be any retake available if you miss your lab slot. This means you will be awarded ZERO for the demonstration component of the lab (5 marks).

**Report Submission: *Midnight Friday 17th August 2018*** . You can submit as many times as you wish before the deadline. A later submission will override the earlier submission, so make sure you submit the correct file. Do not leave until the last moment to submit, as there may be technical or communications error and you will not have time to rectify it.

## Late Report Submission Penalty:

Late penalty will be applied as follows:

- 1 day after deadline: 20% reduction
- 2 days after deadline: 40% reduction
- 3 days after deadline: 60% reduction
- 4 or more days late: NOT accepted

Note that the above penalty is applied to your final mark for your lab report. For example, if you submit your lab work report 2 days late and your score on the lab report is 4, then your final mark will be  $4 - 1.6$  (40% penalty) = 2.4.

## Submission Instructions:

Submit a PDF document **Lab3.pdf** with answers to Exercises 3 and 4. Include any supporting documents that you think are necessary. Your server should be named WebServer.c or WebServer.java or WebServer.py. Create a tar archive of all the files called **Lab3.tar** . Submit the archive using give. You can submit from a lab machine or ssh into the CSE login server. Instructions to ssh into CSE login servers are here ([https://taggi.cse.unsw.edu.au/FAQ/Logging\\_In\\_With\\_SSH/](https://taggi.cse.unsw.edu.au/FAQ/Logging_In_With_SSH/)) .

If you are using Python, then please add a comment at the top of your code to indicate the correct version of Python to use for testing.

## Original Work Only:

You are strongly encouraged to discuss the questions with other students in your lab. However, each student must submit his or her own work. You may need to refer to the material indicated above (particularly Tools of the Trade document) and also conduct your own research to answer the questions.

## OS Compatibility:

We will test your code on CSE machines via the command line interface. Note that CSE machines support the following: **gcc version 4.9.2, Java 1.8, Python 2.7, 2.8 and 3**. It is thus imperative that you test your code on CSE machines before submitting. This is particularly important if you write your code on your own machine and use an IDE. You **MUST** test your code on CSE machines (via command line) before submitting. If we cannot get your code to work on CSE machines, then we can't mark it and unfortunately, you won't receive any marks.

## Exercise 1: Explore DNS records (Not marked, No need to submit)

DNS servers use different record types for different purposes. For each type of DNS record, there is an associated type of DNS query. Check the following page (

[https://en.wikipedia.org/wiki/List\\_of\\_DNS\\_record\\_types](https://en.wikipedia.org/wiki/List_of_DNS_record_types)

([https://en.wikipedia.org/wiki/List\\_of\\_DNS\\_record\\_types](https://en.wikipedia.org/wiki/List_of_DNS_record_types)) ) and find out what the following resource record types are used for:

- A
- CNAME
- MX

- NS
- PTR
- SOA

## Exercise 2: Tracing DNS with Wireshark (Not marked, No need to submit)

For this particular experiment download the dns trace file: dns-ethereal-trace-2 (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/17305>) .

Step 1: Open an xterm and run Wireshark.

Step 2: Load the trace file *dns-ethereal-trace-2* by using the *File* pull down menu, choosing *Open* and selecting the appropriate trace file. This file captures the sequence of messages exchanged between a host and its default DNS server while using the *nslookup* (this tool is similar to the *dig* tool that we used earlier in the lab) utility for obtaining the canonical name (type A record) of [www.mit.edu](http://www.mit.edu) (<http://www.mit.edu>) . The IP address of the default DNS server for the host is 128.238.29.22. Now filter out all non-DNS packets by typing “dns” (without quotes) in the filter field. Also click the right arrow for DNS in the packet-header detail window. Now focus on the **last two DNS messages** from the 6 listed and answer the following questions:

Question 1: What transport layer protocol is being used by the DNS messages?

Question 2: What is the source and destination port for the DNS query message and the corresponding response?

Question 3: To what IP address is the DNS query message sent? Is this the same as the default local DNS server?

Question 4: How many “questions” are contained in the DNS query message? What “Type” of DNS queries are they? Does the query message also contain any “answers”?

Question 5: Examine the DNS response message. Provide details of the contents of the “Answers”, “Authority” and “Additional Information” fields. What can you infer from these?

