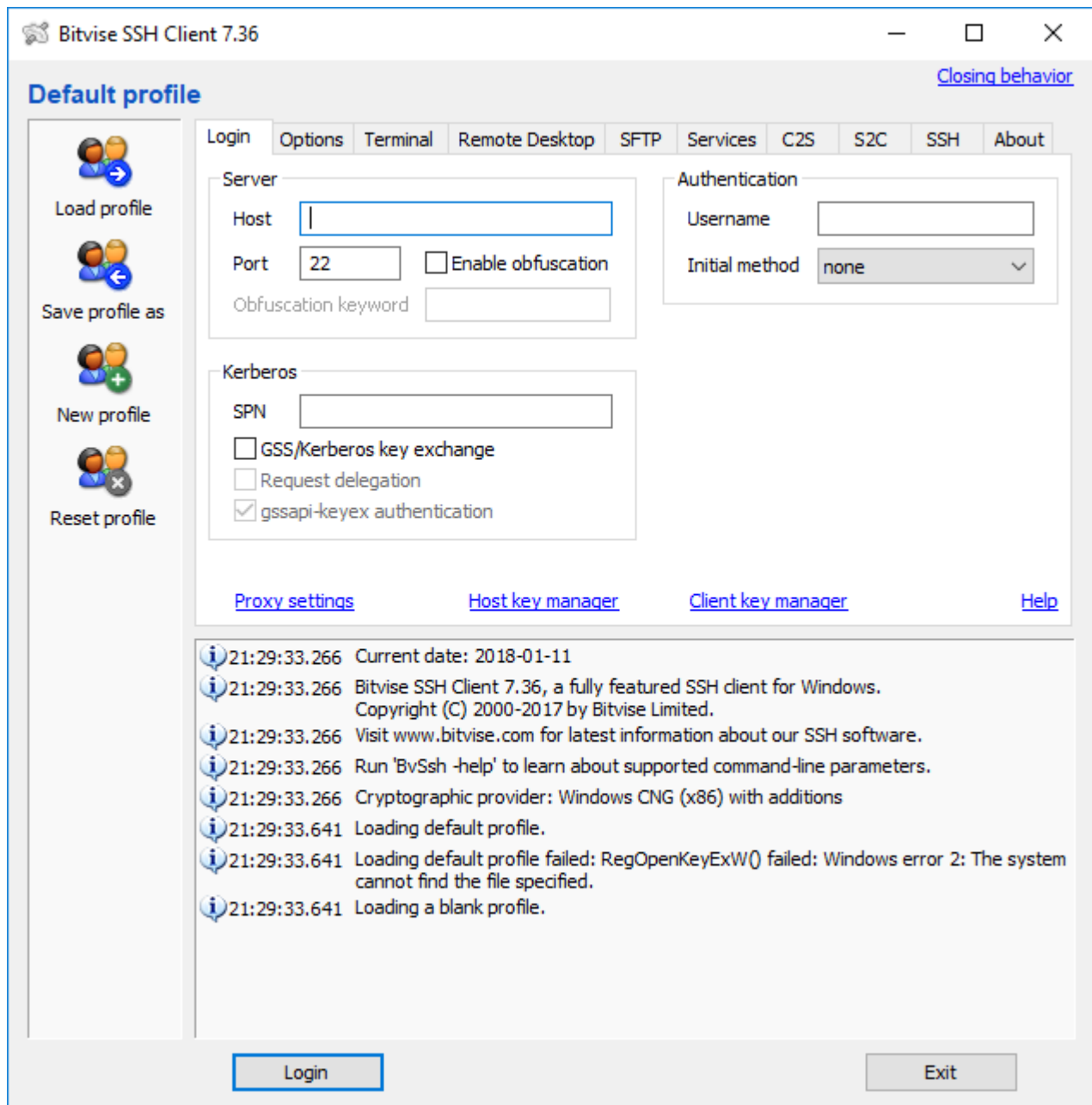


# Running R on a SoMSS server from a Windows Client

**Note:** This tutorial is for the datamath server but can apply to the other two servers (mathpost and compmath) as well.

