

# There is no Cloud

It's just someone else's computer

# Cloud Virtual Machines

- Amazon Web Services (EC2)
- Digital Ocean (Droplets)
- Linode
- Lots of others
- \$5 - \$10 per month gives you a decent server you can do actual work on

# Amazon Web Services

- Amazon Educate program
- Compute Credits for students and classes
- <https://aws.amazon.com/education/awseducate/>
  - Create your own AWS account (you'll have to have a credit card to sign up)
  - Add AWS Educate credits \$100/year

# Class Web Servers

- **You** get a web server, and **you** get a web server...
- Everyone gets their own web server
- Built on AWS using OpsWorks and Chef for some automation
- Simple portal page to manage your server

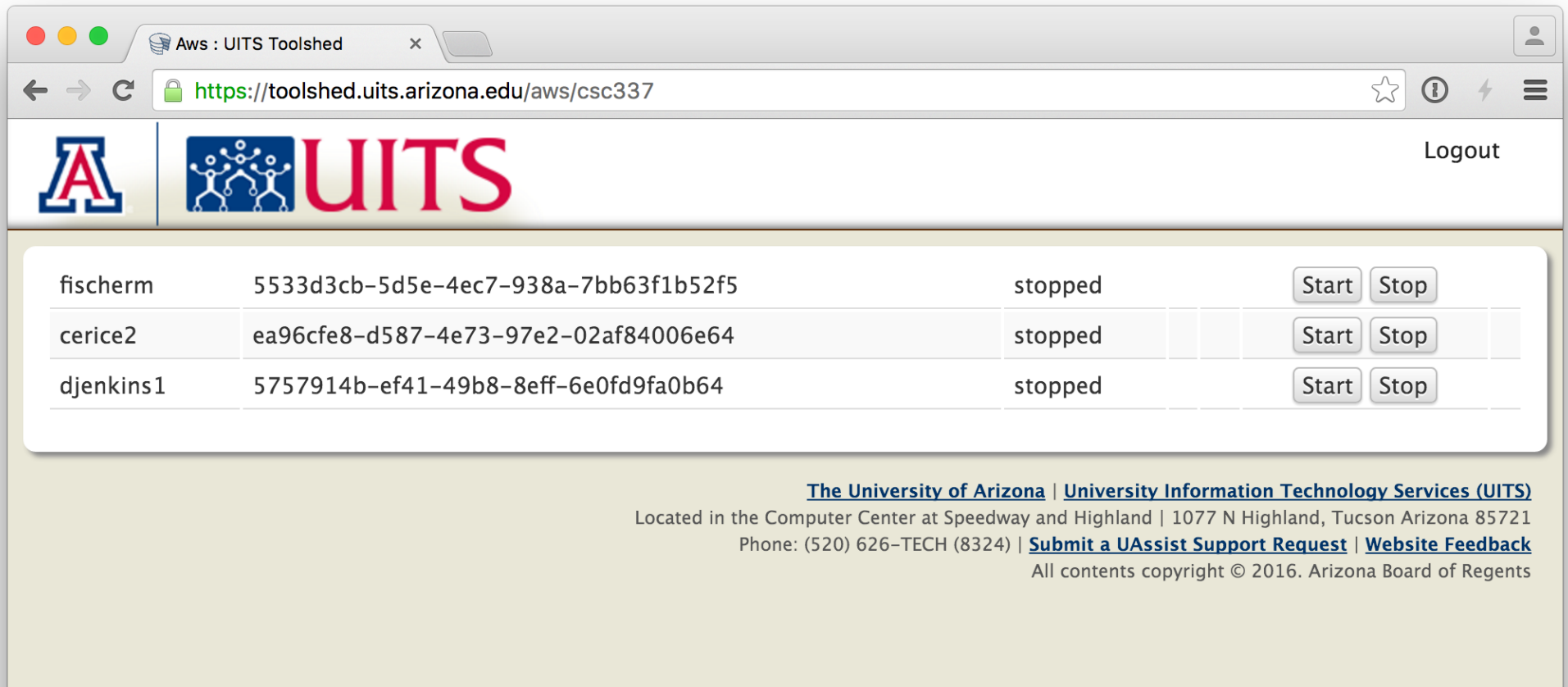
# Management Site

<https://toolshed.uits.arizona.edu/aws/csc337>

- Start & Stop your server
- See your server's IP address
- Change your login password
- Your username is your UA NetID

