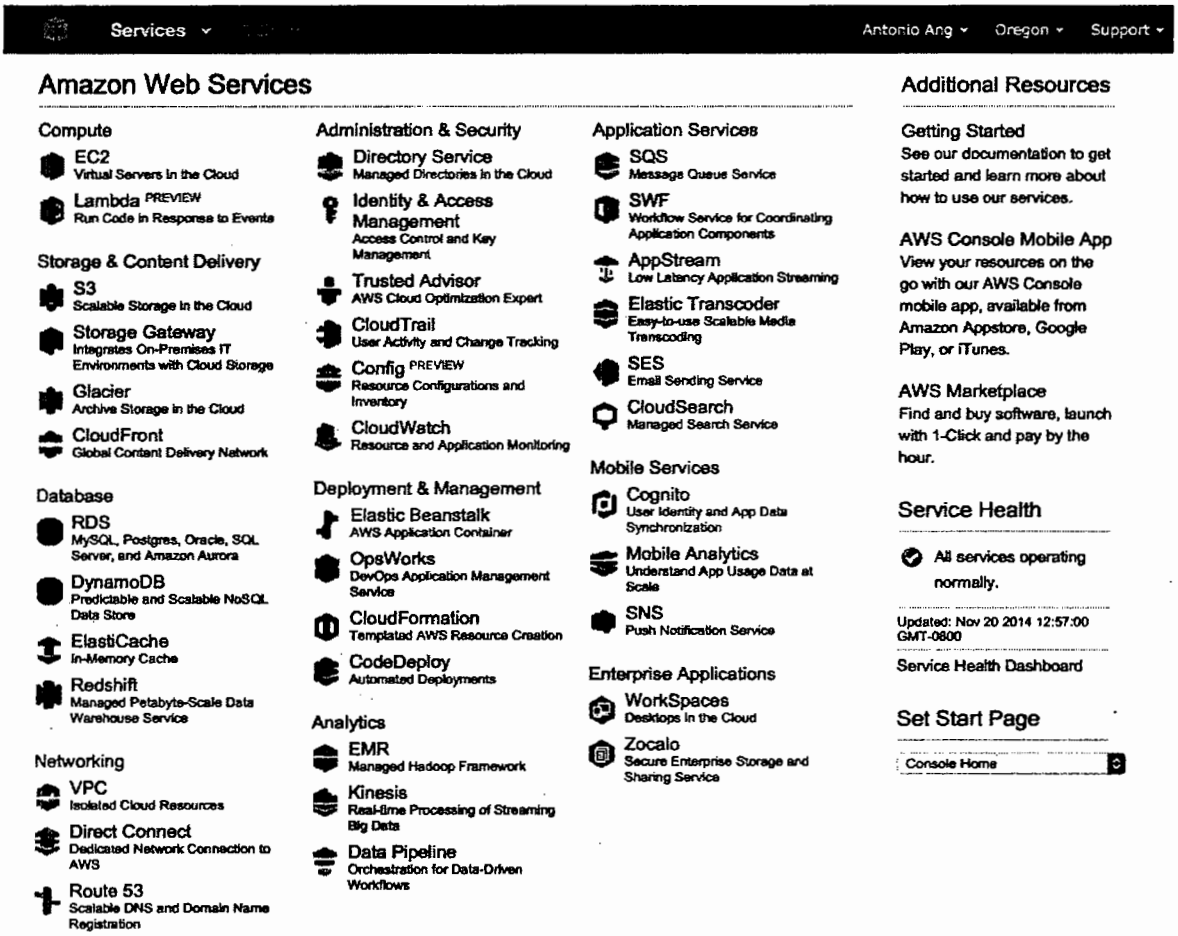
Lab 6

CREATE AN EBS-BACKED LINUX AMI

STEP 1: Log In to the Amazon Web Service Console

This laboratory experience is about Amazon Web Services and you will use the AWS Management Console in order to complete all the lab steps.