## Exercise 3: Digging into DNS (marked, include in the lab report)

In order to answer the following questions, you will make DNS queries using some of the query types you have encountered in the above exercise. Some questions require you to make multiple DNS queries. Before you proceed, read the manpage of *dig* (type *man dig* in the terminal). Make sure you understand how you can explicitly specify the following:

- nameserver to query
- type of DNS query to make (the default query types are those you saw in exercise 1)
- performing reverse queries

**Note:** Include the output of all the *dig* commands you have used in your answers.

To send a query to a particular name server (say x.x.x.x) you should use the following command:

```
dig @x.x.x.x hostname
```

Question 1. What is the IP address of [www.cecs.anu.edu.au](http://www.cecs.anu.edu.au) (<http://www.cse.unsw.edu.au>) . What type of DNS query is sent to get this answer?

Question 2. What is the canonical name for the CECS ANU web server? What is its IP address? Suggest a reason for having an alias for this server.

Question 3. What can you make of the rest of the response (i.e. the details available in the Authority and Additional sections)?

Question 4. What is the IP address of the local nameserver for your machine?

Question 5. What are the DNS nameservers for the "cecs.anu.edu.au" domain (note: the domain name is cecs.anu.edu.au and not www.cecs.anu.edu.au (http://www.cse.unsw.edu.au) )? Find out their IP addresses? What type of DNS query is sent to obtain this information?

Question 6. What is the DNS name associated with the IP address 149.171.158.109? What type of DNS query is sent to obtain this information?

Question 7. Run dig and query the CSE nameserver (129.94.242.33) for the mail servers for Yahoo! Mail (again the domain name is yahoo.com, not www.yahoo.com (http://www.yahoo.com) ). Did you get an authoritative answer? Why? (HINT: Just because a response contains information in the authoritative part of the DNS response message does not mean it came from an authoritative name server. You should examine the flags in the response to determine the answer)

Question 8. Repeat the above (i.e. Question 7) but use one of the nameservers obtained in Question 5. What is the result?

Question 9. Obtain the authoritative answer for the mail servers for Yahoo! mail. What type of DNS query is sent to obtain this information?

Question 10. In this exercise you simulate the iterative DNS query process to find the IP address of your machine (e.g. lyre00.cse.unsw.edu.au). First, find the name server (query type NS) of the "." domain (root domain). Query this nameserver to find the authoritative name server for the "au." domain. Query this second server to find the authoritative nameserver for the "edu.au." domain. Now query this nameserver to find the authoritative nameserver for "unsw.edu.au". Next query the nameserver of unsw.edu.au to find the authoritative name server of cse.unsw.edu.au. Now query the nameserver of cse.unsw.edu.au to find the IP address of your host. How many DNS servers do you have to query to get the authoritative answer?

Question 11. Can one physical machine have several names and/or IP addresses associated with it?

## (\*) Exercise 4: A Simple Web Server

**Note: Include your code in the lab report and demonstrate this exercise to your tutor in the lab slot.**

In this exercise, you will learn the basics of TCP socket programming: how to create a socket, bind it to a specific address and port, as well as send and receive an HTTP packet. You will also learn some basics of HTTP header format. You will develop a web server that handles one HTTP request at a time. Specifically, your web server should do the following:

- (i) create a connection socket when contacted by a client (browser).
- (ii) receive HTTP request from this connection. Your server should only process GET request. You may assume that only GET requests will be received.
- (iii) parse the request to determine the specific file being requested.
- (iv) get the requested file from the server's file system.
- (v) create an HTTP response message consisting of the requested file preceded by header lines.
- (vi) send the response over the TCP connection to the requesting browser.
- (vii) If the requested file is not present on the server, the server should send an HTTP "404 Not Found" message back to the client.

(viii) the server should listen in a loop, waiting for next request from the browser.

You don't have to deal with any other error conditions.

Your program should be called WebServer.c or WebServer.java or WebServer.py.

You should write the server so that it executes with the following command:

```
$java WebServer port (for Java)
```

```
$WebServer port (for C)
```


```
$python WebServer.py port (for Python)
```

where port is the port No your Web server will be listening on.