# Management Site

<https://toolshed.uits.arizona.edu/aws/csc337>



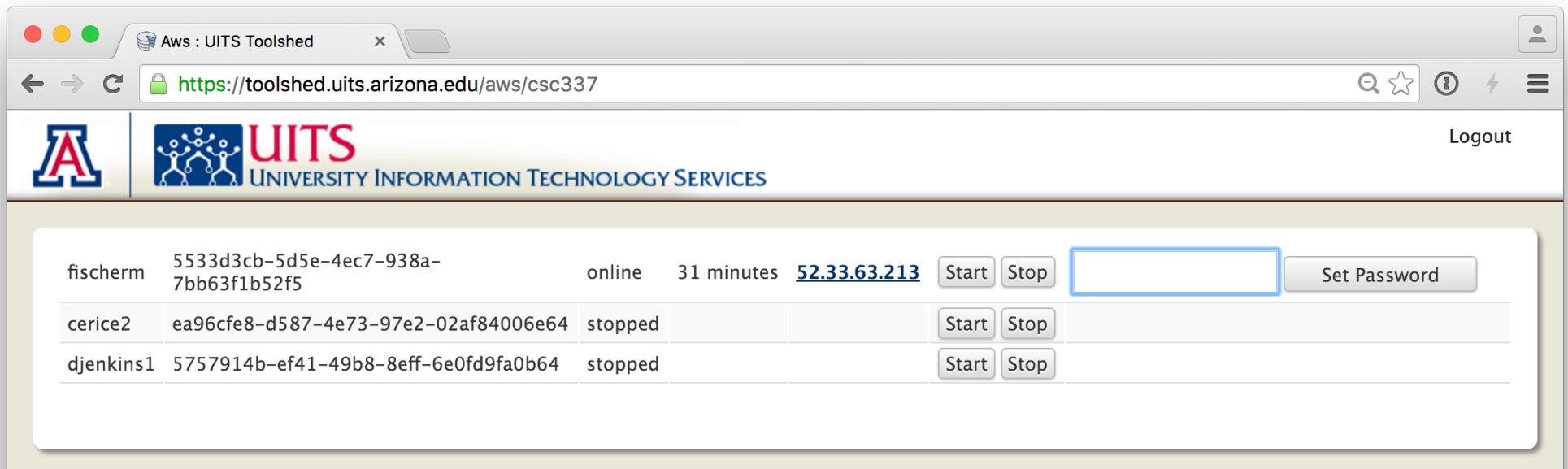
The screenshot shows a web browser window with the title "Aws : UITS Toolshed". The address bar displays the URL "https://toolshed.uits.arizona.edu/aws/csc337". The page header includes the University of Arizona logo, the UITS logo, and a "Logout" link. The main content area features a table with three rows of instance information. Each row contains the instance name, its ID, its state, and two buttons labeled "Start" and "Stop".

fischerm	5533d3cb-5d5e-4ec7-938a-7bb63f1b52f5	stopped	Start	Stop
cerice2	ea96cfe8-d587-4e73-97e2-02af84006e64	stopped	Start	Stop
djenkins1	5757914b-ef41-49b8-8eff-6e0fd9fa0b64	stopped	Start	Stop

[The University of Arizona](#) | [University Information Technology Services \(UITS\)](#)  
Located in the Computer Center at Speedway and Highland | 1077 N Highland, Tucson Arizona 85721  
Phone: (520) 626-TECH (8324) | [Submit a UAssist Support Request](#) | [Website Feedback](#)  
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# Management Site

- Once your server is 'online' you can set your password
- Only have to set your password once
- Log in to your server using SSH
- Stop your server when you're not working on it

