AWS Immersion Day

EC2 Hands-On Lab

Getting Started with Linux on Amazon EC2

Lab Prework(Setting up your VPC for EC2)

Before we begin the EC2 lab, a network environment will need to be built for the EC2 instance to reside in. Please follow the steps in the walkthrough provided in the VPC setup document.

EC2 Overview

Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. Amazon EC2's simple web service interface allows you to obtain and configure capacity with minimal friction. Amazon EC2 reduces the time required to obtain and boot new server instances to minutes, allowing you to quickly scale capacity, both up and down, as your computing requirements change. Amazon EC2 changes the economics of computing by allowing you to pay only for capacity that you actually use.

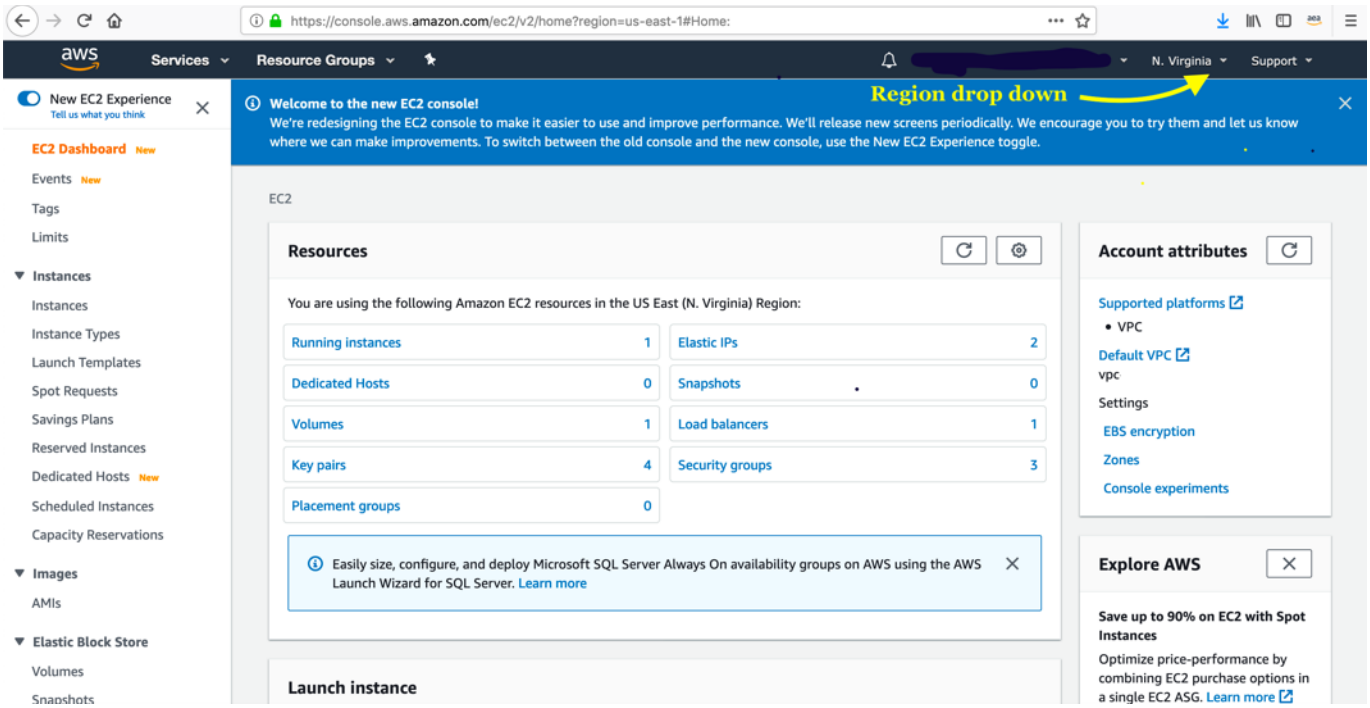
This lab will walk you through launching, configuring, and customizing a web server on Amazon EC2 using the AWS Management Console.

Create a new Key Pair

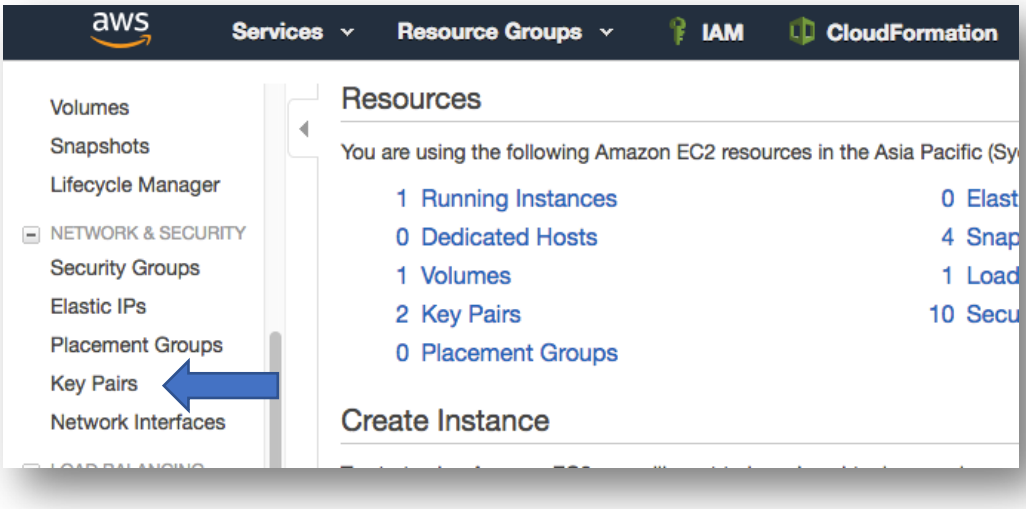
In this lab, you will create an EC2 instance as your web server. To manage the instance, you need to be able to connect to it via SSH. The following steps outline how to create a unique SSH keypair for this purpose.

1. Sign into the AWS Management Console and open the Amazon EC2 console at https://console.aws.amazon.com/ec2.

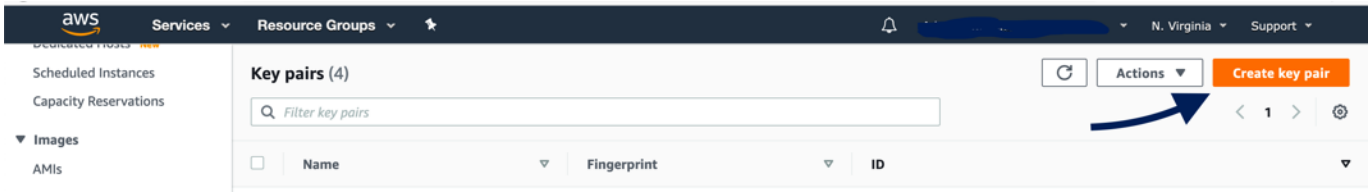
2. In the upper-right corner of the AWS Management Console, confirm you are in the desired AWS region (e.g., N. Virginia).



