

Project 2: Launching an EC2 Instance

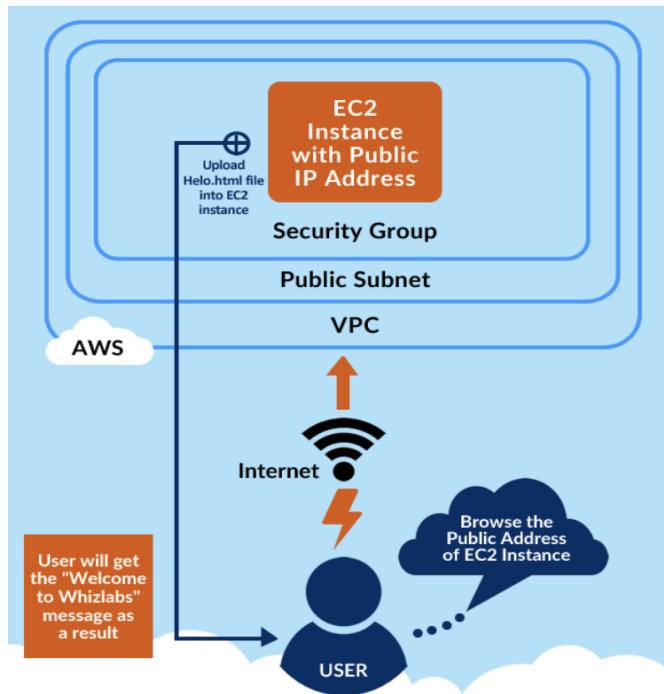
What is Amazon EC2?

- Amazon EC2 is a web service that provides secure, resizable compute capacity in the cloud. It is designed to make scaling web applications on the cloud much easier for developers.

Objective of this Project:

- We'll be launching an EC2 instance where we walk you through the steps to launch and configure a virtual machine in AWS. We will then log into our EC2 instance using SSH on the Terminal.

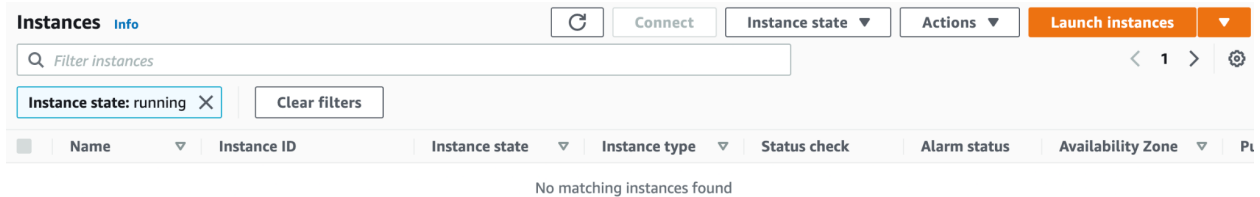
Architecture Diagram



When we start with launching, we make sure we are in the intended Region and then we click on EC2 under services.

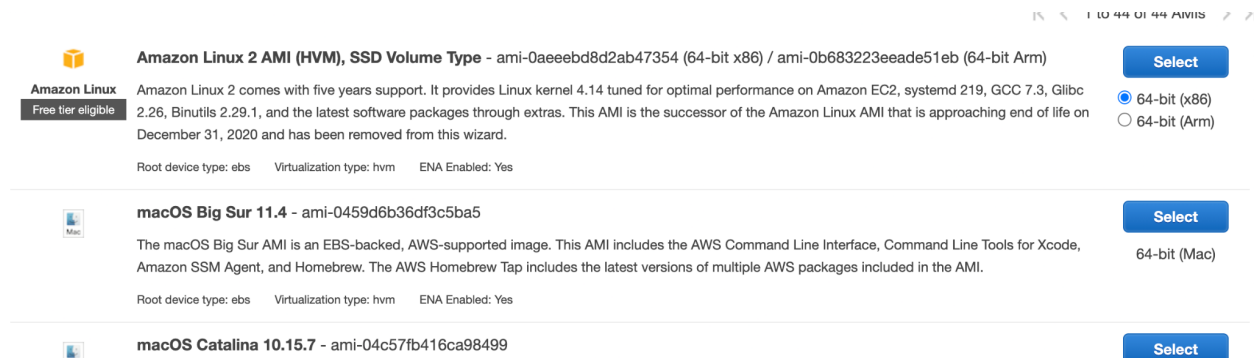
Step 1: Go to Instances

- When we're on the EC2 section, we click on Instances. On this section, we select Launch Instances