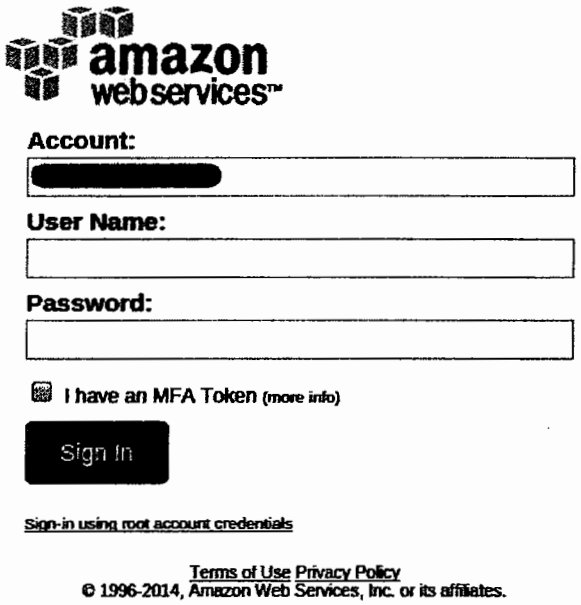
The AWS Management Console is a web control panel for managing all your AWS resources, from EC2 instances to SNS topics. The console enables cloud management for all aspects of the AWS account, including managing security credentials, or even setting up new IAM Users.

Log in to the AWS Management Console

In order to start the laboratory experience, open the Amazon Console by clicking this button:

Open AWS Console

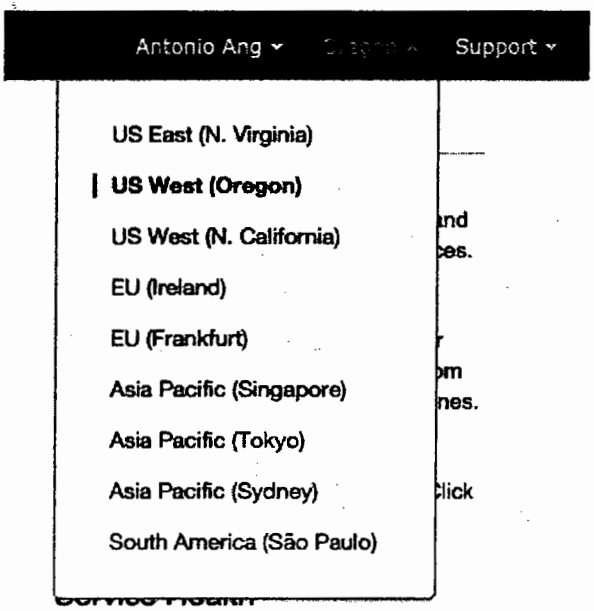
Log in with the username **xxxx** and the password **xxxx** .



Select the right AWS Region

Amazon Web Services is available in different regions all over the world, and the console lets you provision resources across multiple regions. You usually choose a region that best suits your business needs to optimize your customer's experience, but you must use the region **US West (Oregon)** for this laboratory.

You can select the **US West (Oregon)** region using the upper right dropdown menu on the AWS Console page.



STEP 2: Create a basic webserver instance

Creating a simple EC2 instance for serving static files/pages is easy thanks to the available AMIs.

AMI stands for Amazon Machine Image, and it is a special type of virtual appliance that is used to create virtual machines within the Amazon Elastic Compute Cloud (EC2). It serves as the basic unit of deployment for services delivered using EC2.

You can use the **Amazon Linux AMI** because is a supported and maintained Linux image (similar to Red Hat) provided by Amazon Web Services; Ubuntu Server; CentOS; or any other free Linux AMI available during the AMI selection of the EC2 Launch wizard.

Please create the EC2 instance using your preferred Linux distribution. Log in to SSH using your keypair and install nginx webserver.

If you are using Amazon Linux AMI or any other Red Hat-like distribution, use the following command to install nginX webserver:

```
sudo yum install nginx
sudo service nginx start
```

If you are using Debian, Ubuntu, or any other Debian-like distro, use the following instead:

```
sudo apt-get install nginx
sudo service nginx start
```

N.B.: If you do not know how to create an EC2 instance or connect to it with SSH, you should abort this laboratory and start the Create your first Amazon EC2 Instance on Linux laboratory instead.

