AWS

Jacob Aylward

Amazon Web Services

Amazon Web Services (AWS) is a massive collection of remote computing services over a plethora of systems that come together to make up one of the world's largest cloud computing platforms, hosted by Amazon.com cheaply and efficiently.

Frostburg State University
COSC 380
AWS

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Table of Contents:

Goal:

Using AWS and their EC2 (Elastic Compute Cloud), and other services:

Create Two Instances:

- A Free Windows Instance
- A Free Linux Instance
- Install LAMP (you may use a package to install everything)
- Install WAMP (you may use a package such as XAMPP)
- Create a demo webpage in PHP which has the following information:
    - Your Name
    - Your machines' name and DNS information
    - Dynamic date and time (so the current date and time show when I hit the page)

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Downloads:

XAMPP – This file is 61MB, and contains all three packages (A+M+P). It defaults to installing Apache in a root directory, with PHP as a module. It optionally installs MySQL. It also optionally installs phpMyAdmin, Perl, and SQLYog. It also optionally installs documentation for Apache, MySQL, PHP, and phpMyAdmin. http://sourceforge.net/projects/xampp/?source=typ_redirect

Wamp – WampServer - WampServer is a Windows web development environment. It allows you to create web applications with Apache2, PHP and a MySQL database. Alongside, PhpMyAdmin allows you to manage easily your databases.
http://hivelocity.dl.sourceforge.net/project/wampserver/WampServer%202/Wampserver%202.5/wampserver2.5-Apache-2.4.9-Mysql-5.6.17-php5.5.12-32b.exe

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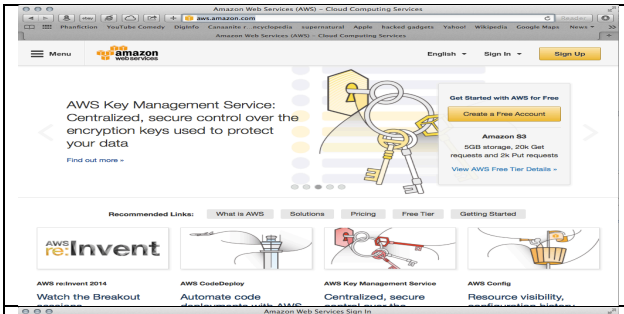
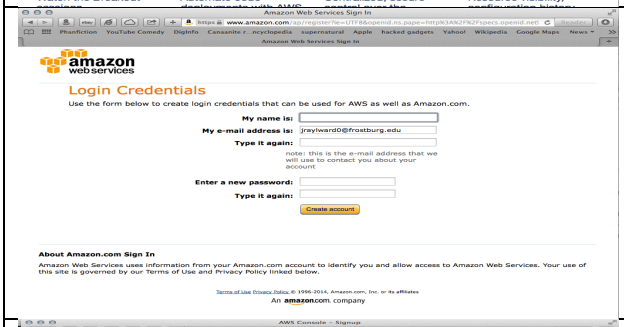
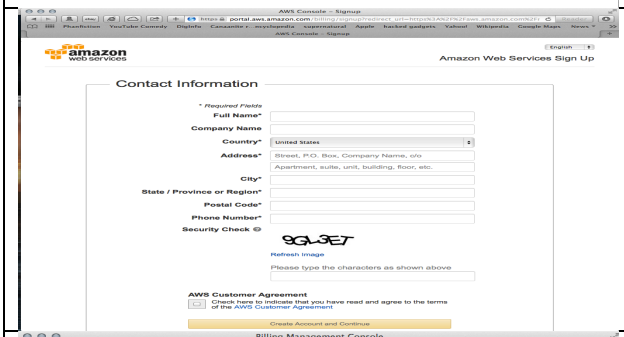
Setting up Amazon Web Services (AWS):