1. Place a simple HTML file (index.html, without any hyperlinks) in the same directory as the server program. A sample index.html file is provided here (<https://webcms3.cse.unsw.edu.au/COMP3331/18s2/resources/20132>) . Run the server program as indicated above. Open a web browser on the same machine. Type the following url: `http:// 127.0.0.1:port/index.html` where *port* is the port number the server listens on. If you forget to include the port number, the browser will assume the default port of 80. The browser should display the content of index.html.

2. Place multiple image files (.png) in the same directory as the server program. Run the server program as indicated above. Open a web browser on the same machine. Type `http://127.0.0.1:port/myimage.png`



where *port* is the port number the server listens on and *myimage.png* is one of the image files present in the server's directory. The browser should display the image.

 3. Now try and request for an object that does not exist in the server directory, e.g.: `http://127.0.0.1:port/bio.html` . The browser should display the 404 error message.

Note that you cannot use any of the pre-made web servers available in different programming languages.

Resource created 4 months ago (Monday 16 July 2018, 02:50:39 PM), last modified 3 months ago (Tuesday 07 August 2018, 06:17:02 PM).

## Comments

 [Q \(/COMP3331/18s2/forums/search?forum\\_choice=resource/17354\)](/COMP3331/18s2/forums/search?forum_choice=resource/17354)  [\(/COMP3331/18s2/forums/resource/17354\)](/COMP3331/18s2/forums/resource/17354)

 Add a comment



Yani Zhu (/users/z5155953) 2 months ago (Tue Sep 11 2018 14:51:28 GMT+1000 (澳大利亚东部标准时间)), last modified 2 months ago (Tue Sep 11 2018 14:54:28 GMT+1000 (澳大利亚东部标准时间))

I got 0 mark for submission in Lab3. I have reported this problem to the tutor, but the mark remains unchanged.

Maybe it's too late, hope it could be fixed.

Reply



Ali Dorri (/users/z5095883) 2 months ago (Tue Sep 11 2018 17:49:11 GMT+1000 (澳大利亚东部标准时间))

Can you please email me with your znumber, lab day, time and location?

Reply



Hongrui Yao (/users/z5145198) 3 months ago (Fri Aug 24 2018 11:06:21 GMT+1000 (澳大利亚东部标准时间))

Have all the marks of Lab3 been given, sir?

Reply



Ali Dorri (/users/z5095883) 3 months ago (Mon Aug 27 2018 10:03:40 GMT+1000 (澳大利亚东部标准时间))

All marks are released.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Fri Aug 24 2018 15:29:55 GMT+1000 (澳大利亚东部标准时间))

Not yet. I will keep you updated once all marks are released.

Reply



Hongrui Yao (/users/z5145198) 3 months ago (Fri Aug 24 2018 21:02:59 GMT+1000 (澳大利亚东部标准时间))

Thanks a lot.

Reply



Md. Imam Mannaf (/users/z5217295) 3 months ago (Fri Aug 17 2018 23:45:07 GMT+1000 (澳大利亚东部标准时间))

Can't submit Lab3 report due to an error.

Its showing "Disk quota exceeded".

Any idea to solve the issue?

Reply



Thomas Bowden (/users/z5161185) 3 months ago (Fri Aug 17 2018 23:52:36 GMT+1000 (澳大利亚东部标准时间))

Yeah it doesn't work for me either via ssh or via the give interface

Reply



Md. Imam Mannaf (/users/z5217295) 3 months ago (Fri Aug 17 2018 23:56:00 GMT+1000 (澳大利亚东部标准时间))

Whats the solution now?

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:19:22 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Bo Li (/users/z5124297) 3 months ago (Fri Aug 17 2018 23:39:22 GMT+1000 (澳大利亚东部标准时间))