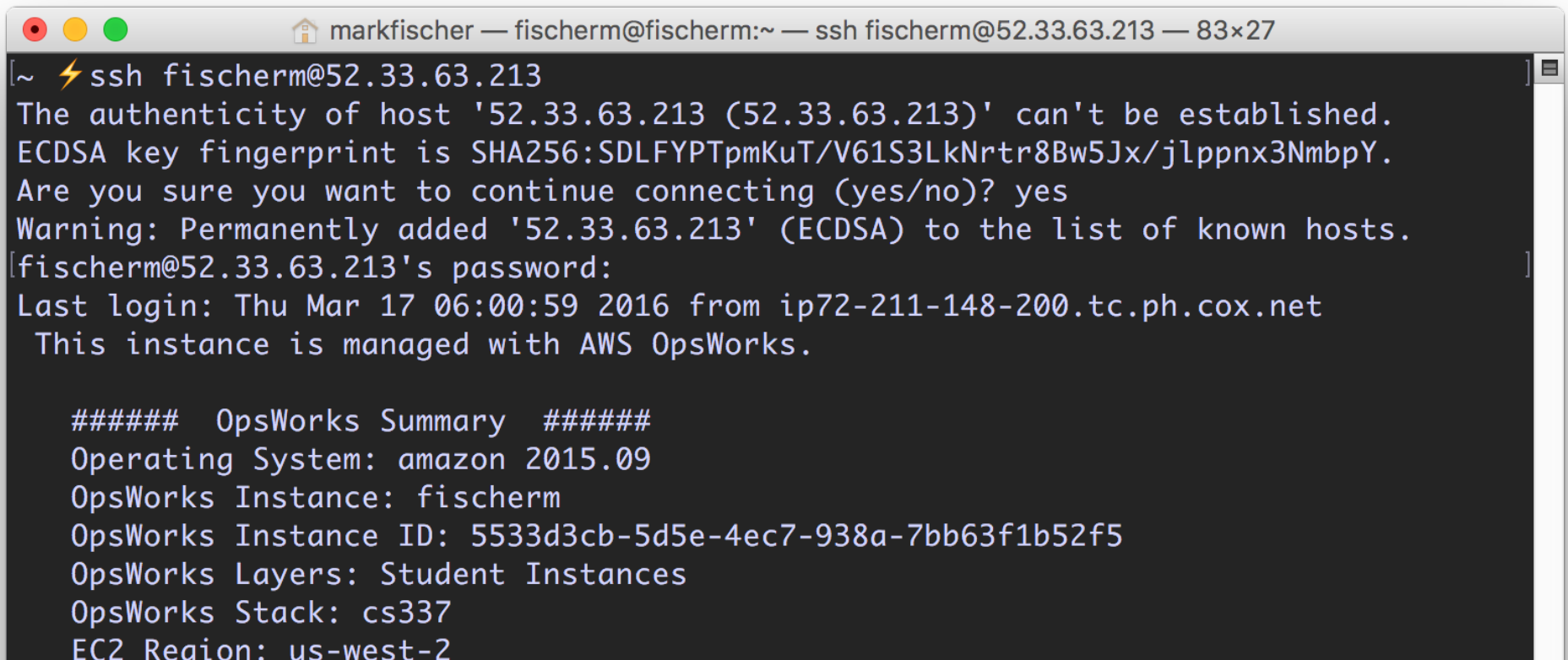


The screenshot shows a web browser window with the URL <https://toolshed.uits.arizona.edu/aws/csc337>. The page header includes the UITS logo and the text "UNIVERSITY INFORMATION TECHNOLOGY SERVICES". A "Logout" link is visible in the top right corner. The main content area displays a table of servers:

Instance Name	Instance ID	Status	Age	Public IP	Actions
fischerm	5533d3cb-5d5e-4ec7-938a-7bb63f1b52f5	online	31 minutes	<a href="#">52.33.63.213</a>	Start Stop <input type="text"/> Set Password
cerice2	ea96cfe8-d587-4e73-97e2-02af84006e64	stopped			Start Stop
djenkins1	5757914b-ef41-49b8-8eff-6e0fd9fa0b64	stopped			Start Stop

# Connecting • Mac

- Terminal
- Applications/Utilities/Terminal.app



```
markfischer — fischer@fischer:~ — ssh fischer@52.33.63.213 — 83x27
[~] ⚡ ssh fischer@52.33.63.213
The authenticity of host '52.33.63.213 (52.33.63.213)' can't be established.
ECDSA key fingerprint is SHA256:SDLFYPTpmKuT/V61S3LkNrtr8Bw5Jx/jlpnx3NmbpY.
Are you sure you want to continue connecting (yes/no)? yes
Warning: Permanently added '52.33.63.213' (ECDSA) to the list of known hosts.
[fischer@52.33.63.213's password:
Last login: Thu Mar 17 06:00:59 2016 from ip72-211-148-200.tc.ph.cox.net
This instance is managed with AWS OpsWorks.

##### OpsWorks Summary #####
Operating System: amazon 2015.09
OpsWorks Instance: fischer
OpsWorks Instance ID: 5533d3cb-5d5e-4ec7-938a-7bb63f1b52f5
OpsWorks Layers: Student Instances
OpsWorks Stack: cs337
EC2 Region: us-west-2
```