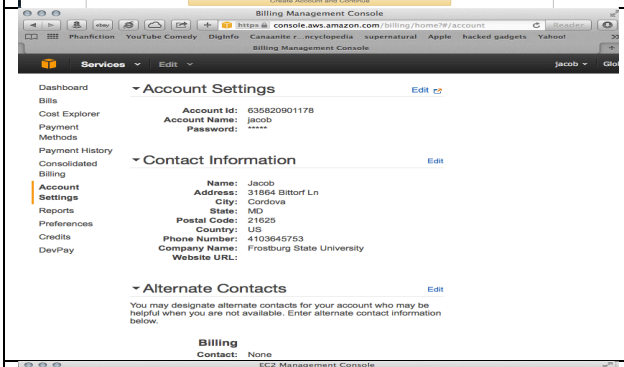
Step 1: Create an Account with Amazon Web Services.
First navigate your browser window to the following link: http://aws.amazon.com. Once the page has finished loading select he **Sign Up** button located at the top right corner of the screen.



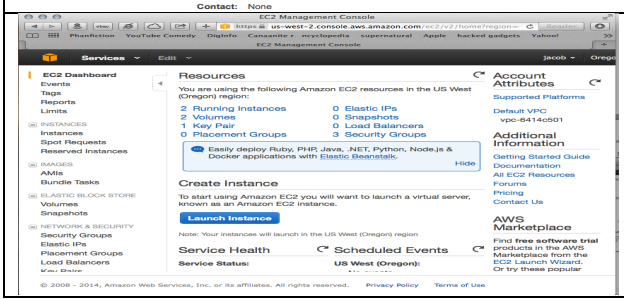
Step 2: Create an Account with Amazon Web Services continued.
Once in the setup window has loaded onto your screen, start inputting your login credentials by providing yours e-mail address and a secure password you can easily remember.



Step 3: Create an Account Web Services continued.
On the next setup window provide your contact information and answer the security question at the bottom of the page. Once this is completed and you have inserted your additional information you will then setup your **Account Settings** by providing a method of payment.



Step 4: Completed Account Web Service.
Once you have completed steps 1-3, the site will navigate you to the finished **Account Settings** page. You then navigate your window to the EC2 page by selecting the **Services** menu at the top left of the page. "**Services->All AWS Services->EC2"**



Step 5: Elastic Compute Cloud.
Once you have arrived at the **EC2 Management Console** page Select the **Instances** tab located on the far left side of the site page, once there click on the **Instances** tab.