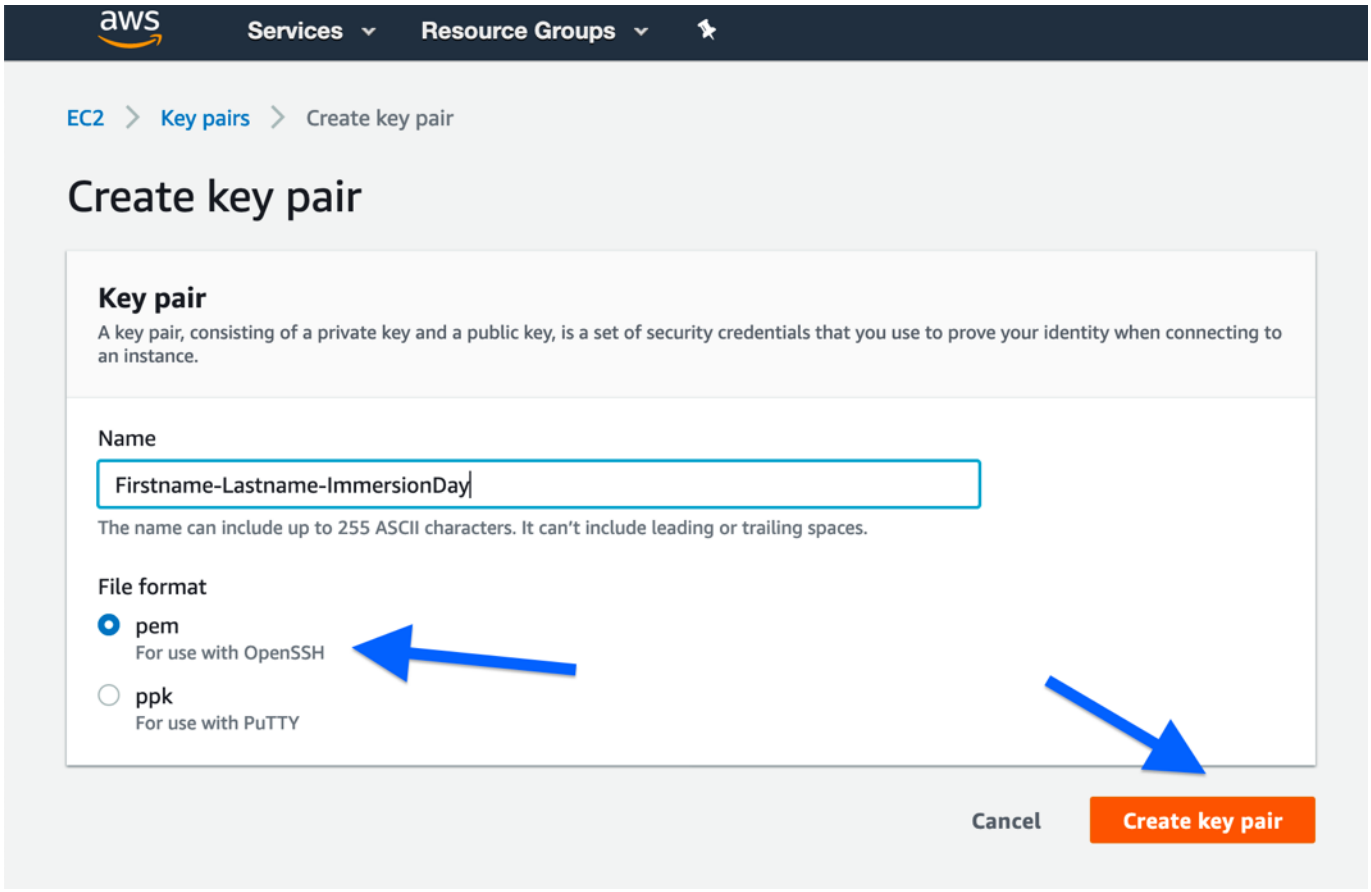
3. Click on **Key Pairs** in the NETWORK & SECURITY section near the bottom of the leftmost menu. This will display a page to manage your SSH key pairs.



4. To create a new SSH key pair, click the **Create Key Pair** button at the top of the browser window.

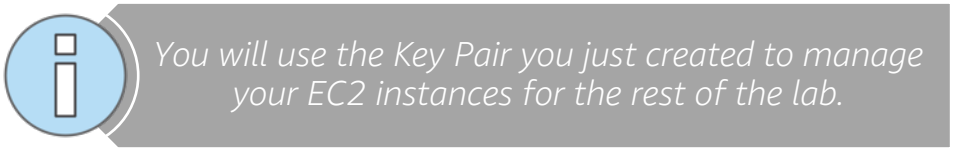


5. In the resulting pop up window, type *[First Name]-[Last Name]-ImmersionDay* into the **Key Pair Name:** text box and click **Create.**



6. The page prompts you to download the file "*[First Name]-[Last Name]-ImmersionDay*.pem" to the local drive. Follow your browser instructions to save the file to the default download location.

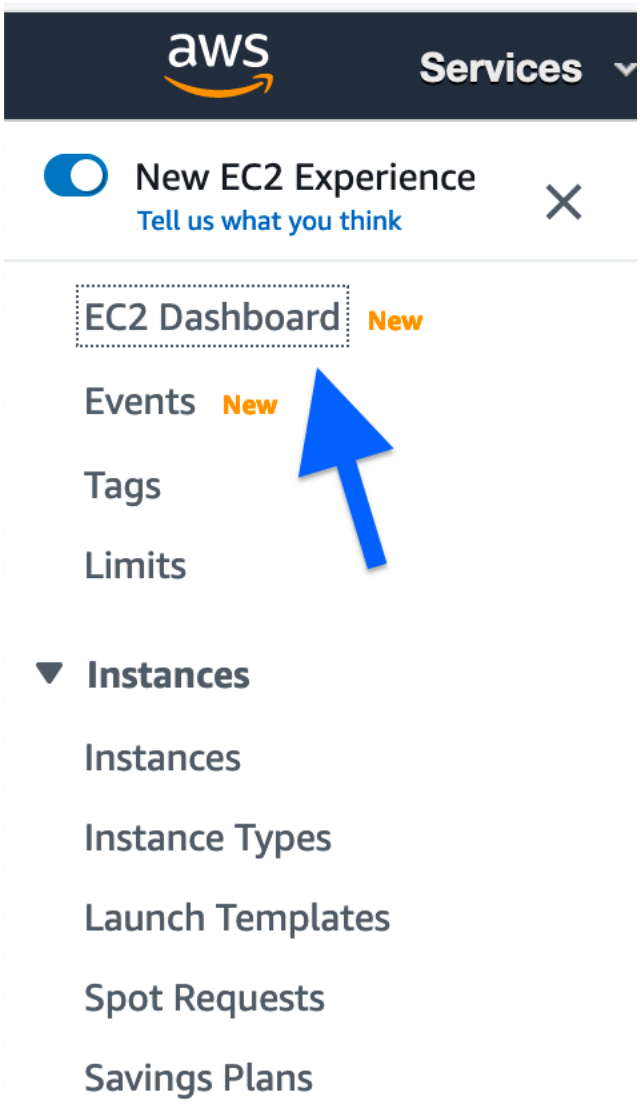
7. Remember the full path to this .pem file you just downloaded. This file contains your private key for future SSH connections.



