Hosting a Web server on Amazon

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# Getting started

You have been sent an email for 2 courses:

* AWS Academy Cloud Foundations. This provides the learning content, which the DAP lists as "homework" starting next week.
* AWS Academy Learner Lab. This provides the console access previously used in AWS Educate

For this activity, we will be using “AWS Academy Learner Lab”

Log into AWS academy using the link provided in the email sent to your student account. The link is probably: [https://awsacademy.instructure.com/](https://awsacademy.instructure.com/courses/4668)

# Accessing the management console

|  |  |
| --- | --- |
| Select the “Modules” hyperlink at the bottom of the page |  |
| Select the “Learner Lab” module |  |
| You should get an agreement. Select “I agree”  If the agreement does not appear, click “Modules” again in the top left. |  |

|  |  |
| --- | --- |
| You are now in the lab environment, ready to start the lab.  Select “Start Lab” |  |
| The lab environment will take a while to power on |  |
| Once powered on, you will get a console similar to the right |  |
| Click the “AWS” link in the top left to access the management console |  |

# Creating a virtual machine to host our website

1. In the search bar, type in EC2 and select Select “EC2” to enter the EC2 Dashboard

Graphical user interface, application, website

Description automatically generated

1. Select “Launch Instance” and then Launch Instance from the drop down menu to launch the VM creation wizard

Graphical user interface, text, application, email

Description automatically generated

1. You will now be at the Launch an instance wizard screen. It should look like this

Graphical user interface, text, application, email

Description automatically generated

1. Enter a name for your instance. Call it Week 5 – Webserver
2. Scroll down to the Application and OS Images (Amazon Machine Image) screen and select Amazon Linux aws

Graphical user interface, application

Description automatically generated

1. Leave the Amazon Machine Image (AMI) and Architecture as default and scroll down to Key pair (login)

Graphical user interface, text, application, email

Description automatically generated

1. Select Create new key pair

Application

Description automatically generated with medium confidence

1. Fill out the pop up window with the following information
   1. Key pair name – Week 5 – Webserver \*the screenshot shows a different name
   2. Key pair type – RSA
   3. Private key file format - .ppk (For use with PuTTY)

Then press Create key pair

Graphical user interface, application

Description automatically generated

You should now have your Key pair selected and if using Chrome, the .ppk would have downloaded automatically. Don’t touch the downloaded file, we will use that later.

Graphical user interface, text, application, email

Description automatically generated

1. Scroll to Network settings and make sure that Create security group is selected. Select the following options also and leave the Anywhere 0.0.0.0/0 as is
   1. Allow SSH traffic from
   2. Allow HTTPs traffic from the internet
   3. Allow HTTP traffic from the internet

Graphical user interface, text, application

Description automatically generated

**Definitions**

SSH – This stands for Secure Shell and is used to encrypt our network connection from the TAFE network to the instance on the AWS network. The private key we have just downloaded allows us to create this encryption.

HTTPs – Stands for Hypertext Transfer Protocol Secure allows for encrypted data transfer between a web browser and a website

HTTP – Stands for Hypertext Transfer Protocol and allows for unencrypted data transfer between a web browser and a website. HTTP is not very common these days

1. Scroll down to Advanced Details and expand it out
2. Scroll all the way to the bottom of the screen to User data – *optional*
3. Copy and Paste the following script into the User data field

#!/bin/bash

yum update -y

amazon-linux-extras install -y lamp-mariadb10.2-php7.2 php7.2

yum install -y httpd mariadb-server

systemctl start httpd

systemctl enable httpd

usermod -a -G apache ec2-user

chown -R ec2-user:apache /var/www

chmod 2775 /var/www

find /var/www -type d -exec chmod 2775 {} \;

find /var/www -type f -exec chmod 0664 {} \;

echo "<?php phpinfo(); ?>" > /var/www/html/phpinfo.php

1. Press Launch Instance as all our wizard has now finished for this lab

Graphical user interface, text, application

Description automatically generated

# Testing Web Server

1. Click on the orange View all instances button

Graphical user interface, application

Description automatically generated

1. Select your new web server instance from the list

Graphical user interface, text, application

Description automatically generated

1. In the screen below, click on the copy icon for your Public IP Address

Graphical user interface, text, application, email

Description automatically generated

1. Open a new tab in your browser and paste the IP address of your instance.

If everything worked, we can see our Apache test page.

Graphical user interface, application

Description automatically generated with medium confidence

# Terminating and deleting the instance

We no longer need this VM. To save our credits, we will get rid of it.

1. Return to your AWS console.
2. Under “Instance State” select “Stop Instance”

Graphical user interface, application

Description automatically generated

1. Your state will change to “Stopped”

Graphical user interface, text, application

Description automatically generated

You can delete your instance when you no longer need it. This is referred to as terminating your instance. As soon as the state of an instance changes to shutting-down or terminated, you stop incurring charges for that instance.

To save the most money possible, we will terminate the instance completely.

1. Under “Instance state” select “Terminate Instance”

Graphical user interface, application

Description automatically generated

1. Return to your web console, and end the lab

Graphical user interface, text, application, chat or text message

Description automatically generated

**End of lab**