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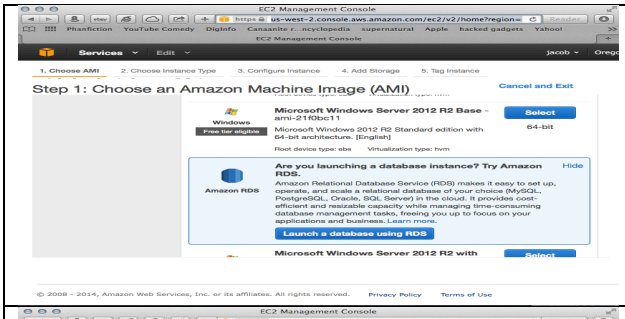
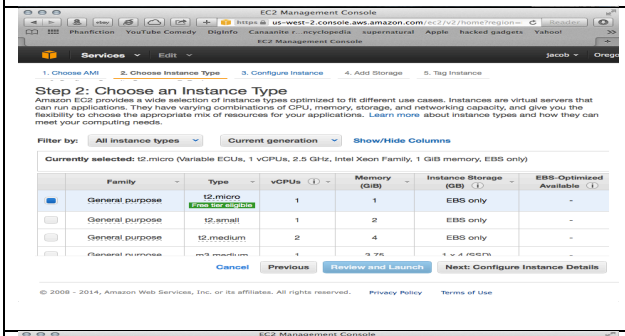
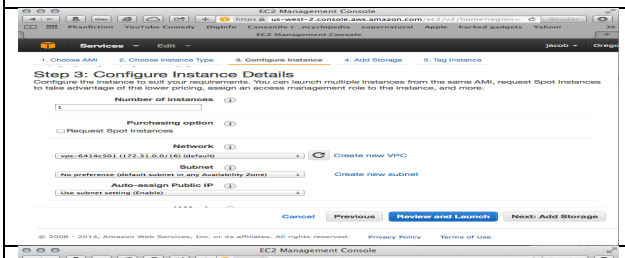
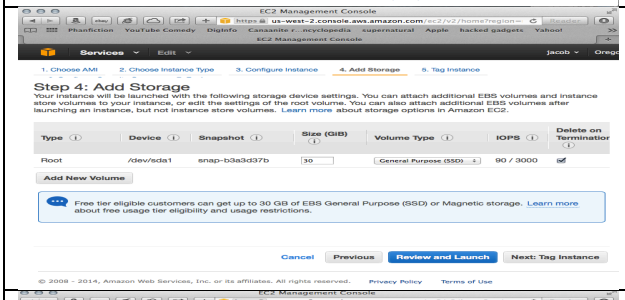
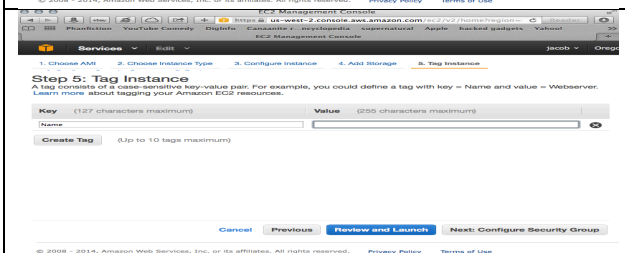
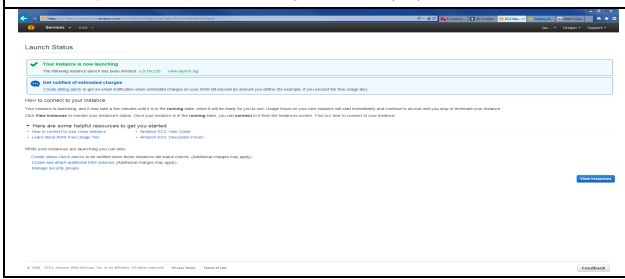
Creating a Free Windows Instance:

	**Step 1: Choose Amazon Machine Image (AMI).** Once you have selected the **Instances** tab, you come to the **Instances** page. Once there you select the **Launch Instance** button on the top of the screen. Choose a free tier such as: **Microsoft Windows Server 2012 R2 Base – ami-21f0bc11** ***Microsoft Windows 2012 R2 Standard edition with 64-bit architecture. [English]***
	**Step 2: Choose Instance Type.** Once you have selected your Amazon Machine Image. Navigate to the **Choose Instance Type** page by selecting the next button located on the bottom of the web page. Once there Select **General Purpose t2.micro(Free tier)**. Afterwards navigate to the **Configure Instance Details** page by selecting the next button at the bottom of the screen.
	**Step 3: Configure Instance Details.** In the **Number of Instances** selection input only 1 instance. For the other instance details leave them as the default values provided.
	**Step 4: Add Storage.** Make sure that you keep the size to 30GiB. This is because customers can get up to only 30GB of EBS General Purpose (SSD) or Magnetic storage for free.
	**Step 5: Tag Instance.** Set the **Key Name** to any value you want, for example seeing as this is the Windows named it “**Windows”.**
	**Step 6: Launch Instance.** At this set a secure key file is created called “**keypair.pem”**. Make sure you put this file in an easily accessible location.