1. Request access through Ms. Renate Mittelmann by emailing her at [renate@asu.edu](mailto:renate@asu.edu). She will give you a username, password, and port number.
2. Install SFTP through [Bitvise](#).
3. Open Bitvise SSH (from SFTP installation). Should look like Figure 1 below:



*Figure 1: Bitvise Login Menu*

4. Enter the following information:  
Hostname: < Name of the server >.asu.edu  
Port number: 2200  
Username: < provided by Ms. Mittelmann >  
Password: < provided by Ms. Mittelmann >

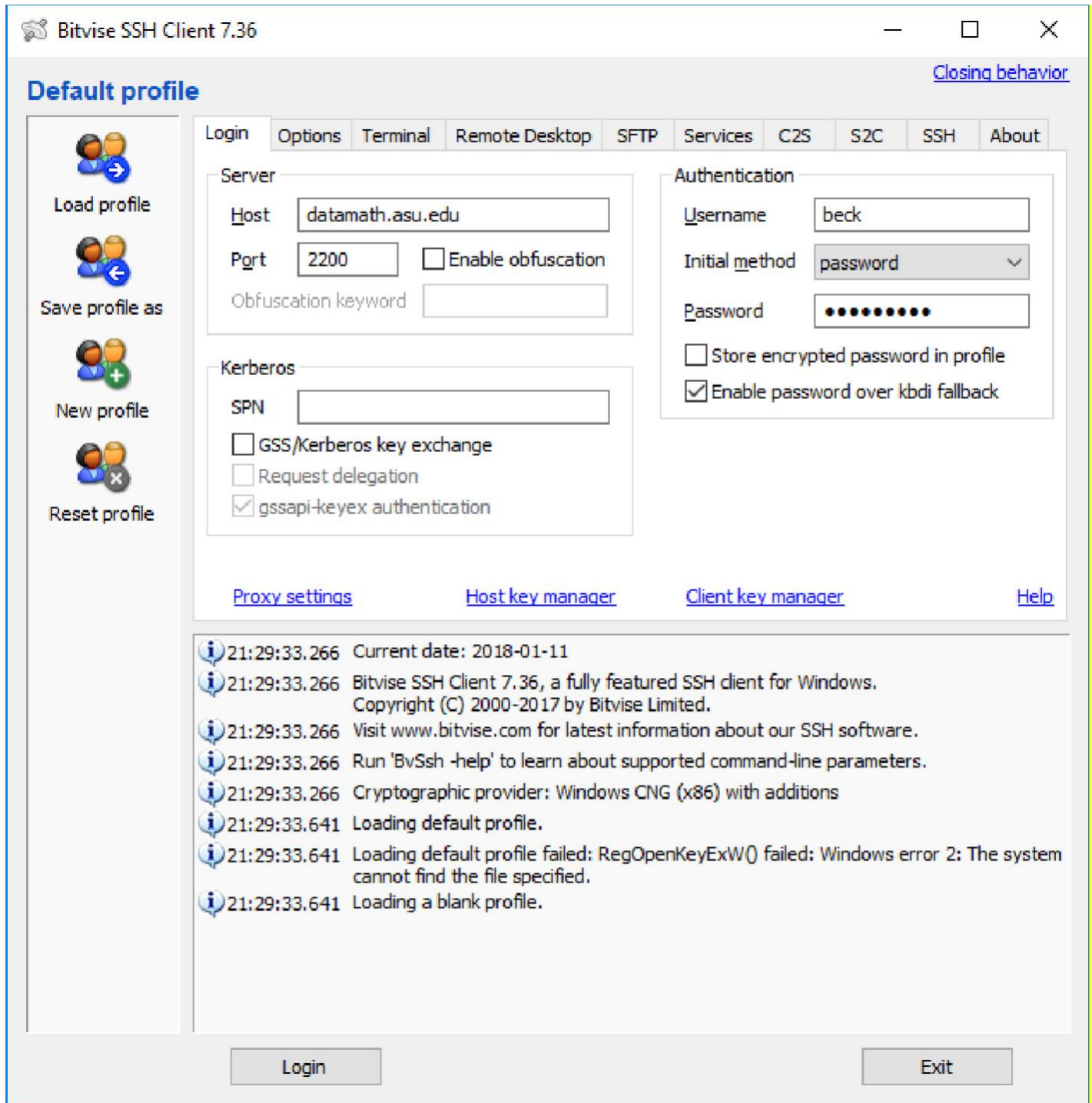


Figure 2: Bitvise Login Menu for Datamath in Bitvise

5. If the window in Figure 3 below pops up, Hit "Accept and Save."

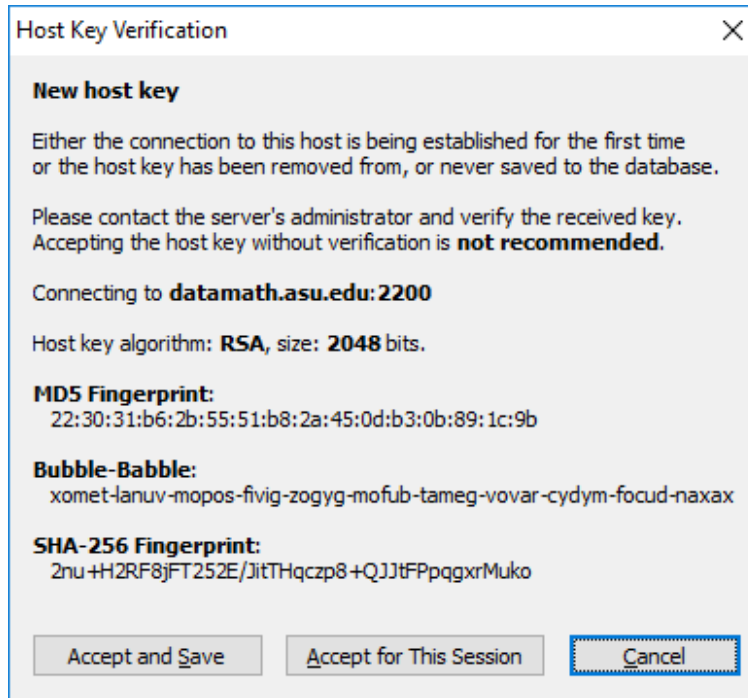


Figure 3: Possible Popup Window - Hit "Accept and Save".

