cse15l-lab-reports

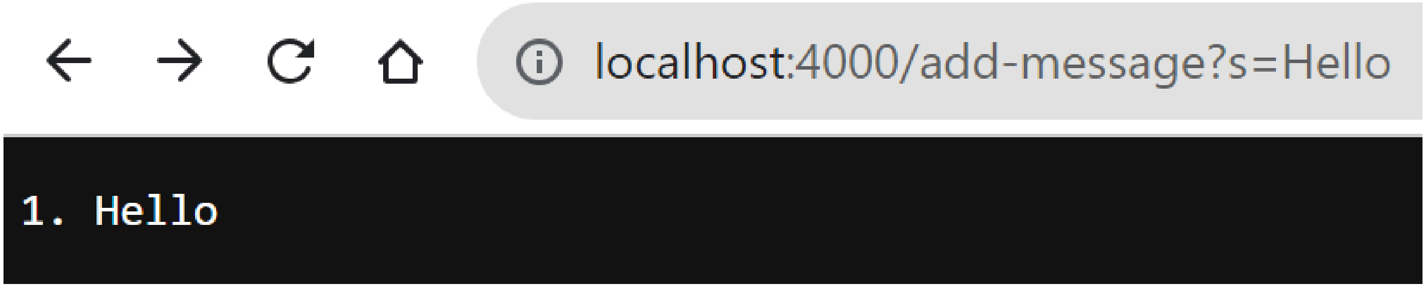
Lab Report #2

Part 1: Create StringServer

Show code for `StringServer` and two screenshots of using `/add-message`

```
import java.io.IOException;
import java.net.URI;

class Handler implements URLHandler {

    String str = "";
    int num = 1;
    public String handleRequest(URI url) {
        if (url.getPath().equals("/add-message")) {
            String[] parameters = url.getQuery().split("=");
            if (parameters[0].equals("s")) {
                if (num != 1) {
                    str += "\n";
                }
                str += Integer.toString(num) + ". ";
                str += parameters[1];
                num++;
                return str;
            }
        }
        return "";
    }
}

class StringServer {
    public static void main(String[] args) throws IOException {
        if(args.length == 0){
            System.out.println("Missing port number! Try any number between 1024 to 49151");
            return;
        }

        int port = Integer.parseInt(args[0]);
        Server.start(port, new Handler());
    }
```

Screenshot #1

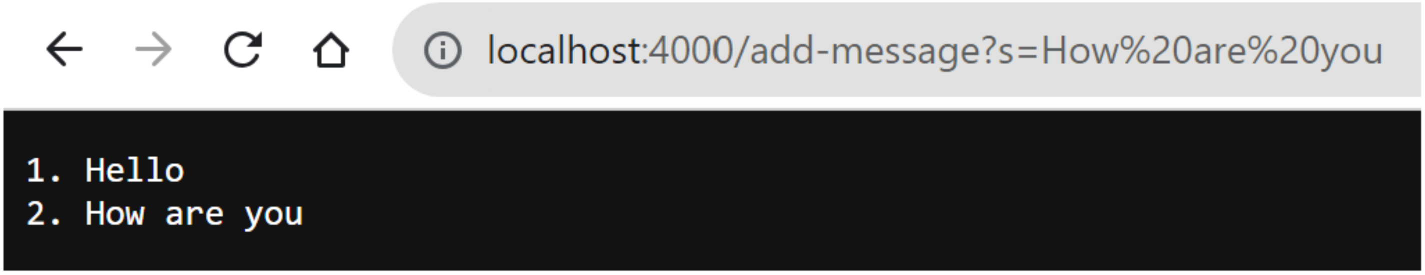


localhost:4000/add-message?s=Hello

```
1. Hello
```

- Which methods in your code are called?
  - Before handling the requests, the start-up methods are called when we start the server such as StringServer's `main`, the Server.start(), etc.
  - The server context is set to handle all requests. When a user requests `/add-message`, handleRequest is called with the url path argument set to `/add-message?s=Hello`
- What are the relevant arguments to those methods, and the values of any relevant fields of the class?
  - The first time we call `/add-message` we pass the url argument which is equal to the url path after the domain. The static variables are their initial value which is `str = ""` and `num = 1`.
- How do the values of any relevant fields of the class change from this specific request? If no values got changed, explain why.
  - We append to the static string a newline if it's not the first row, then the number of the entry, then the string passed as the query parameter. Then we increment the row counter number. The result is `str = 1. Hello` and `num = 2`.