Does anyone met this problem? I cannot submit my work.

```
carvin@Carvin-PC: ~
weill % give cs3331 Lab3 Lab3.tar
Session: 18s2
Student declaration
-----
* This assignment is my own work, except where permitted by
the originality rules for this course and this assignment.
* This assignment has not been submitted for academic credit
elsewhere.
* I have read and understood the University Rules in respect
of Student Academic Misconduct.

Type "yes" to confirm that you agree to the declaration above: yes
yes

Current day and time: Fri Aug 17 23:35:00 2018
Assignment deadline: Fri Aug 17 23:59:59 2018
A submission now would be on time.

Type "yes" to continue with the submission: yes
yes
Continuing with the submission...

classrun: cannot create submission directory "/import/adams/1/cs3331/18s2.work/Lab3/thu16-tabla/5124297"
login: z5124297
stuID: 5124297
class: cs3331
last system error: Disk quota exceeded
NO submission made.
weill %
```

<u></u>

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:20:34 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sun Aug 19 2018 13:22:39 GMT+1000 (澳大利亚东部标准时间))

The issue is solved. Please do not send us your submissions by email and try to submit online.

Reply



Hai Long Bi (/users/z5080312) 3 months ago (Sat Aug 18 2018 00:11:22 GMT+1000 (澳大利亚东部标准时间))

same rip

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:20:51 GMT+1000 (澳大利亚东部标准时间))

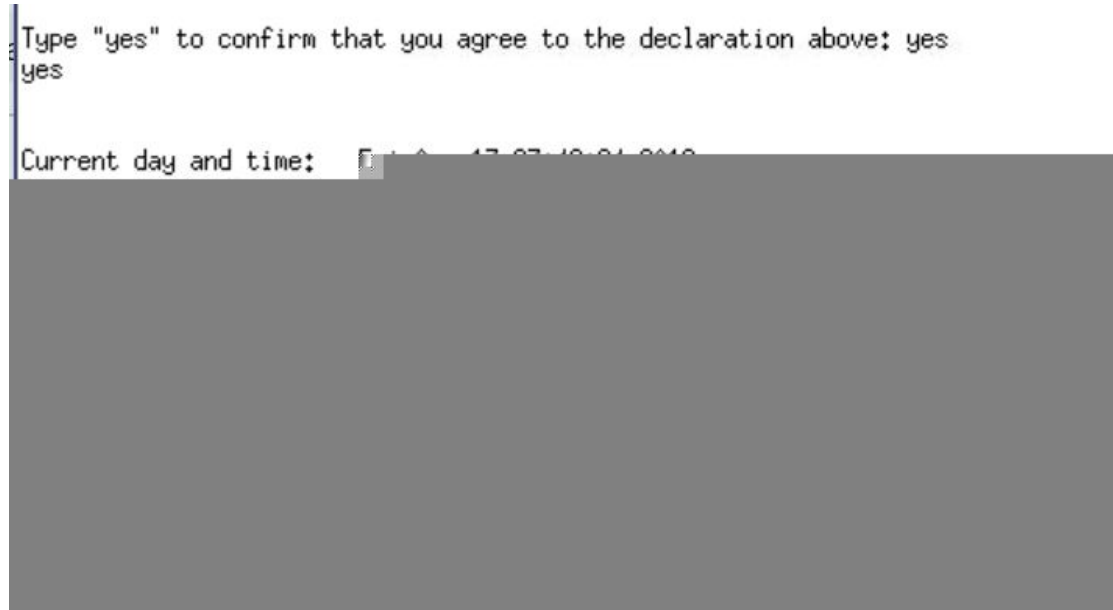
Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Samantha Pulikottil (/users/z5115977) 3 months ago (Sat Aug 18 2018 00:03:51 GMT+1000 (澳大利亚东部标准时间))

Me too



Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:22 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Xin He (/users/z5198010) 3 months ago (Sat Aug 18 2018 00:02:44 GMT+1000 (澳大利亚东部标准时间))

Same problem.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:28 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply





Xiang Chen (/users/z5100438) 3 months ago (Fri Aug 17 2018 23:57:13 GMT+1000 (澳大利亚东部标准时间))

Me too.

<u></u>

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:32 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Xiang Chen (/users/z5100438) 3 months ago (Sat Aug 18 2018 00:24:34 GMT+1000 (澳大利亚东部标准时间))

OK. Thank you.