markfischer — fischem@fischem:~ — ssh fischem@52.33.63.213 — 83x27

~ ⚡ ssh fischem@52.33.63.213

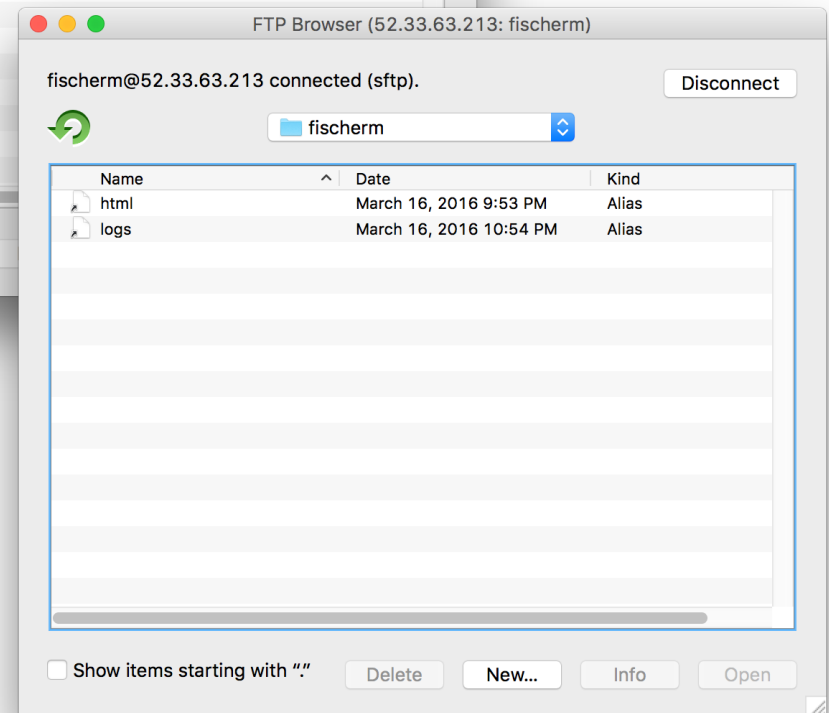
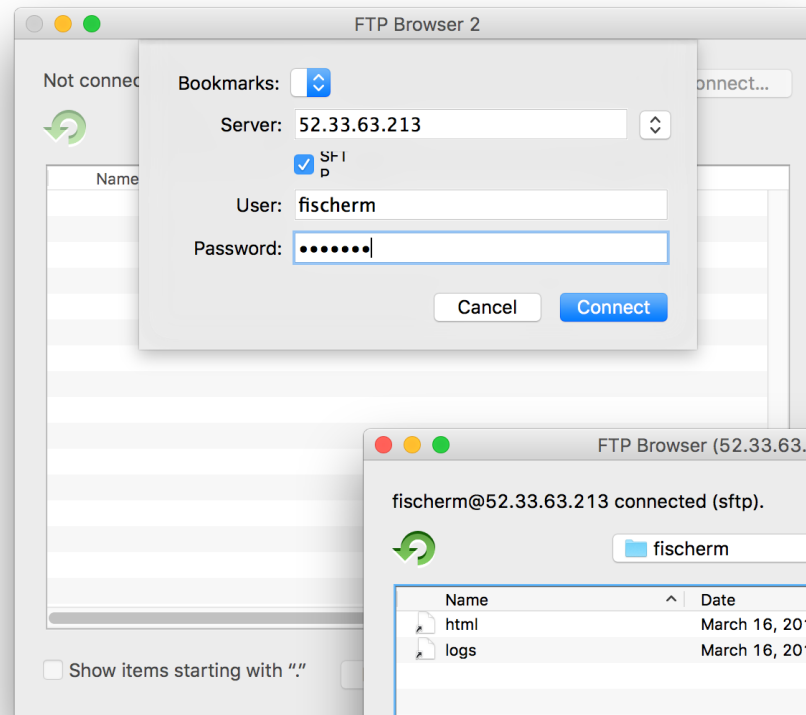
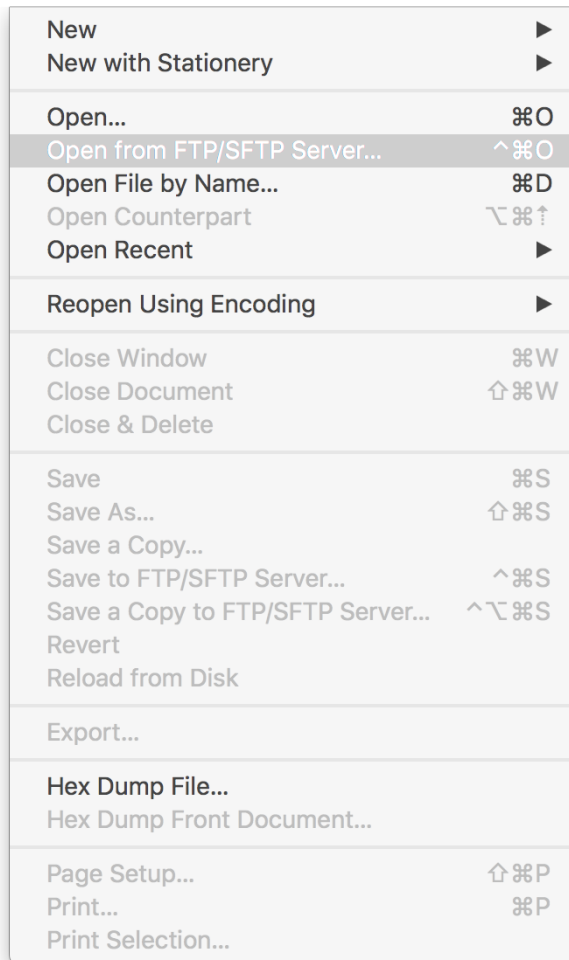
# Connecting • Mac

- Remotely Editing Text
- Many Many options
  - Feel free to use whatever you want
- TextWrangler is the one I can help you with