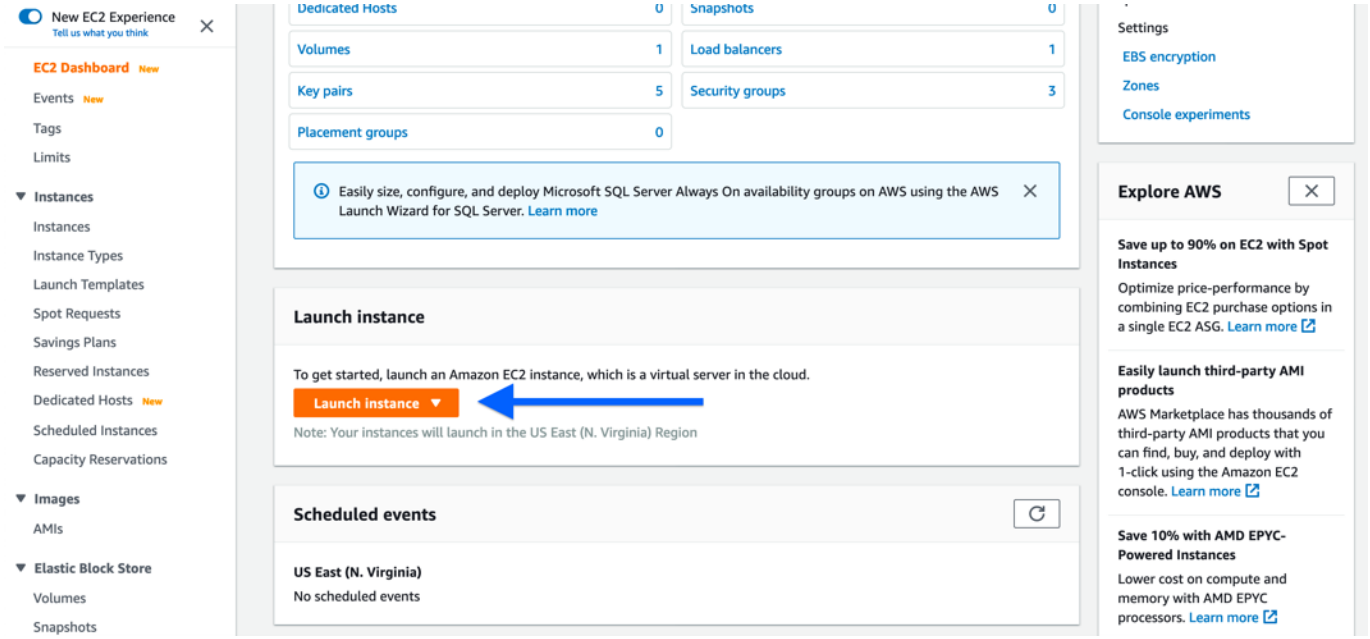
Launch a Web Server Instance

In this example, we will launch an Amazon Linux 2 instance, bootstrap Apache/PHP, and install a basic web page that will display information about our instance.

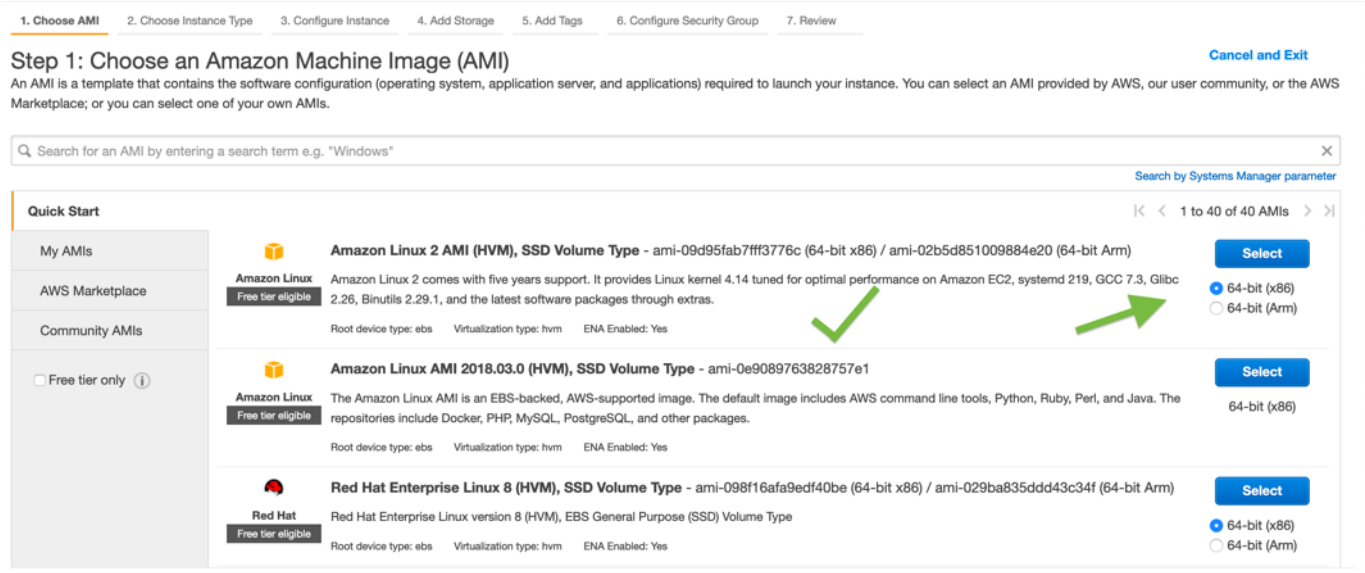
Click on EC2 Dashboard from the left menu. If you've signed out after creating your key pair, sign into your AWS Management Console and choose EC2 from the Services menu.