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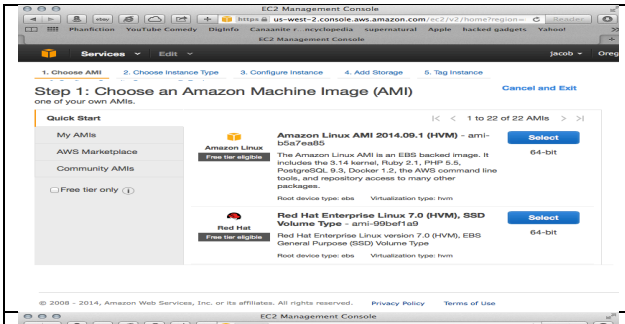
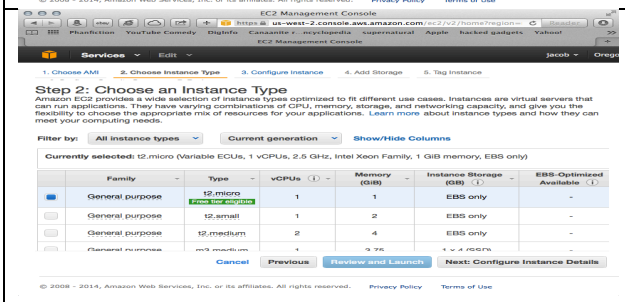
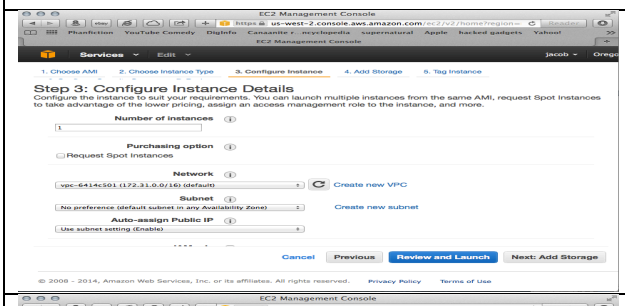
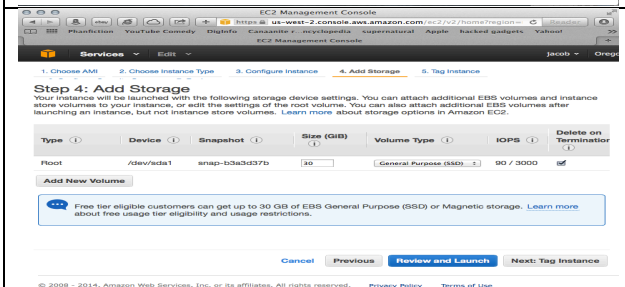
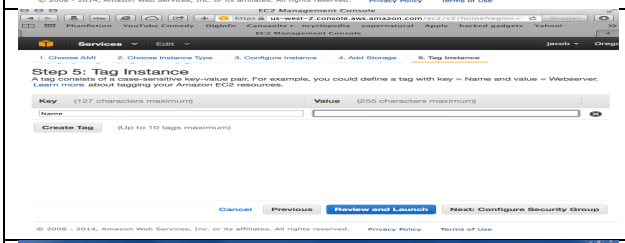
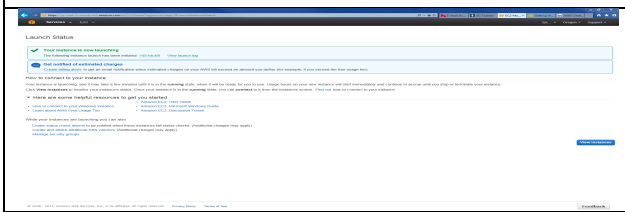
Creating a Free Linux Instance:

	**Step 1: Choose an Amazon Machine Image (AMI).** Once you have selected the **Instances** tab, you come to the **Instances** page. Once there you select the **Launch Instance** button on the top of the screen. Choose a free tier such as: **Amazon Linux AMI 2014.09.1 (HVM) – ami-b5a7ea85** ***The Amazon Linux AMI is an EBS backed image. It includes the 3.14 kernel, Ruby 2.1, PHP 5.5, PostgreSGL 9.3, Docker 1.2, the AWS command line tools, and the repository access to many other packages.***
	**Step 2: Choose Instance Type.** Once you have selected your Amazon Machine Image. Navigate to the **Choose Instance Type** page by selecting the next button located on the bottom of the web page. Once there Select **General Purpose t2.micro(Free tier)**. Afterwards navigate to the **Configure Instance Details** page by selecting the next button at the bottom of the screen.
	**Step 3: Configure Instance Details.** In the **Number of Instances** selection input only 1 instance. For the other instance details leave them as the default values provided.
	**Step 4: Add Storage.** Make sure that you keep the size to 30GiB. This is because customers can get up to only 30GB of EBS General Purpose (SSD) or Magnetic storage for free.
	**Step 5: Tag Instance.** Set the **Key Name** to any value you want, for example seeing as this is the Linux named it “**Linux”.**
	**Step 6: Launch Instance.** At this set the secure key file to the one previously created named “**keypair.pem”**.

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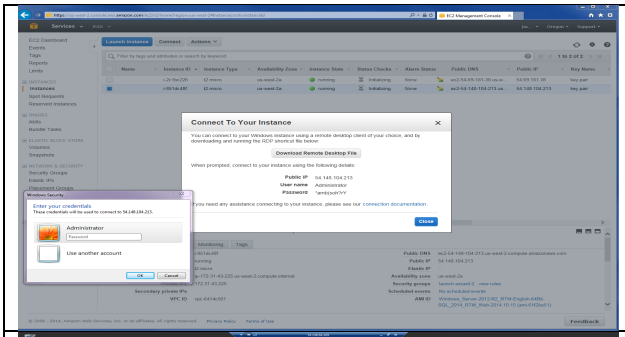
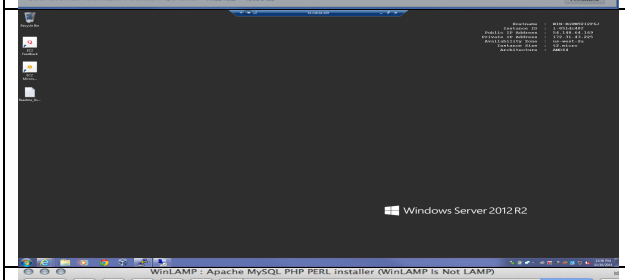
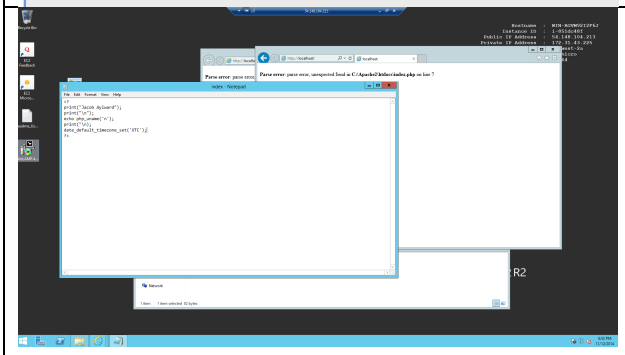
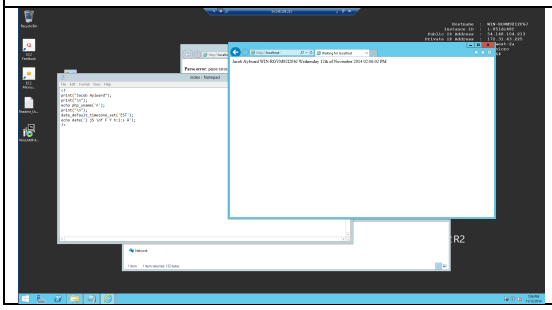
Installing LAMP:

	**Step 1: Connect to Instance.** Navigate back to the **Instance** tab on the left side of the display screen. Once you are on the correct page select the **Windows Instance** by checking the box on the far left. Once the Box is highlighted blue, scroll to the top of the page to the **Launch Instance** button. Once the *Connect To Your Instance* page is on display select and run the **Download Remote Desktop File.**
	**Step 2: Log onto Remote Desktop**. Insert your password by connecting to the "**keypair.pem"** file made in **Step 6** of the **Creating A Free Windows Instance.** Then decrypt the password using the **Decrypt** button and insert it into the **Password** prompt.
	**Step 3: Install LAMP.** Download LAMP from the following: LAMP Download. Once downloaded step through the installer to set up the WinLamp on your Windows Instance.