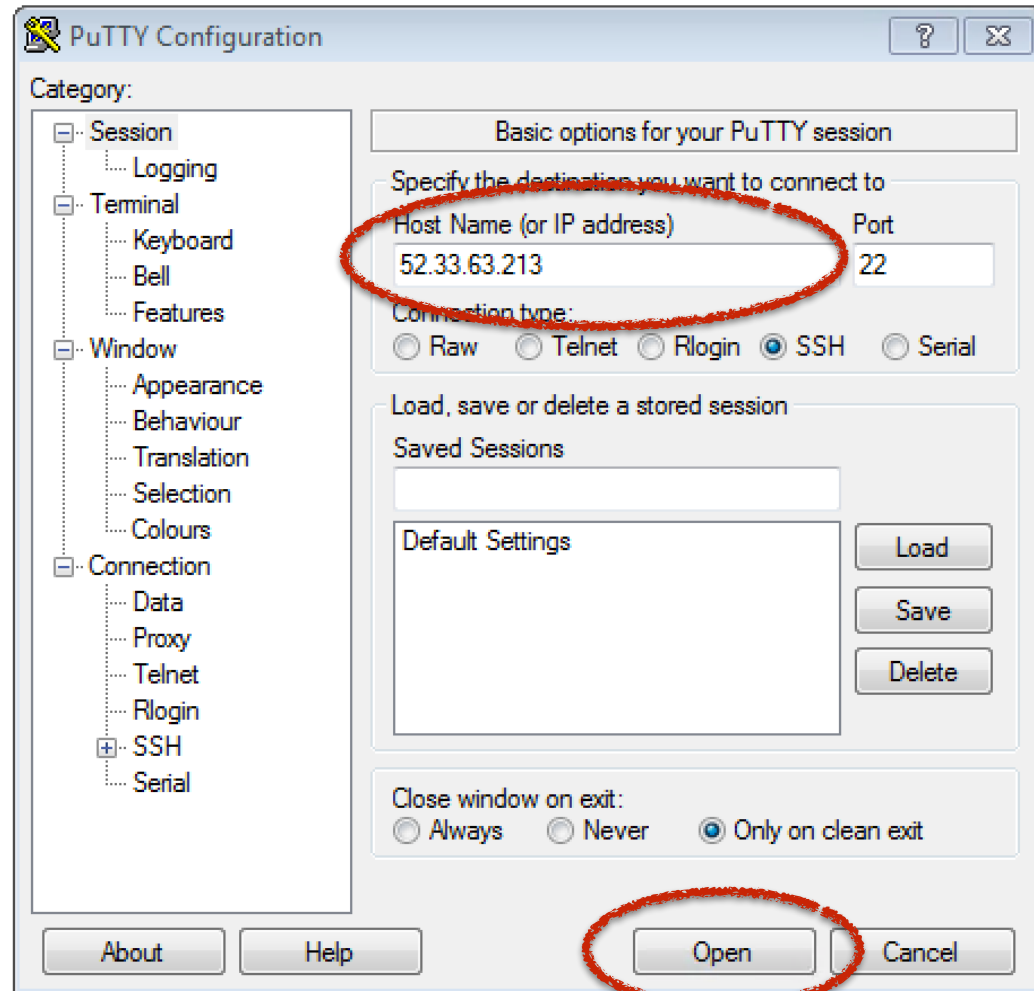
<http://www.barebones.com/products/textwrangler/>

