

1. Log in at <http://aws.amazon.com/> .

Redeem your code at <http://aws.amazon.com/awscredits/> for \$100 credit.

Note that you'll be asked to fill in your credit card information when creating the account.

2. Go to "AWS management console" under "My Account/Console". Go to "EC2" Dashboard.

On the top right corner you can select the warehouse. You *must* select "Oregon" otherwise you can't see the snapshot shared with you.

3. Before we go launch an instance, please read the following documents and learn about different types of EC2 instances.

- EC2 instances: <http://aws.amazon.com/ec2/instance-types/>

- EC2 pricing: <http://aws.amazon.com/ec2/pricing/>

In the assignment 1, we won't need instances more powerful than the micro t1. But in the project, you will probably need to launch Medium or even Large instances for experiments. Please stop the instances if they are being used.

**Note: Terminating an instance deletes all data on the local (ephemeral) instance storage. So stop, NOT terminate, the instance if you want to keep the instance storage.**

4.1 Click "Launch Instance"-> "Classic Wizard"-> "Amazon Linux AMI". You could use other machine image, e.g. Ubuntu. We use Amazon Linux for example. In the following steps, default values are used unless explicitly mentioned.

4.2 Select the Instance Type: e.g. T1 Micro. Now you have two options: Normal launch and Spot Instances. (If you just created your AWS account, chances are that you're an eligible free-tier user. T1 Micro should be free for you. A normal launch of t1-micro should work just fine. )

a) Normal launch costs you a flat rate. The good thing is that it allows you to keep the instance. In other words, you can stop it when not using it and reboot it whenever you want.

b) Here is how Spot Instances work. Instead of a flat rate, the spot instances' price fluctuates from time to time. Amazon allows you to specify a number which is the maximum amount you're willing to pay. When the current price is lower than your specified amount, you get the instance and only need to pay for the current price. Once the current price exceeds your max price, your instance will be stopped. The catch is that you set the max price to the flat rate, in most cases you get an instance and will be charged less than or in the worst case equal to the cost when you launch instances at the flat rate. (Note that it's rare, but it did happen, that the spot instance rate exceeds the flat rate. In the cases when you don't want your experiments to be interrupted, launch an instance at the flat rate.) Here we put max price to \$0.02 (the flat rate of t1 micro).

Availability Zone can be arbitrary. Note that spot instances can only be TERMINATED. So back up your data after use.

4.3 Continue to "create key pair". If this is your first time using EC2, you need to create a key pair file which later will be as credentials for ssh connections.

4.4 Continue to the end and submit.

5. Go to the “Instances” tab. Wait for a while until the request is fulfilled and you will see an instance showing up with the state “running”.

6. SSH to your instance. Select the instance and right click. You will see “Connect” on the top. We will connect to the instance using a standalone SSH client.

a) Open your SSH client (terminal for Unix; putty for windows in which case read [this](#) for more details).

b) Make the key-pair file generated earlier readable only to yourself. E.g. “chmod 400 key.pem”

c) Run this

```
ssh -i <path-to-the-key-file> ec2-user@<url-of-your-instance>
```

Now you can access the instance. What’s left is attaching the data volume to the instance.

7. Attach the data volume.

Go to the “snapshots” tab. I shared a data snapshot with all of you, called “cse454-assignment1” with the snapshot id “snap-1dba7924”. Change “viewing” to “all snapshots” and you will see it. Right click it and “Create Volume from Snapshot”. Select “Standard” Volume Type. For the availability zone, it MUST be the same as the one for your running instance.

Go to the “volume” tab. Wait until a new volume is created. Right click the volume and “Attach Volume”. Select your instance. Remember the device name (e.g. /dev/sdf).

8. Mount the volume on your linux instance.

Go back to the SSH client.

a) Create a folder. e.g. “sudo mkdir /kbp”

b) Mount the volume to that folder. e.g. “sudo mount /dev/sdf/ /kbp”. Now you can see the shared data.

c) suggested practice: you create an additional volume to store your own results. It’s likely we will update the data snapshot during course.

9. Data transfer to the EC2 instances.

You can use “scp” to transfer files. e.g.

a) Copy your local file to the EC2 instance

```
scp -i <the-key-file> <local-file> ec2-user@<instance-url>:<remote-path>
```

b) Copy from the EC2 instance (It might cost you money. See the Data Transfer Section at <http://aws.amazon.com/ec2/pricing/> for more details).

```
scp -i <the-key-file> ec2-user@<instance-url>:<remote-path> <local-file>
```

10. You’re done! Play with data and enjoy! Some meta-comments:

- Set up a source control repository for the team, e.g. svn or git (Github allows student users to have a couple of private projects for free.) It will make the collaboration more efficient.

- If you found anything worth sharing, post it on the forum and your fellow classmates will appreciate it.