6. A terminal SSH window and an SFTP graphical window are opened as shown in Figure 4 below:

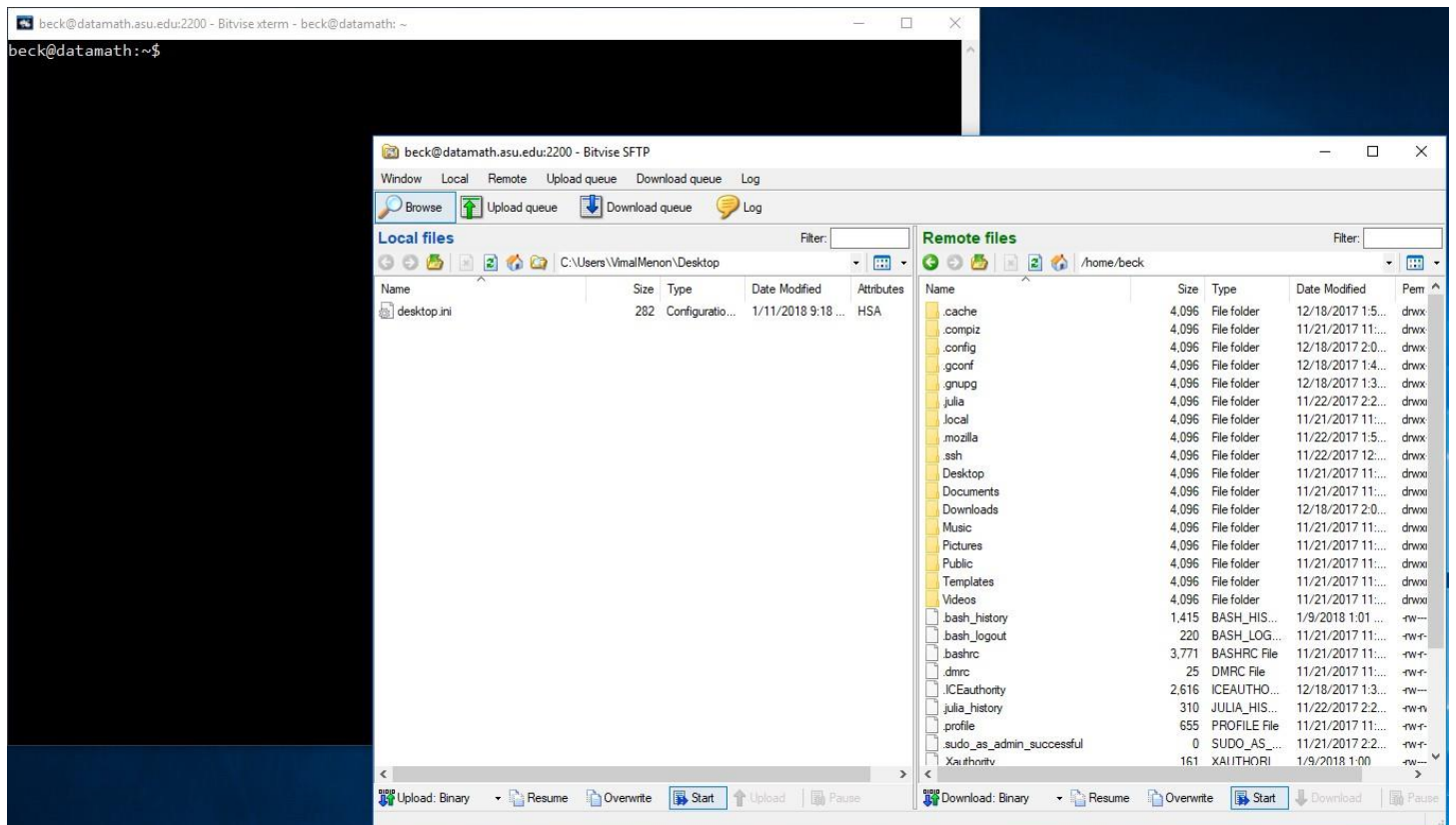


Figure 4: A terminal SSH window and an SFTP graphical window

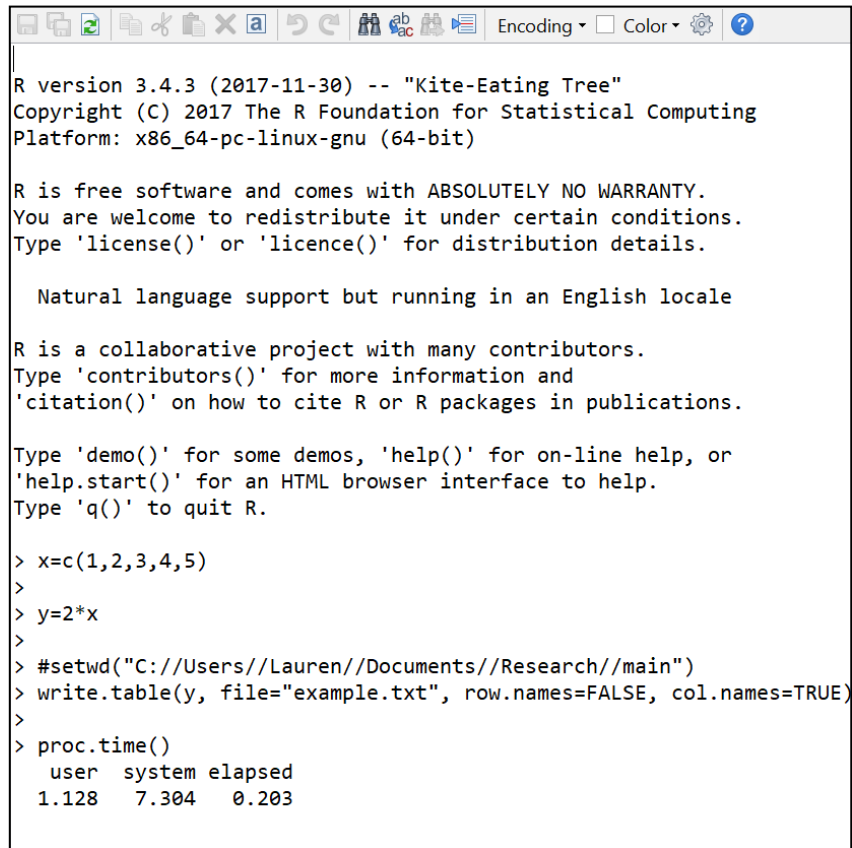
7. The left pane of the SFTP graphical window is your local machine. Here in this left pane, navigate to the folder that has your **.R** file. The right pane of the window is the Server which by default when opened, should be your home directory. If not, then navigate to your home directory by clicking the home icon (shown in Figure 4). Now, drag **.R** file from left side to right side so that the file is on both sides.
8. In the SSH terminal window, enter **cd** into command line to reach your home directory.  
Note: To confirm that it is in the correct directory, type **ls** and hit enter.  
Your **.R** file should be returned.
9. To run **.R** file, enter **R CMD BATCH <filename>.R** into command line.  
Note: The help page of this command can be found [here](#). Also allows inputs and specific outputs as necessary.
10. Go to Bitvise SFTP window. Click “refresh” on right hand side. Output file and any other saved files from **.R** file should appear. Drag over to left hand side, which will put file into personal computer.

## **Example**

1. In R, create a file titled **example.R** that contains the following code:  

```
x=c ( 1 , 2 , 3 , 4 , 5 )  
y=2x  
write.table(y, file="example.txt", row.names=FALSE, col.names=TRUE)
```