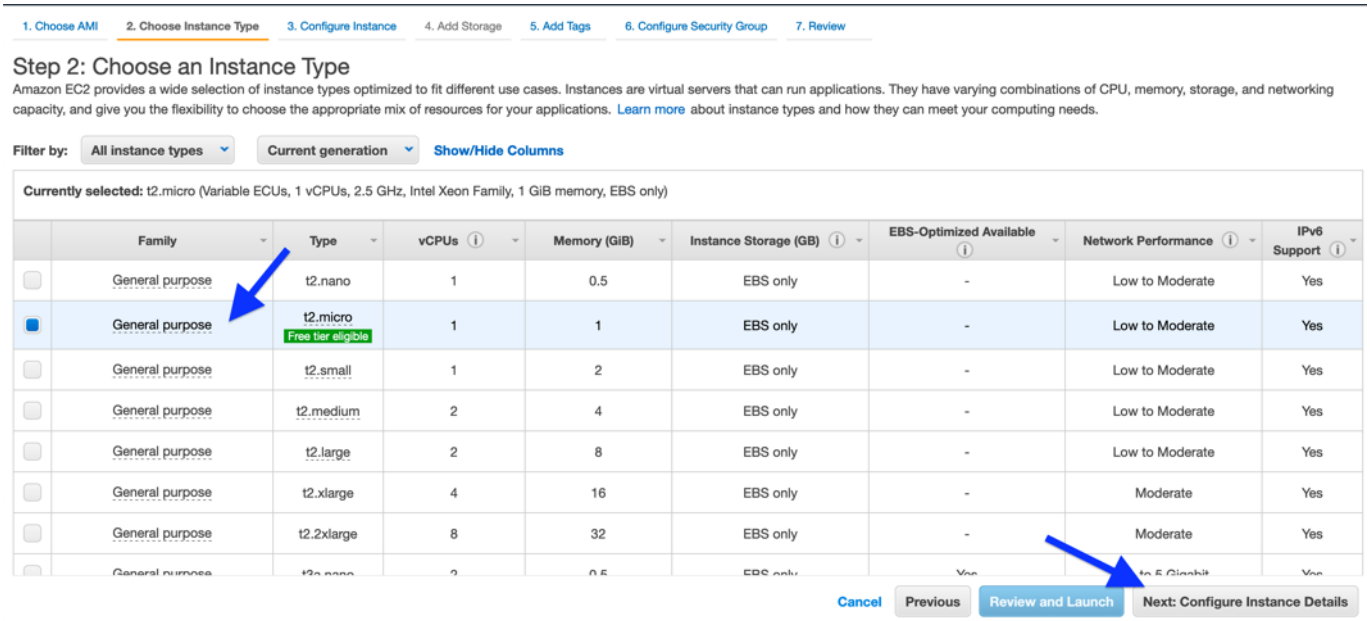
8. Click on Launch Instance



9. In the **Quick Start** section, select the first Amazon Linux 2 AMI for 64-bit (x86) architecture and click **Select.** Note that the ami-xxxxxxxxx label and specific versions of the installed package may be different than in the image below.



10. In the Step 2. *Choose an Instance Type*, select the **t2.micro** instance size and click **Next: Configure Instance Details**.



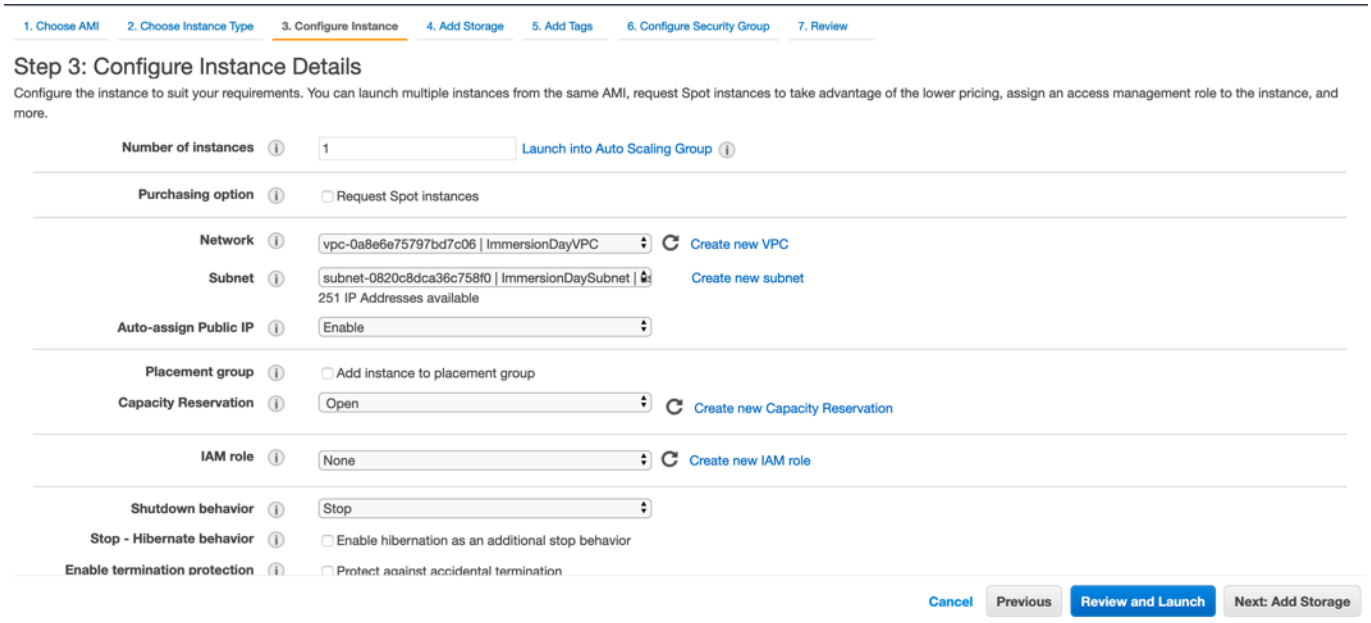
11. On Step 3. **Configure Instance Details** page, you'll add the values based on the lab prework of creating your network for this web server, as shown below. Also, expand the **Advanced Details** section(scroll down since it is located at the bottom of the page), then, copy/paste the script below into the **User Data** field. This shell script will install Apache & PHP, start the web service,