Screenshot #2



localhost:4000/add-message?s=How%20are%20you

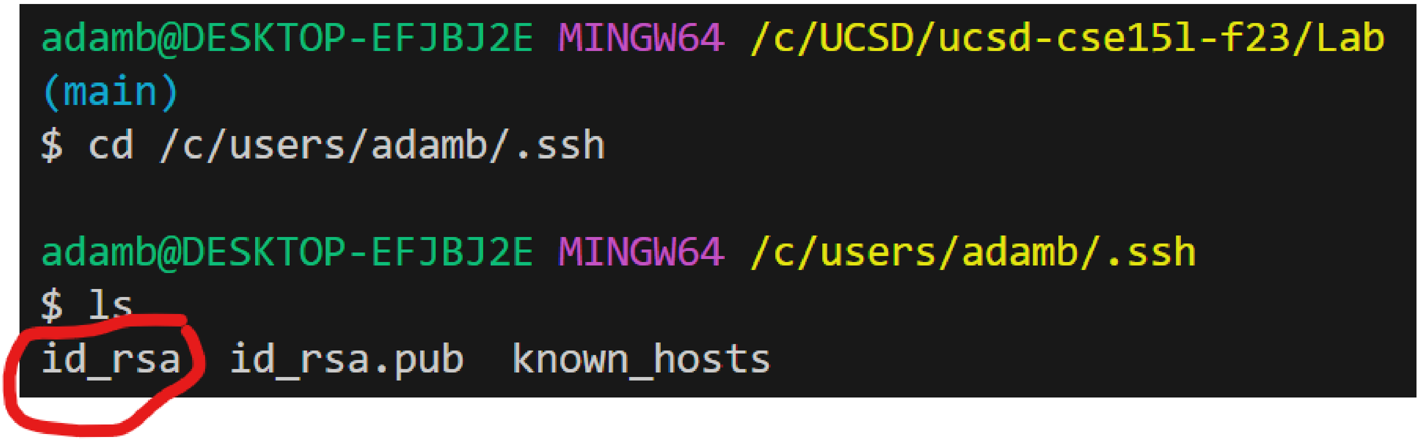
```
1. Hello
2. How are you
```

- Which methods in your code are called?
  - When a user requests `/add-message`, handleRequest is called with the url path argument set to `/add-message?s=How%20are%20you`
- What are the relevant arguments to those methods, and the values of any relevant fields of the class?

  - The second time we call `/add-message` we pass the url argument which is equal to the url path after the domain. The static variables are their updated values of `num = 2` and `str = 1. Hello`.
- How do the values of any relevant fields of the class change from this specific request? If no values got changed, explain why.
  - We append to the static string a newline since it's not the first row, then the number of the entry, then the string passed as the query parameter. Then we increment the row counter number again. The result is `str = 1. Hello\n2. How are you` and `num = 3`.