# Connecting • Mac



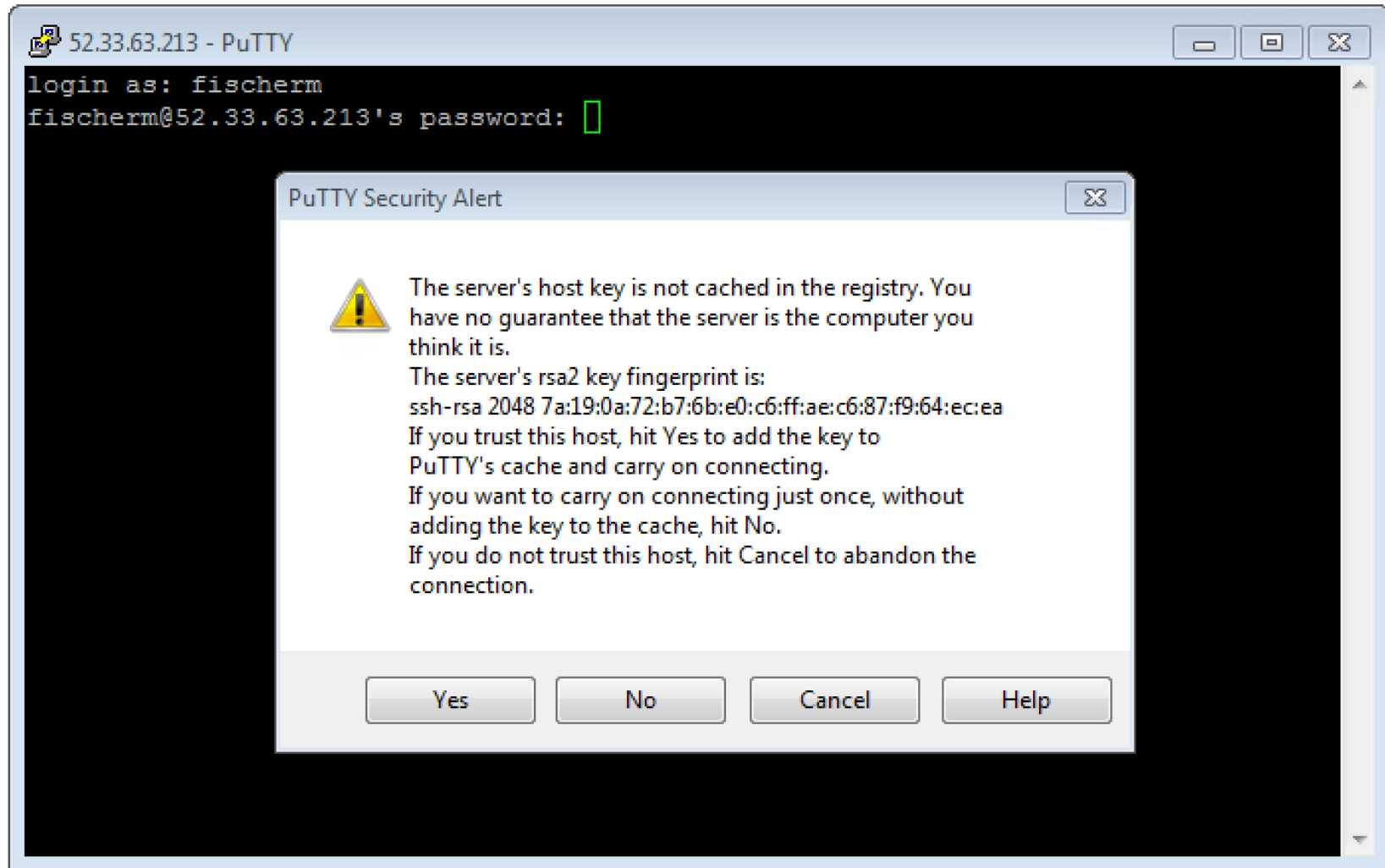
# Connecting • Windows

- Putty

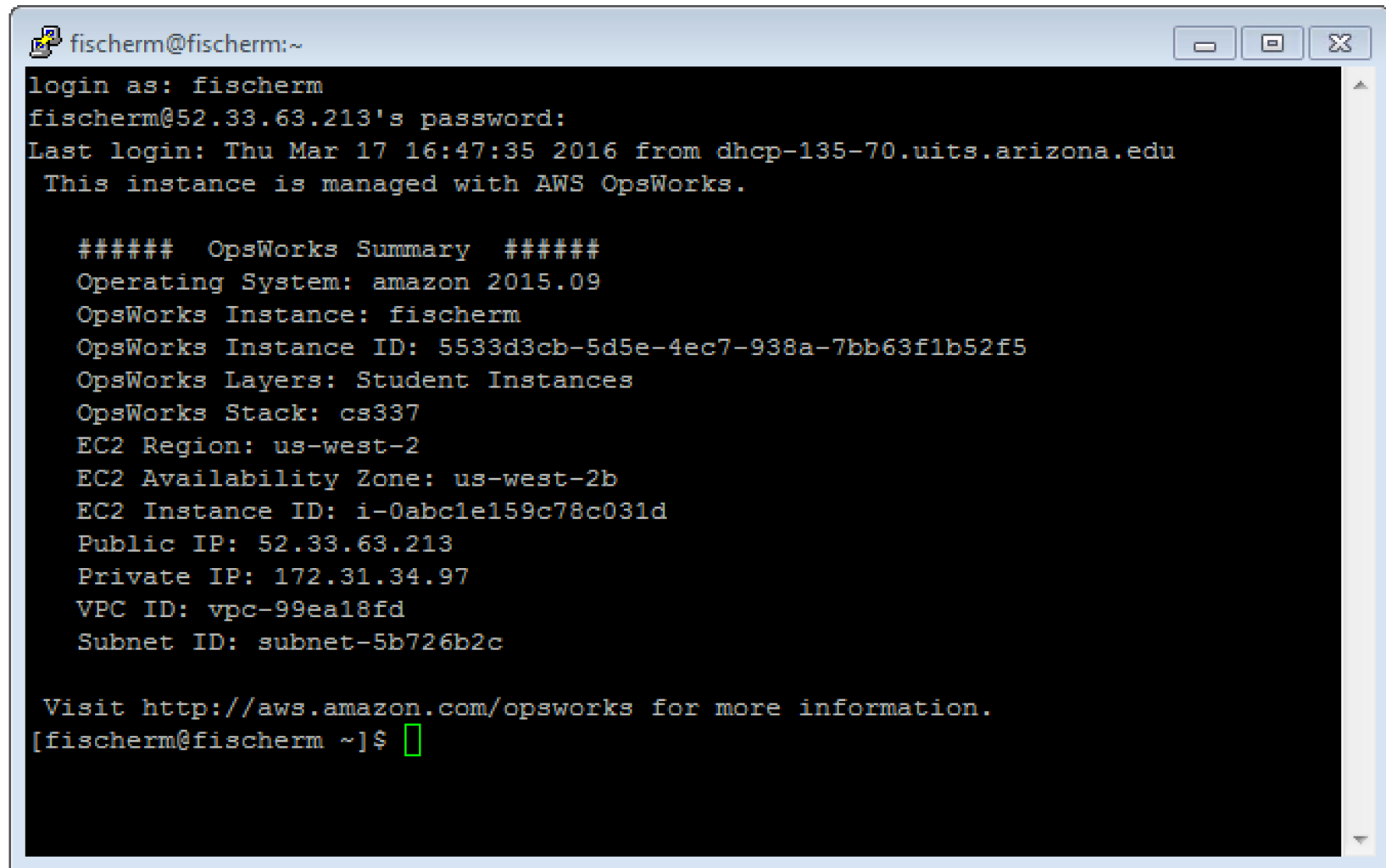


<http://www.chiark.greenend.org.uk/~sgtatham/putty/download.html>

# Connecting • Windows



# Connecting • Windows



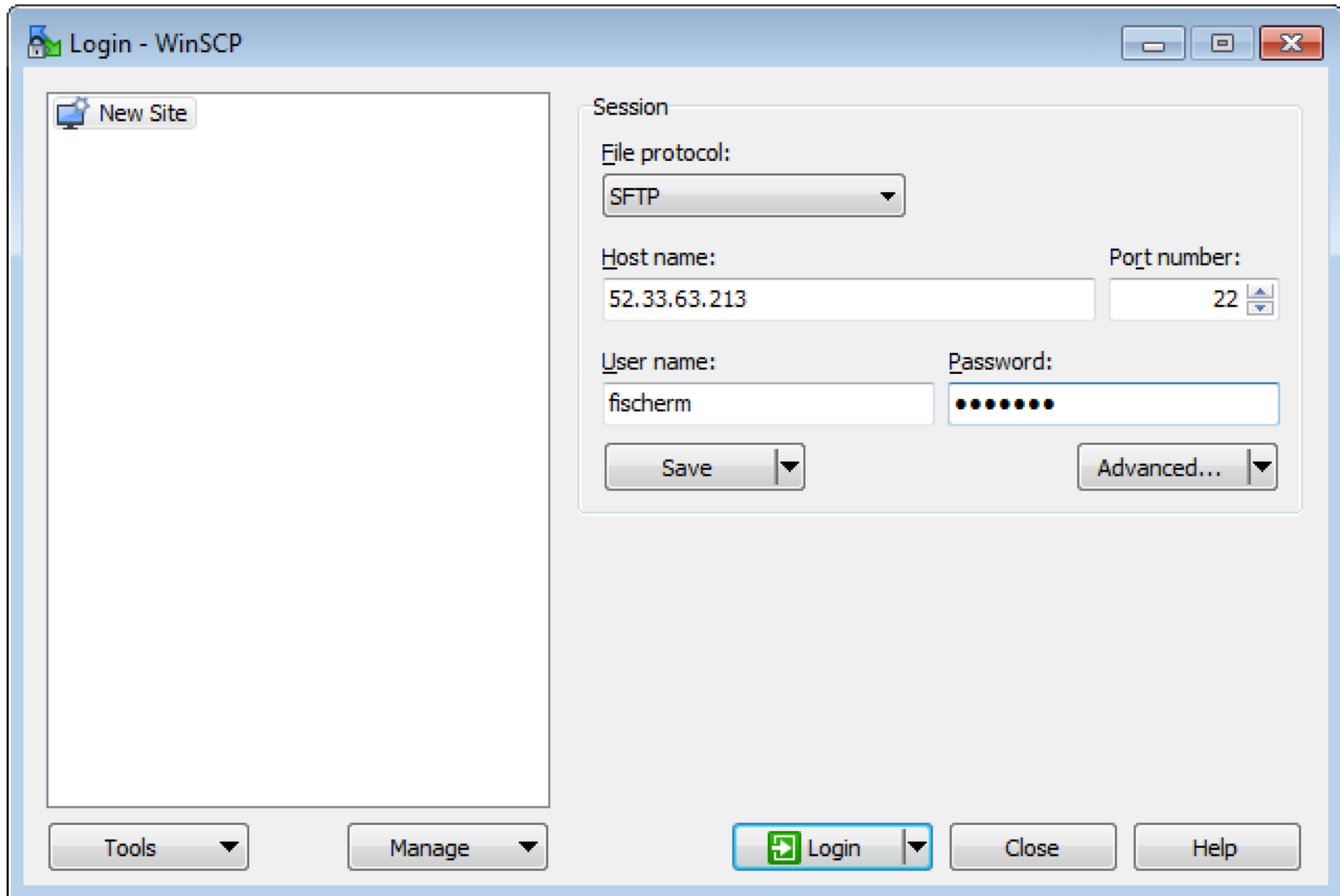
```
fischerm@fischerm:~  
login as: fischerm  
fischerm@52.33.63.213's password:  
Last login: Thu Mar 17 16:47:35 2016 from dhcp-135-70.uits.arizona.edu  
This instance is managed with AWS OpsWorks.  
  
##### OpsWorks Summary #####  
Operating System: amazon 2015.09  
OpsWorks Instance: fischerm  
OpsWorks Instance ID: 5533d3cb-5d5e-4ec7-938a-7bb63f1b52f5  
OpsWorks Layers: Student Instances  
OpsWorks Stack: cs337  
EC2 Region: us-west-2  
EC2 Availability Zone: us-west-2b  
EC2 Instance ID: i-0abc1e159c78c031d  
Public IP: 52.33.63.213  
Private IP: 172.31.34.97  
VPC ID: vpc-99ea18fd  
Subnet ID: subnet-5b726b2c  
  
Visit http://aws.amazon.com/opsworks for more information.  
[fischerm@fischerm ~]$
```