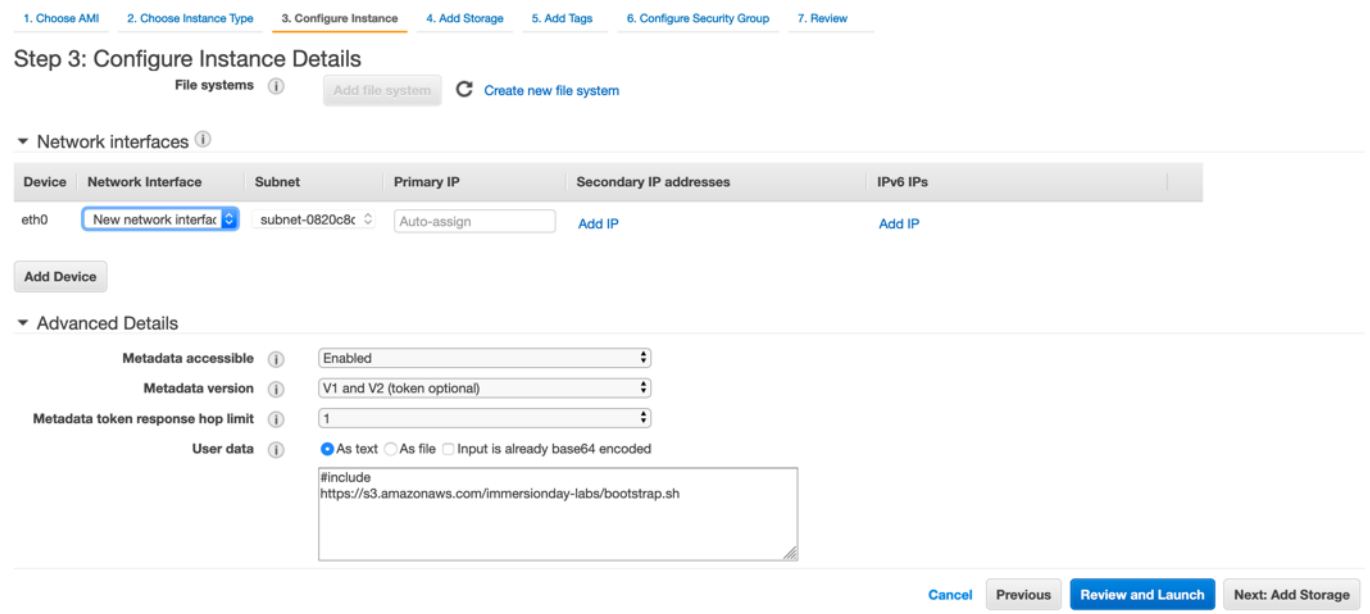
and deploy a simple web page.

'User data' is a method for bootstrapping your instance - Any code placed here will be executed the first time an instance is launched.

Copy/paste highlighted items below

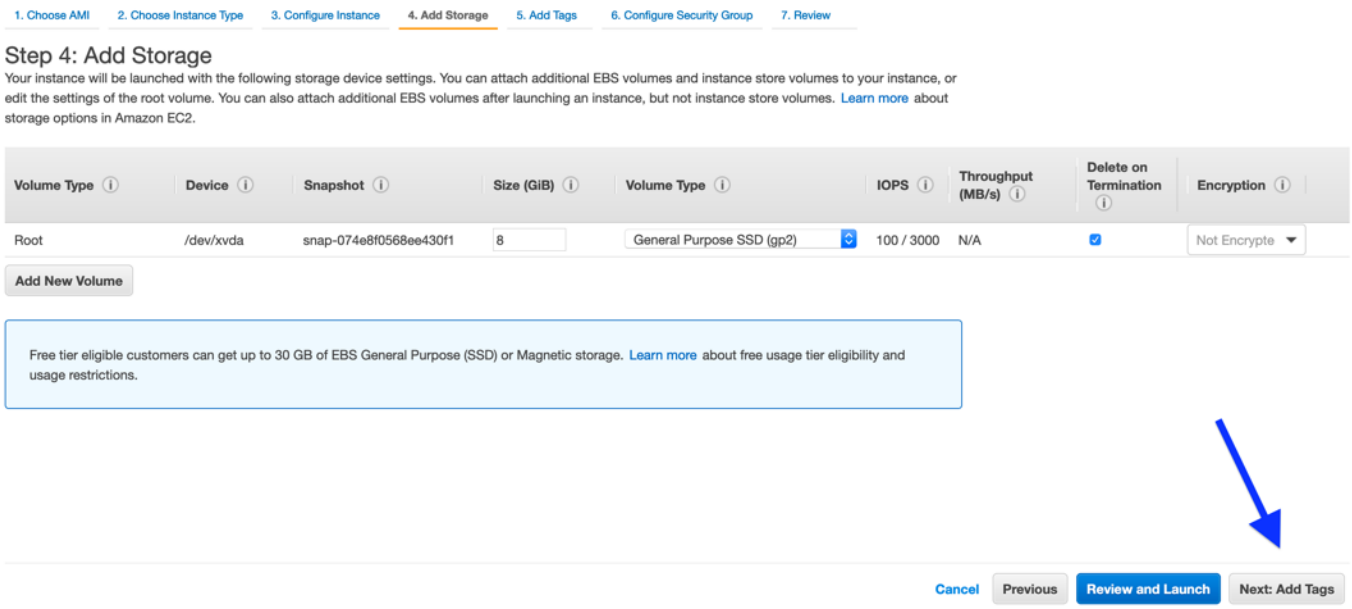
```
#include
https://s3.amazonaws.com/immersionday-labs/bootstrap.sh
```