STEP 3: Create an AMI starting from an EBS-backed instance

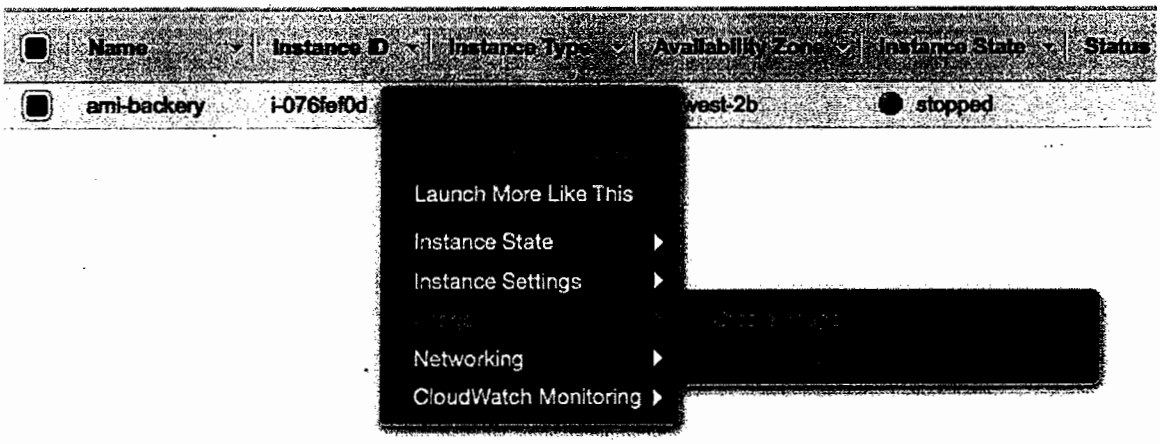
An AMI contains all of the information necessary to boot an Amazon EC2 instance with your software. An AMI is like a virtual machine template and it might contain custom software, standard system packages, or any other file added by the AMI author. Creating your own AMI is a crucial operation if you have to build a clustered infrastructure that uses the EC2 Auto-scaling Group feature.

AWS Auto Scaling needs self-configurable instances in order to automatically scale up or down your cluster according to the specified policies. Your AMI becomes the basic unit of deployment. It enables you to rapidly boot new custom instances as you need them.

All AMIs are categorized as either backed by Amazon EBS or backed by instance store. The former means that the root device for an instance launched from the AMI is an Amazon EBS volume created from an Amazon EBS snapshot. The latter means that the root device for an instance launched from the AMI is an instance store volume created from a template stored in Amazon S3. You can implement Amazon EBS backed AMIs by creating a set of snapshots and registering an AMI that uses those snapshots. The AMI publisher controls the default size of the root device through the size of the snapshot.

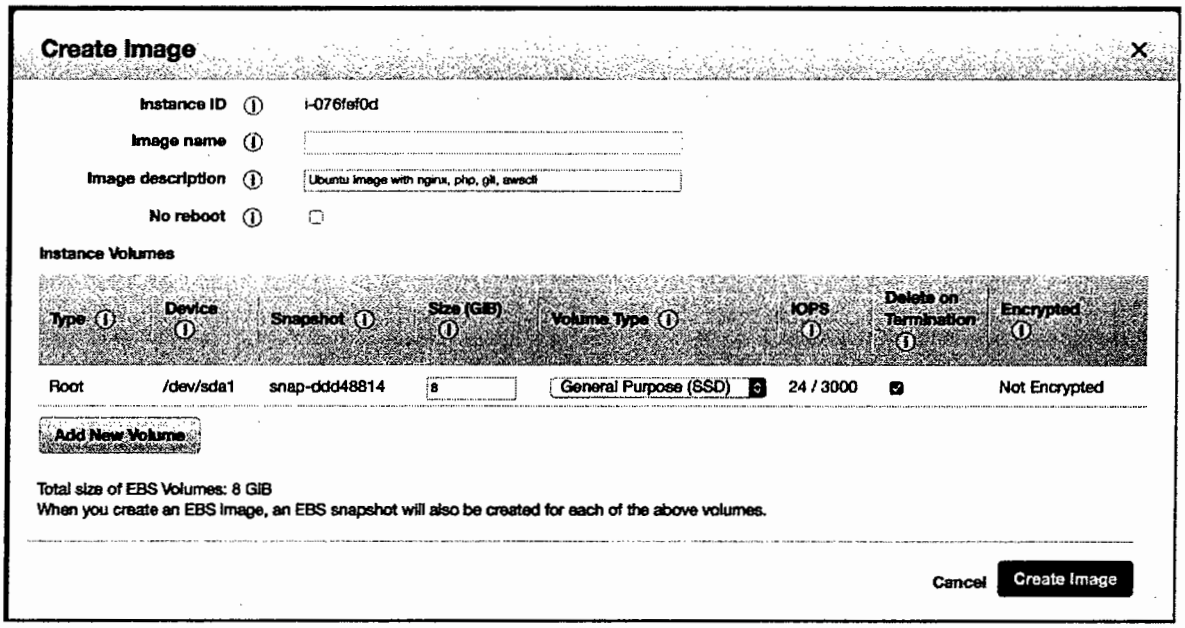
Creating an AMI from an EBS-backed instance is an easy and automated task.