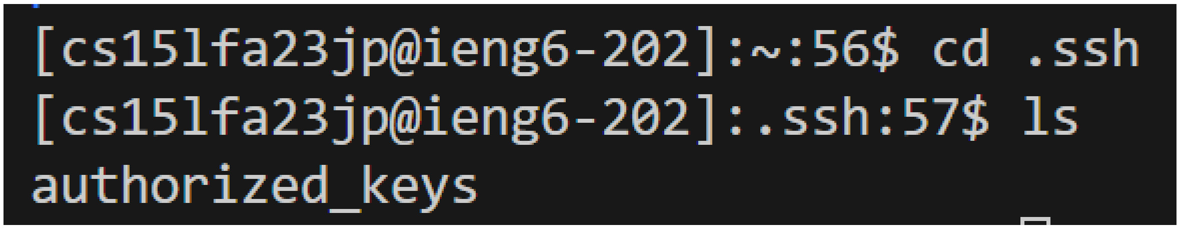
Part 2

Private key on local computer: `/c/Users/adamb/.ssh/id_rsa`



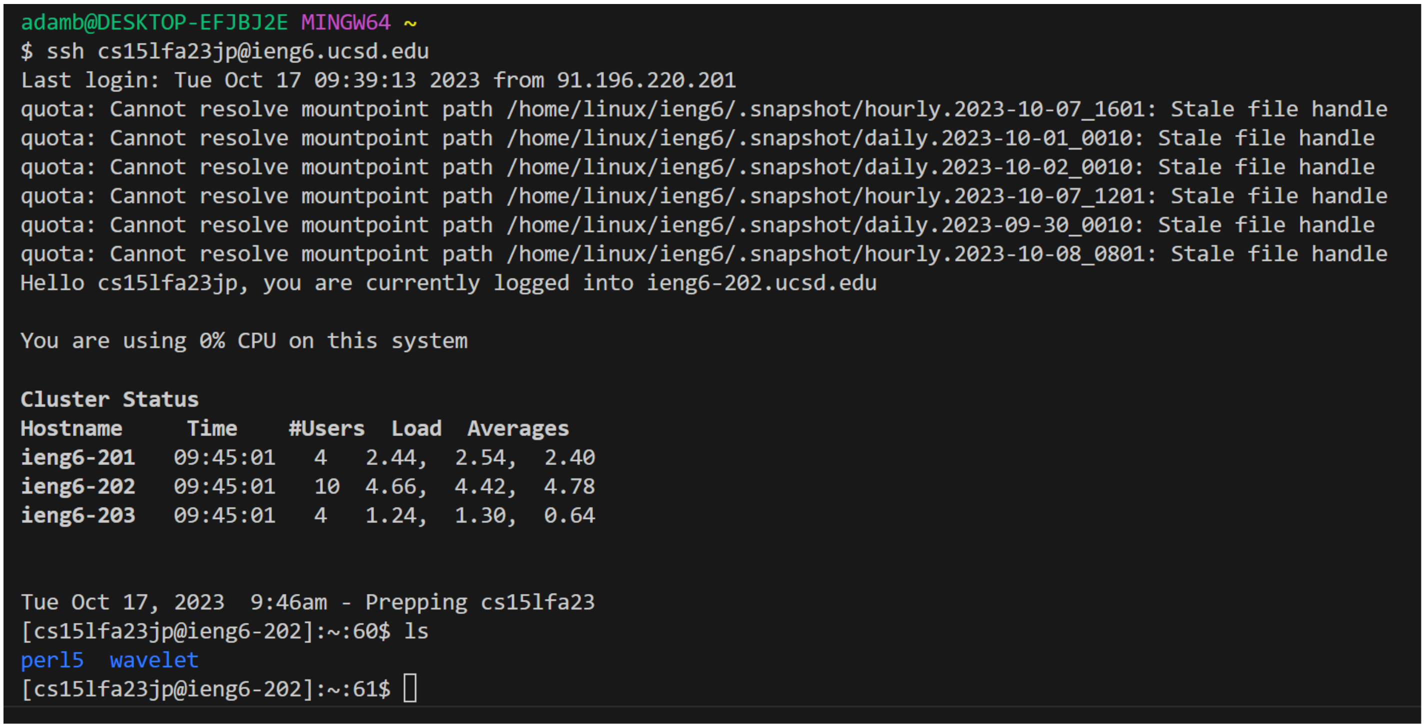
```
adamb@DESKTOP-EFJBJ2E MINGW64 /c/UCSD/ucsd-cse15l-f23/Lab
(main)
$ cd /c/users/adamb/.ssh

adamb@DESKTOP-EFJBJ2E MINGW64 /c/users/adamb/.ssh
$ ls
id_rsa  id_rsa.pub  known_hosts
```

Public key on server: `/home/.ssh/authorized_keys`



```
[cs15lfa23jp@ieng6-202]:~:56$ cd .ssh
[cs15lfa23jp@ieng6-202]:.ssh:57$ ls
authorized_keys
```

Screenshot of logging in with RSA key:



```
adamb@DESKTOP-EFJBJ2E MINGW64 ~
$ ssh cs15lfa23jp@ieng6.ucsd.edu
Last login: Tue Oct 17 09:39:13 2023 from 91.196.220.201
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/hourly.2023-10-07_1601: Stale file handle
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/daily.2023-10-01_0010: Stale file handle
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/daily.2023-10-02_0010: Stale file handle
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/hourly.2023-10-07_1201: Stale file handle
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/daily.2023-09-30_0010: Stale file handle
quota: Cannot resolve mountpoint path /home/linux/ieng6/.snapshot/hourly.2023-10-08_0801: Stale file handle
Hello cs15lfa23jp, you are currently logged into ieng6-202.ucsd.edu

You are using 0% CPU on this system

Cluster Status
Hostname     Time    #Users  Load  Averages
ieng6-201   09:45:01   4   2.44,  2.54,  2.40
ieng6-202   09:45:01   10  4.66,  4.42,  4.78
ieng6-203   09:45:01   4   1.24,  1.30,  0.64


Tue Oct 17, 2023  9:46am - Prepping cs15lfa23
[cs15lfa23jp@ieng6-202]:~:60$ ls
perl5  wavelet
[cs15lfa23jp@ieng6-202]:~:61$
```

Part 3: Describe something you learned from lab in week 2 or 3 that you didn’t know before.

I learned about the man command – I’ve never used it before, and it seems really useful to quickly look up usage without leaving the terminal. I’ve also learned that the mkdir command can create multiple directories. I learned about the pipe buffer in Linux machines, after looking up how exactly the cat command works.