	**Step 4: Set up PHP Webpage.**
	Navigate to "**C:\Apache2\htdocs"**. Once there locate the **"Index.php"** file and open it using a text editor. Inside the **Index** file write the following:
	<?
	print("Jacob Aylward"); //displays name
	print("\n"); //new line
	echo php_uname('n');//display hostname
	print("\n");//new line
	date_default_timezone_set('EST');// set to EST
	echo date('l jS \of F Y h:i:s A');//display full date
	?>

	**Step 5: Test your PHP Webpage.** Using your browser navigate to your local host using **http://localhost or http://127.0.0.1 .**If everything is displaying properly then move on to installing WAMP.

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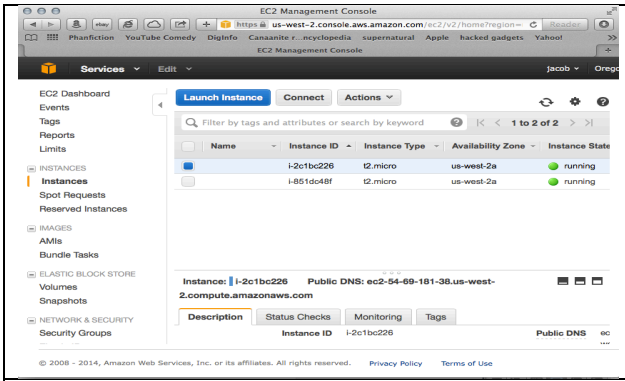
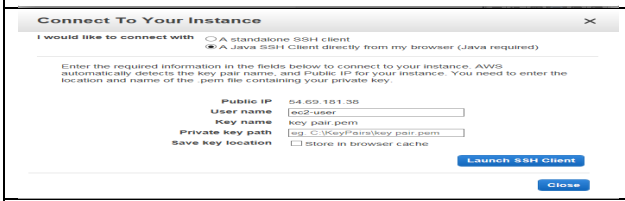
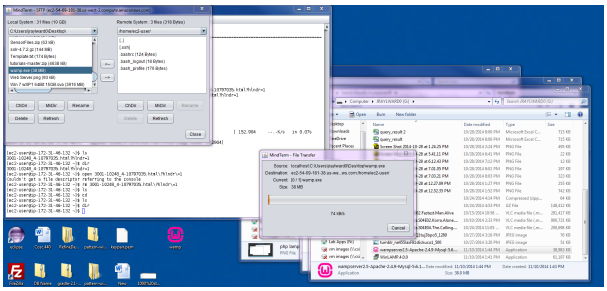
Installing WAMP:



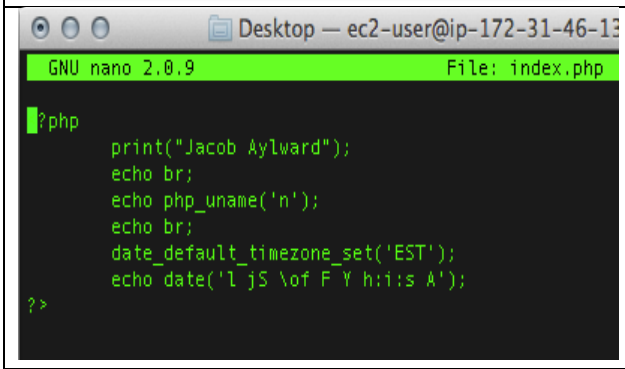
Step 1: Connect to Instance
Navigate back to the instance tab on the left side of the display screen. Once you are the correct page select the Linux Instance by checking the box on the far left. Then once the Box is highlighted blue scroll to the top of the page to the **Launch Instance** button. Once the *Connect To Your Instance* page is on display select the **A Java SSH Client directly from my browser (Java required)** under the **I would like to connect with** selection.