# Connecting • Windows

- Remotely Editing Text
- Many Many ways to do this
  - Use whatever you can figure out
- WinSCP is the one I can help you with

<https://winscp.net/eng/download.php>

# Connecting • Windows





# Connecting • Windows

html - fischer@52.33.63.213 - WinSCP

Local Mark Files Commands Session Options Remote Help

Synchronize Queue Transfer Settings Default

fischer@52.33.63.213 New Session

My documents

Upload Edit Properties

D:\Users\fischer\Documents

Name	Size	Type	Changed
..		Parent directory	3/9/2016 9:57:30 AM
Integration Services S...		File folder	7/5/2012 12:45:20 PM
Integration Services S...		File folder	7/5/2012 12:43:47 PM
My Shapes		File folder	8/15/2012 12:27:28 PM
SQL Server Managem...		File folder	3/9/2016 10:03:20 AM
Visual Studio 2005		File folder	7/5/2012 1:06:07 PM
Visual Studio 2008		File folder	7/5/2012 12:41:25 PM
Visual Studio 2010		File folder	7/5/2012 10:42:31 AM
LogEntry.xls	4,107 KB	Microsoft Excel 97...	3/11/2013 10:16:26 AM
LogEntry.xlsx	7,991 KB	Microsoft Excel W...	3/11/2013 10:21:11 AM
opswb-active-2013-...	474 KB	Microsoft Excel C...	9/18/2013 2:39:31 PM
test.rpt	1 KB	RPT File	9/18/2013 3:08:46 PM

0 B of 12,571 KB in 0 of 11

5 hidden

474 B of 474 B in 1 of 2

Edit selected file(s) using alternative editor

Internal editor Ctrl+Alt+F4

Notepad

Edit With...

Configure...

SFTP-3 0:00:53

# Make Some Directories

```
markfischer — fischem@fischem:~ — ssh fischem@52.33.63.213 — 83x27
[[fischem@fischem ~]$ ls -la
total 24
drwx----- 2 fischem fischem 4096 Mar 17 05:54 .
drwxr-xr-x 4 root     root     4096 Mar 17 04:53 ..
-rw----- 1 fischem fischem 138 Mar 17 06:01 .bash_history
-rw-r--r-- 1 fischem fischem 18 Sep 2 2015 .bash_logout
-rw-r--r-- 1 fischem fischem 193 Sep 2 2015 .bash_profile
-rw-r--r-- 1 fischem fischem 124 Sep 2 2015 .bashrc
lrwxrwxrwx 1 root     root     13 Mar 17 04:53 html -> /var/www/html
lrwxrwxrwx 1 root     root     14 Mar 17 05:54 logs -> /var/log/httpd
[[fischem@fischem ~]$
[[fischem@fischem ~]$
[[fischem@fischem ~]$ mkdir assignment5
[[fischem@fischem ~]$ ls -la
total 28
drwx----- 3 fischem fischem 4096 Mar 17 17:21 .
drwxr-xr-x 4 root     root     4096 Mar 17 04:53 ..
drwxrwxr-x 2 fischem fischem 4096 Mar 17 17:21 assignment5
-rw----- 1 fischem fischem 138 Mar 17 06:01 .bash_history
-rw-r--r-- 1 fischem fischem 18 Sep 2 2015 .bash_logout
-rw-r--r-- 1 fischem fischem 193 Sep 2 2015 .bash_profile
-rw-r--r-- 1 fischem fischem 124 Sep 2 2015 .bashrc
lrwxrwxrwx 1 root     root     13 Mar 17 04:53 html -> /var/www/html
lrwxrwxrwx 1 root     root     14 Mar 17 05:54 logs -> /var/log/httpd
[[fischem@fischem ~]$
```

# Command Line Basics

<https://www.codecademy.com/learn/learn-the-command-line>

codecademy

< Learn the Command Line

Learn

directories. The parent-child relationship continues as long as directories and files are nested.

You're probably already familiar with this tree structure - Mac Finder and Windows Explorer represent the filesystem as trees as well.

At any point, you can reference the filesystem for this lesson [here](#).

Instructions

1. Let's see how to navigate the filesystem from the command line. In the terminal, after the shell prompt, type

```
pwd
```

and press Enter. We'll explain this in the next exercise.

Report a Bug

If you see a bug or any other issue with this page,

Filesystem Tree

File Manager Graphical Interface

```
$ pwd
/home/ccuser/workspace/blog
$
```

3. Filesystem

Back

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Next

Get Help

