**AWS** (**Amazon Web Services**) is a comprehensive, evolving cloud computing platform provided by Amazon that includes a mixture of infrastructure as a service (IaaS), platform as a service (PaaS) and packaged software as a service (SaaS) offering.

One of the most important is the AWS EC2 (Elastic Compute) service. This provides the actual ***compute*** for your cloud applications and as any cloud service should be, scalable (hence the name elastic!). EC2 is a service that provides resizable compute capacity in the cloud. It is designed to make web-scale cloud computing easier for developers. In simpler words EC2 is none other than a virtual machine.

Understanding AWS EC2 - 4-minute video explaining AWS EC2

Every EC2 instance has the following properties/options/attributes that need to compulsorily be configured:

* Amazon Machine Image (AMI)
* Instance Type (The Instance Type usually depends on the use of the VM)
* Specific Instance Details such as network, subnets, start-up scripts etc.
* Security Groups - These are essentially the firewalls to your instance; they control the access to your instance.

The following steps will help you in setting up a EC2 instance. Make sure you have your AWS Educate credentials ready, you would have received a mail from AWS Educate to register and sign up and then change your password.

1. Login to AWS Educate. Go to AWS Management Console page. Under ‘Services’ tab, click on EC2.
2. You’ll reach the EC2 console page. Click Launch Instance.
3. Here you’ll be presented with a list of Amazon Machine Images (AMI). They’re essentially the virtual OSes that will run your server. We recommend you pick Ubuntu as you’re likely to be familiar with its command line tools and package manager.
4. Now you’ll be presented with a list of Instance Types. Each one has different machine specs like number of vCPUs, size of memory, storage volume type, etc. Pick one that is appropriate to your needs. For this a t2.micro(free tier eligible) is good enough. You can leave the default settings in the Configure Instance, Add Storage, and Add Tags pages, or configure it according to your needs.
5. On the Configure Security Group page, make sure you allow traffic on SSH and HTTP. Make sure to also install an SSH client on your local machine. This is a critical step whenever setting up an EC2 instance as this defines the access to your instance from the internet!
6. Create a cryptographic key pair and download the private key to your system. Then launch the instance. You may need to change the permissions of the PEM key.
   1. [PEM Key Permissions](https://stackoverflow.com/questions/8193768/trying-to-ssh-into-an-amazon-ec2-instance-permission-error)
7. Change the instance name to your SRN
8. Find the public DNS for your instance. Use that and the private key to SSH into your instance. You’ll need to figure out what the default username of your VM is, and how to point your SSH client to the private key.

[SSH into AWS instances](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/AccessingInstancesLinux.html)

[General prerequisites for connecting to your instance](https://docs.aws.amazon.com/AWSEC2/latest/UserGuide/connection-prereqs.html)

1. To delete an instance, select the instance, choose *Instance State* and in the dropdown select *Terminate Instance*.

Note: AWS Educate probably does not allow you to create all kinds of instances. Make sure it's EC2. And ensure your Region is "US-East"(Northern Virginia). AWS Educate does not work for any other region.

**Your task is to create an EC2 instance with the following configurations/settings:**

|  |  |
| --- | --- |
| **AMI** | Ubuntu Server 20.04 LTS (HVM), SSD Volume Type |
| **Instance Type** | t2.micro |
| **Instance Details** | Default values (But try to understand what the different options are) |
| **Storage** | Default values |

You may get a warning saying “Improve your instances' security. Your security group, launch-wizard-1, is open to the world”, you can ignore this for now.