Step 2: Launch SSH Client.
Enter the Private key path to the location of your keypair.pem file. Example:
"**C:\Users\jraylward0\Desktop\keypair.pem**"

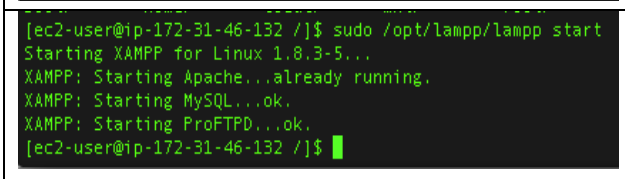


Step 3: Download And Install WAMP
Download WAMP file from: WAMP
Once the download is finished open the installer guide. After the installer has completed navigate to the **Java Client** Browser and follow these steps:
1.) Change permissions on the installer
Chmod 755 xampp-linux--installer.run*
2.) Run the installer
Sudo ./xampp-linux--installer.run*
3.) Start the XAMPP
Sudo /opt/lampp/lampp start
4.) Open the Graphics tool (*so helpful*)
Cd /opt/lampp
Sudo ./manager-linux.run (or manager-linux-x64.run)



Step 4: Change PHP file
Navigate to "**otp/lamp/apache2/htdocs"**. Once there locate the **""** file and open it using a prompt editor such as **nano** or **vi**. Inside the "**index.php**" file write the following:

```
<?
print("Jacob Aylward"); //displays name
print("\n"); // I changed this to echo br when I discovered \n is not a new line
echo php_uname('n');//display hostname
print("\n");//new line
date_default_timezone_set('EST');// set to EST
echo date('l jS \of F Y h:i:s A');//display full date
?>
```



Step 5: Start you WAMP
Type the following in the **Java Client** or **ssh instance**:
Sudo /opt/lampp/lampp start
And now your **WAMP** should be up and running.

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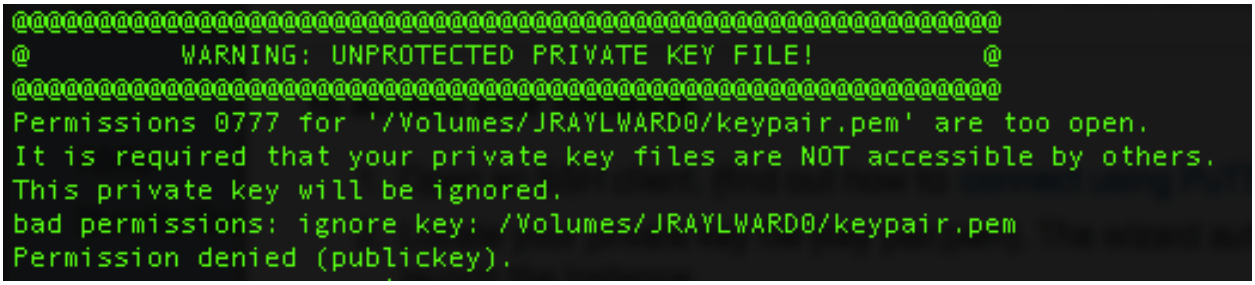
LAMP & WAMP Links:

WAMP Link: http://ec2-54-69-181-38.us-west-2.compute.amazonaws.com

LAMP Link: http://ec2-54-148-104-213.us-west-2.compute.amazonaws.com

Possible Errors:

If you receive an error message during the "**Installing WAMP Step 2 Launch SSH Client"**, this is most likely because AWS will not allow users to connect to a key that is publicly viewable as seen below.



To fix this error simply insert the following command: **chmod 400 "*key pair name*".pem** and hit return.