This means that we will be saving the vector  $y = 2x$ , where  $x = f1; 2; 3; 4; 5$  into a **.txt** file.
2. Go to the corresponding file directory on the left side of the Bitvise SFTP window.
3. Drag **example.R** over to the right side.
4. Type **ls** in the terminal SSH window and hit Enter so that **example.R** is returned.
5. Type **R CMD BATCH example.R** and hit enter to run the code.
6. Close terminal.
7. Confirm that an output file, **example.Rout**, and a **.txt** file, **example.txt**, appear on the right-hand side. Following figures 5 and 6 depict what the output files should look like if you open them.



```
R version 3.4.3 (2017-11-30) -- "Kite-Eating Tree"
Copyright (C) 2017 The R Foundation for Statistical Computing
Platform: x86_64-pc-linux-gnu (64-bit)

R is free software and comes with ABSOLUTELY NO WARRANTY.
You are welcome to redistribute it under certain conditions.
Type 'license()' or 'licence()' for distribution details.


Natural language support but running in an English locale

R is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> x=c(1,2,3,4,5)
>
> y=2*x
>
> #setwd("C://Users//Lauren//Documents//Research//main")
> write.table(y, file="example.txt", row.names=FALSE, col.names=TRUE)
>
> proc.time()
  user system elapsed
1.128  7.304  0.203
```

*Figure 5: example.Rout*



```
"x"
2
4
6
8
10
```

*Figure 6: example.txt*

8. Drag the **.txt** file to the left side to have it on local computer.

## Additional Resources

<https://www.bitvise.com/winsshd-users-guide>

<https://diyhacking.com/linux-commands-for-beginners/>