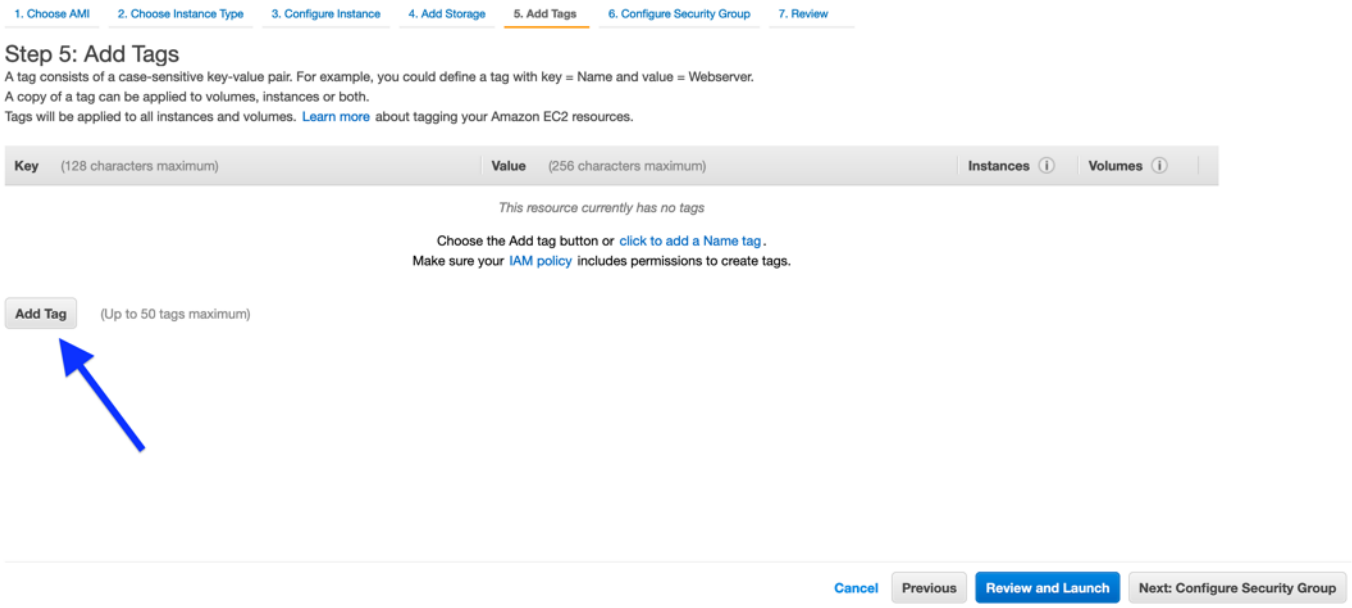


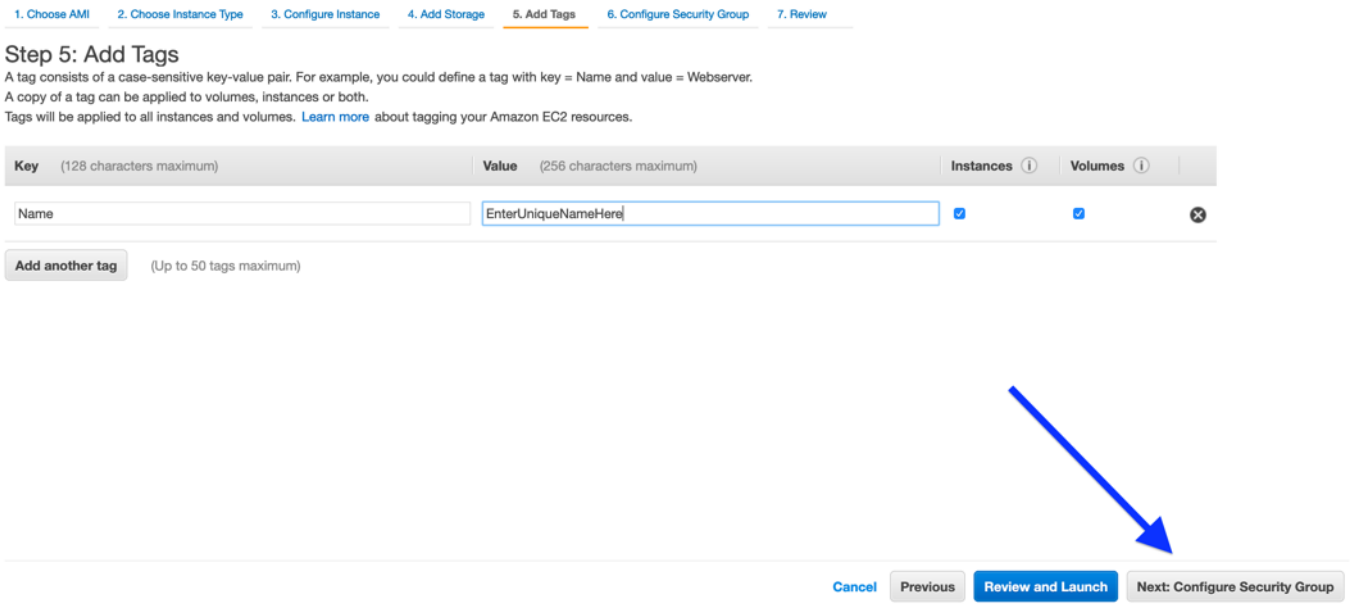
Click Add Storage.

12. On this page you have the ability to modify or add storage and disk drives to the instance. For this lab, we will simply accept the storage defaults and click **Next: Add Tags.**

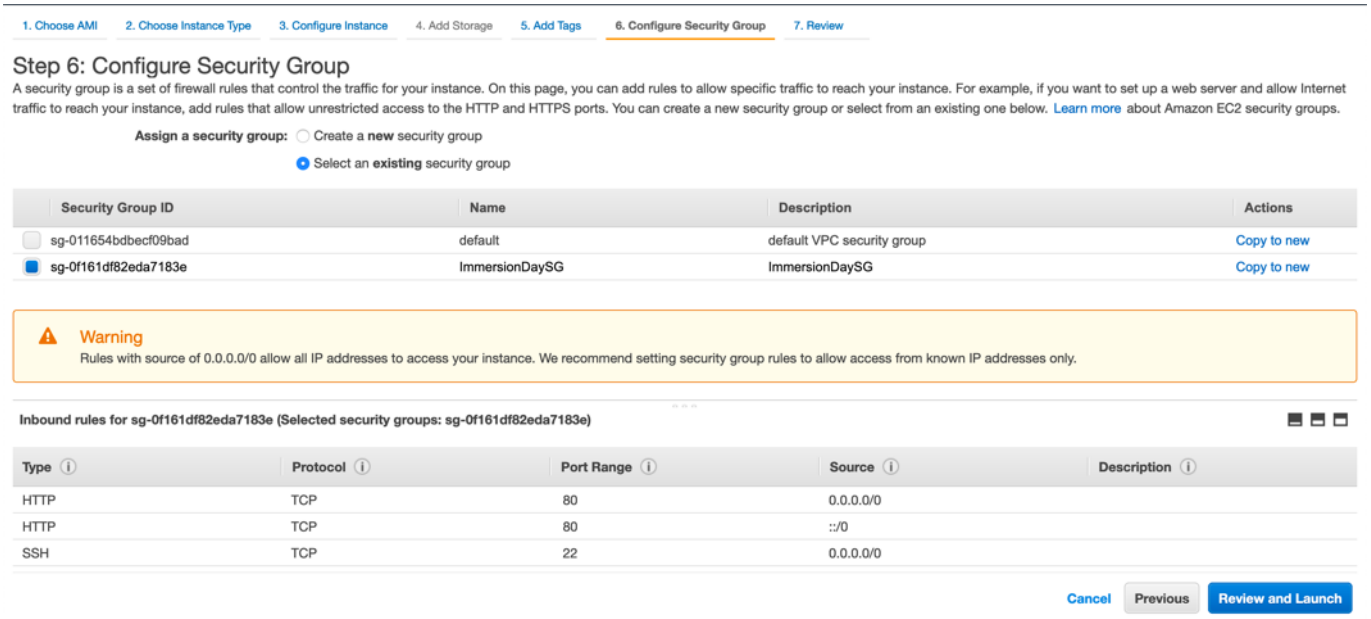


13. Here, you can choose a “friendly name” for your instance by clicking ‘Add Tag’, and entering “Name” for the Key part and “[Your Name] Web Server” for the Value part. This Name key, more correctly known as a **tag**, will appear in the console once the instance launches. It makes it easy to keep track of running machines in a complex environment. Click **Next: Configure Security Group**.