Reply



Lawrence Wang (/users/z5075019) 3 months ago (Fri Aug 17 2018 23:46:04 GMT+1000 (澳大利亚东部标准时间))

I have the same problem.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:36 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Azhar Abdykadyrova (/users/z5212235) 3 months ago (Fri Aug 17 2018 23:45:54 GMT+1000 (澳大利亚东部标准时间))

yes

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:39 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Nattamon Paiboon (/users/z5176930) 3 months ago (Fri Aug 17 2018 23:40:41 GMT+1000 (澳大利亚东部标准时间)), last modified 3 months ago (Fri Aug 17 2018 23:43:45 GMT+1000 (澳大利亚东部标准时间))

I can't submit too

```
[wagner % give cs3331 Lab3 Lab3.tar
```

```
Session: 18s2
```

```
Student declaration
```

```
-----
```

- \* This assignment is my own work, except where permitted by the originality rules for this course and this assignment.
- \* This assignment has not been submitted for academic credit elsewhere.
- \* I have read and understood the University Rules in respect

]

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:55 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Thomas Daniell (/users/z5114683) 3 months ago (Fri Aug 17 2018 23:59:39 GMT+1000 (澳大利亚东部标准时间))

Same problem ./ ./

Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:21:50 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Kevin Lu (/users/z5116743) 3 months ago (Sat Aug 18 2018 00:08:20 GMT+1000 (澳大利亚东部标准时间))

yep i got this problem as well

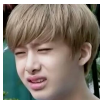
Reply



Ali Dorri (/users/z5095883) 3 months ago (Sat Aug 18 2018 00:20:15 GMT+1000 (澳大利亚东部标准时间))

Sorry, this is a system error persisting. Can you please email me and your tutor your submission? You can find your tutor name from "timetable" in the left side menu.

Reply



Brandon Duong (/users/z5112732) 3 months ago (Thu Aug 16 2018 19:27:14 GMT+1000 (澳大利亚东部标准时间)), last modified 3 months ago (Thu Aug 16 2018 19:30:37 GMT+1000 (澳大利亚东部标准时间))

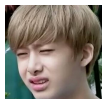
When I try "dig 149.171.158.109" on the CSE machine, I get an NXDOMAIN error. Copying the address into my browser clearly shows what the hostname is.

I'm confused on why my current DNS doesn't know that that IP is registered to a name. Is it because CSE's and the site 149.171.158.109 Authoritative NS different? And that CSE's NS can't actually access it due to that?

Sorry if that sounds confusing.

EDIT: Right, after a bit more reading. I realise that I would need to add an extra flag '-x' which makes dig do a reverse lookup. i.e. Get the hostname of an IP address.

Reply



Brandon Duong (/users/z5112732) 3 months ago (Thu Aug 16 2018 19:32:53 GMT+1000 (澳大利亚东部标准时间))

Also, does that mean for Q6: What is the DNS name associated with the IP address 149.171.158.109? What type of DNS query is sent to obtain this information?

When it asks "What type of DNS query", does it mean like an iterative type? Or like what command we used, e.g. dig -x IP ADDRESS

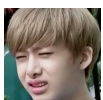
Reply



Ali Dorri (/users/z5095883) 3 months ago (Thu Aug 16 2018 21:10:36 GMT+1000 (澳大利亚东部标准时间))

it means the type

Reply



Brandon Duong (/users/z5112732) 3 months ago (Thu Aug 16 2018 22:12:33 GMT+1000 (澳大利亚东部标准时间))

So like iterative or recursive? I'm finding that every query that I'm sending is just a recursive request

Reply

Nadeem Ahmed (/users/z3003139) 3 months ago (Thu Aug 16 2018 22:18:00 GMT+1000 (澳大利亚东部标准时间))

Type field in the DNS Resource Record.

Reply



Carey Li (/users/z5166082) 3 months ago (Thu Aug 16 2018 16:36:59 GMT+1000 (澳大利亚东部标准时间))

If my program uses os.chroot to change the root to simulate how a real web server works, and hence requires root privileges, do I need to change my implementation to work on CSE where sudo isn't available?

Reply



Ali Dorri (/users/z5095883) 3 months ago (Thu Aug 16 2018 18:27:01 GMT+1000 (澳大利亚东部标准时间))

I believe yes. But you can demo on your own machine for this lab.