- ✓ Go to the Instances section of the EC2 Console
- ✓ Locate the previously created instance, select it and then right-click it.
- ✓ Select Image submenu and click on Create Image.

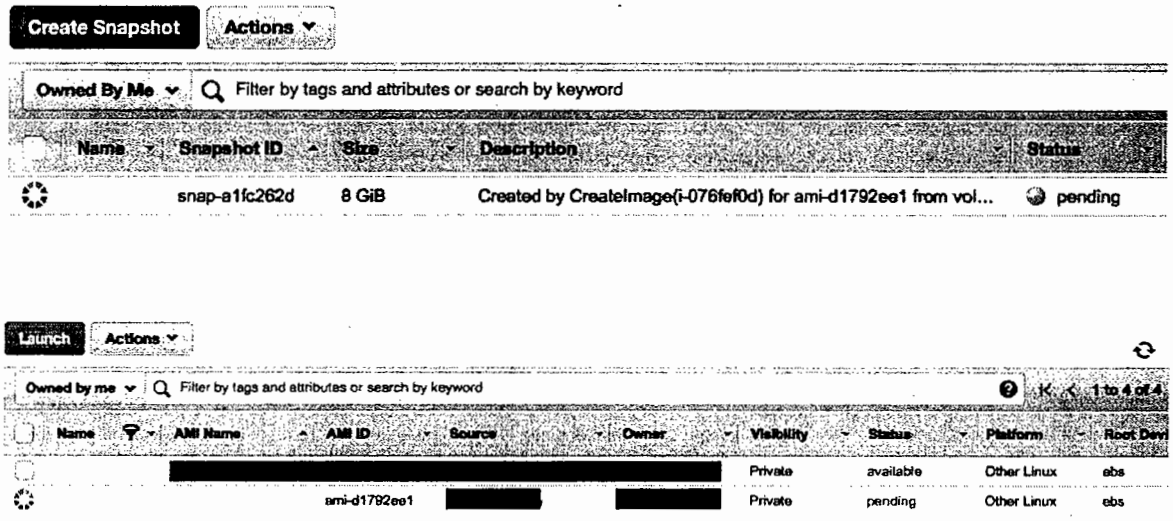


Enter the Image name and description, and check the Instance Volumes configuration. You can choose to add more volumes of different types and sizes.

When you have finished, click on the blue **Create Image** button.



The AMI creation takes several minutes to process because AWS must create an EBS snapshot and then register the newly created AMI. You can check the status by going to the Snapshot section and then to the AMI section.



When the AMI status switches from pending to available, you are able to create new EC2 instances by using it.

STEP 4: Make an AMI public

After the creation of an AMI, you are the only one able to use it during the EC2 launching process. If you want to allow the deployment of new EC2 instances starting from your AMI, you must edit the Image permissions.

Select your AMI, click on the **Permissions** Tab and then on the Edit button.

You can choose to make it publicly available or to allow its usage only to a restricted set of AWS accounts.