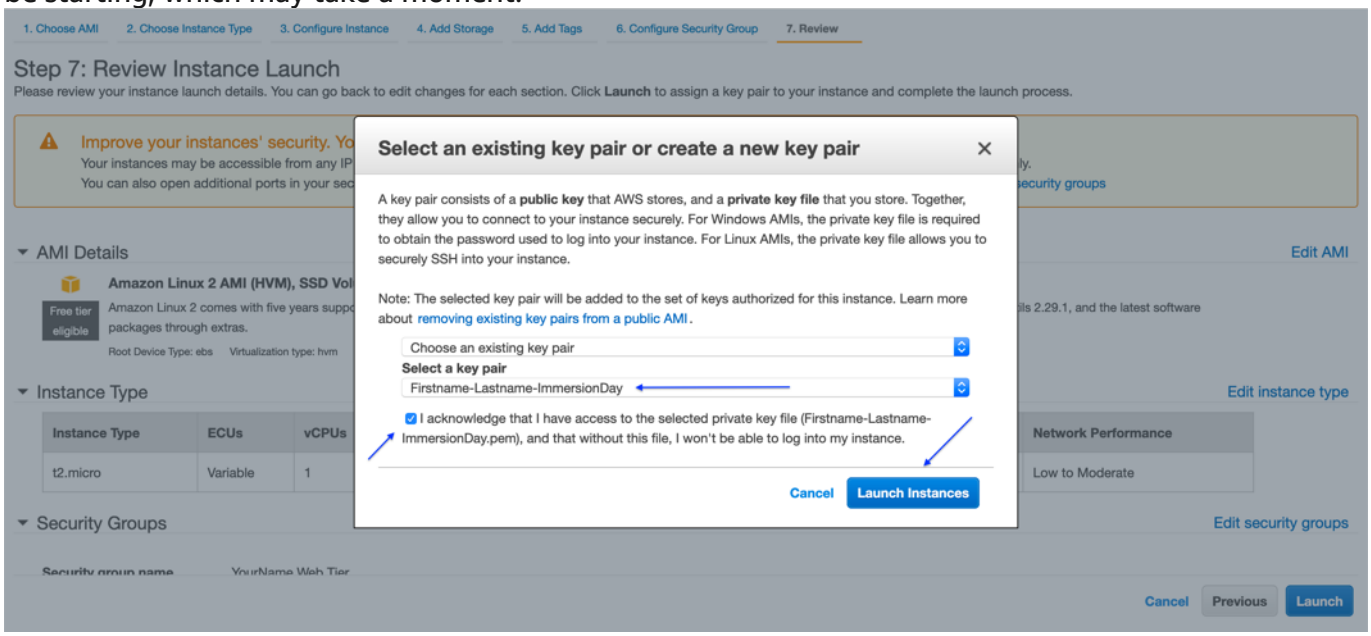
14. Select an existing security group and choose the one you created in the lab prework. Verify rules are as shown below and click Review and Launch.



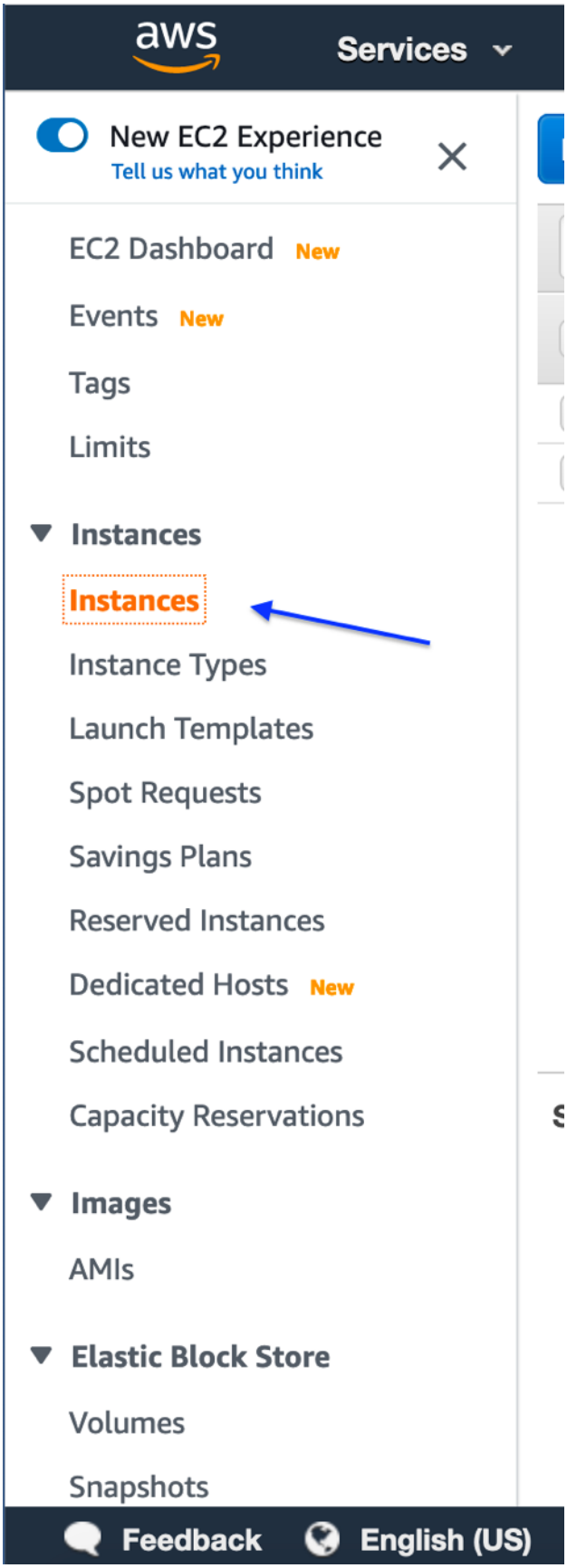
15. Click the **Review and Launch** button after configuring the security group.