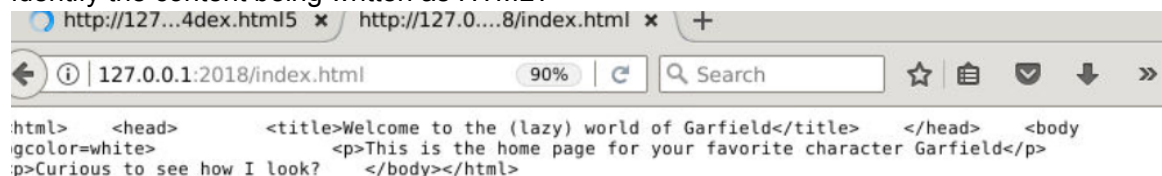
Reply



Thomas Ly (/users/z5113795) 3 months ago (Tue Aug 14 2018 22:24:35 GMT+1000 (澳大利亚东部标准时间))

For ex4 (v) how is a HTTP Response message meant to be sent?

This is my current output and the html is not being interpreted. Am I correct in assuming the html in not being interpreted as I have not correctly made a HTTP Response message to identify the content being written as HTML?



Reply



Ali Dorri (/users/z5095883) 3 months ago (Wed Aug 15 2018 00:01:56 GMT+1000 (澳大利亚东部标准时间))

Yeah, how are you forming your response? see the previous questions in the forum. The LIC mentioned some points in this regard

Reply



Brian Jordan (/users/z5229651) 3 months ago (Tue Aug 14 2018 21:20:17 GMT+1000 (澳大利亚东部标准时间))

I am confused on what we need to do for exercise 3 question 10. I was trying to follow the instructions but don't know if I am querying the wrong name servers or what but it seems to be sending me back to root-servers.net.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Wed Aug 15 2018 00:05:42 GMT+1000 (澳大利亚东部标准时间))

You need to start from the root server and simulate the iterative DNS query process. Once you get the results from the root, then use the IP of one of the answers and repeat the request for the lower layer address. Repeat till you reach your machine.

Reply



Sreepallavi Bhulokam (/users/z5102632) 3 months ago (Thu Aug 16 2018 05:44:48 GMT+1000 (澳大利亚东部标准时间))

I got till the name server of cse.unsw.edu.au. After that how can i do it for the local machine? Not sure if I got this right

Reply



Ali Dorri (/users/z5095883) 3 months ago (Thu Aug 16 2018 08:51:54 GMT+1000 (澳大利亚东部标准时间))

Do it for one of CSE machines, e.g., tabla12.cse.unsw.edu.au

Reply



Semisi Taufa (/users/z5192989) 3 months ago (Tue Aug 14 2018 17:52:28 GMT+1000 (澳大利亚东部标准时间))

Exercise 4 (vii) If the requested file is not present on the server, the server should send an HTTP "404 Not Found" message back to the client.

Does this mean to send 'HTTP/1.1 404 Not Found' response from server to client? This should display a default 404 browser message

or to make an arbitrary 404.html message and send to browser like the index.html

Reply



Ali Dorri (/users/z5095883) 3 months ago (Tue Aug 14 2018 18:00:11 GMT+1000 (澳大利亚东部标准时间))

It should print a message on the browser, e.g., " File not found".

Reply



Suchithra Suchithra (/users/z5230257) 3 months ago (Thu Aug 16 2018 06:32:47 GMT+1000 (澳大利亚东部标准时间))

We can show the message using html ?

Reply



Ali Dorri (/users/z5095883) 3 months ago (Thu Aug 16 2018 08:51:04 GMT+1000 (澳大利亚东部标准时间))

Just print it in the webpage

Reply



Tianjie Qi (/users/z5167381) 3 months ago (Tue Aug 14 2018 16:50:52 GMT+1000 (澳大利亚东部标准时间))

For the last exeicise, I have succeeded in displaying the graph, but the background is black...Is that default and I need send message with html language, or there may be something wrong. Thank you.

Reply



Ali Dorri (/users/z5095883) 3 months ago (Tue Aug 14 2018 17:59:18 GMT+1000 (澳大利亚东部标准时间))

The background color is not important as long as it displays the images.

Reply



Semisi Taufa (/users/z5192989) 3 months ago (Tue Aug 14 2018 17:43:58 GMT+1000 (澳大利亚东部标准时间))

Background color can differ depending on which browser you use

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