16. Review your cofiguration and choices, and then click **Launch**.

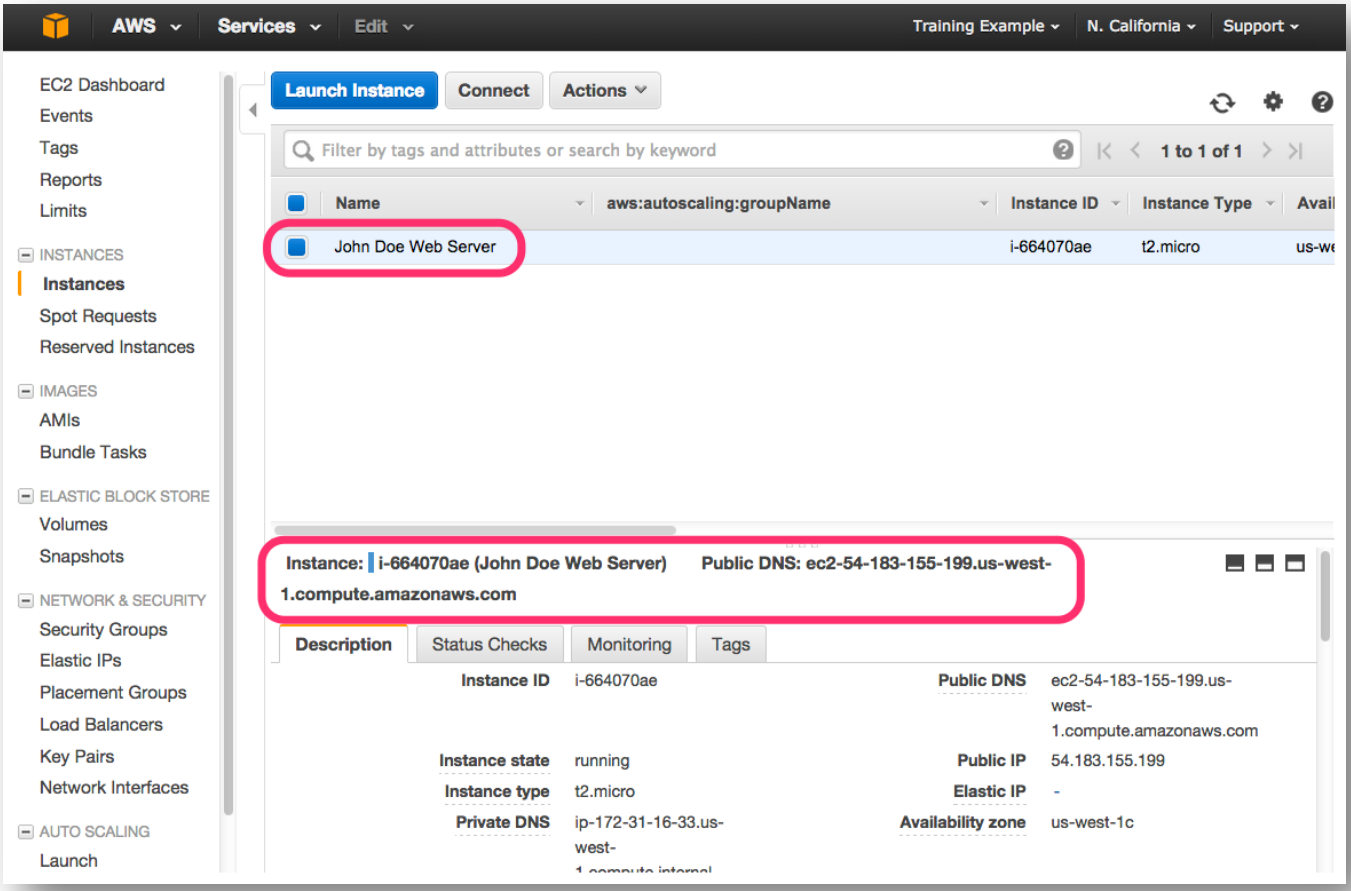
17. Select the key pair that you created in the beginning of this lab from the drop-down and check the "I acknowledge" checkbox. Then click the **Launch Instances** button. Your instance will now be starting, which may take a moment.



18. Click the **Instances** button in the left hand portion of the screen to view the list of EC2 instances. Once your instance has launched, you will see your Web Server as well as the Availability Zone the instance is in, and the publicly routable DNS name.

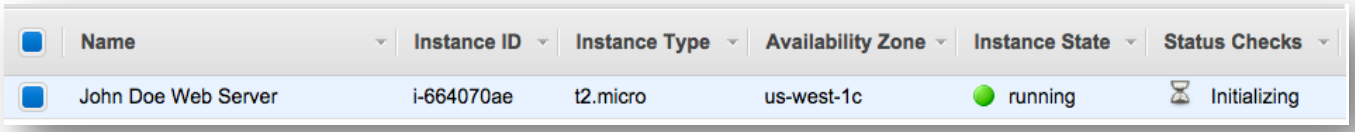


19. Click the checkbox next to your web server to view details about this EC2 instance.



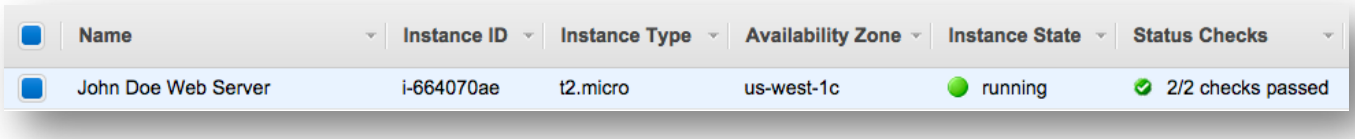
Browse the Web Server

1. Wait for the instance to pass the Status Checks to finish loading.



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks
John Doe Web Server	i-664070ae	t2.micro	us-west-1c	running	Initializing

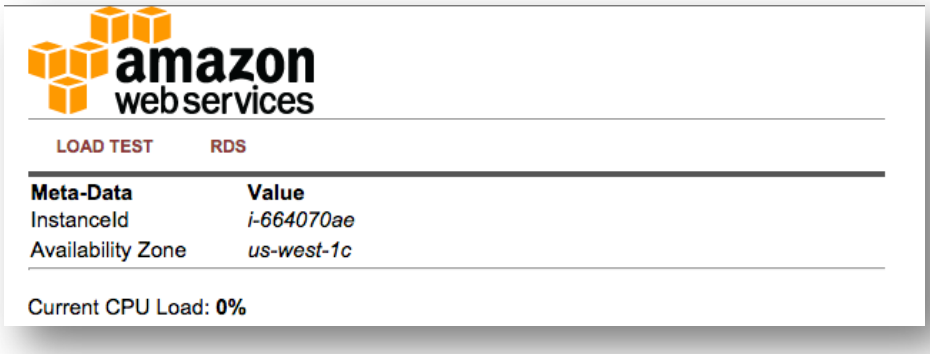
Finished initializing



Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks
John Doe Web Server	i-664070ae	t2.micro	us-west-1c	running	2/2 checks passed

Open a new browser tab and browse the Web Server by entering the EC2 instance's Public DNS name into the browser. The EC2 instance's Public DNS name can be found in the console by reviewing the "Public DNS" name line highlighted above.

You should see a website that looks like the following:



If you don't see the web page (and you've waited a sufficient time for the instance to boot), try rebooting the instance via the console. Can you find it??

Great Job! You have deployed a server and launched a web site in a matter of minutes!!