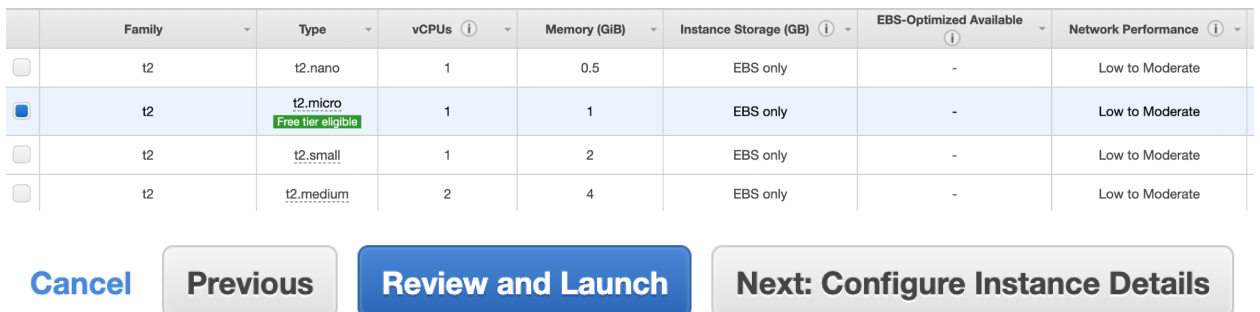
Step 2: Choose An Amazon Machine Image (AMI)

- Depending on the scale of the application, you can choose which AMI would work for you. We select the Amazon Linux 2 AMI due to it providing five years of support for instance and run on Linux.



Step 3: Choose an Instance Type

- We decide to select the t2.micro due to it being free tier eligible. After choosing the instance type, we then Configure Instance Details



Step 4: Configure the Instance Details

We configure the Instance details that suit the requirements that we want. We can launch multiple instances from the same AMI and request spot instance if we were to reduce the pricing.

Instance to suit your requirements. You can launch multiple instances from the same AMI, request spot instances to take advantage of the lower pricing, assign

Number of instances ⓘ

1

Launch into Auto Scaling Group ⓘ

Purchasing option ⓘ

☐ Request Spot instances

Network ⓘ

vpc-7795210d | Default VPC (default) ▾

↻ Create new VPC

Subnet ⓘ

No preference (default subnet in any Availability Zone) ▾

Create new subnet

Auto-assign Public IP ⓘ

Use subnet setting (Enable) ▾

Placement group ⓘ

☐ Add instance to placement group

Capacity Reservation ⓘ

Open ▾

Domain join directory ⓘ

No directory

↻ Create new directory

IAM role ⓘ

None ▾

↻ Create new IAM role

⚠ You do not have permissions to list instance profiles. Contact your administrator, or check your IAM permissions.

Cancel

Previous

Review and Launch

Next: Add Storage

Step 5: Add Storage

We leave the storage settings as default for now. But, we can always add additional EBS volumes and instances or edit the settings of the root volume.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encryption
Root	/dev/xvda	snap-02d2a0614e5ce0ce4	8	General Purpose SSD (gp2) ▾	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
Add New Volume								

Cancel

Previous

Review and Launch

Next: Add Tags

Step 6: Add Tags

We then create a case-sensitive key-value pair. To help manage instances, images, and other Amazon EC2 resources, you can assign your own metadata to each resource in the form of tags.

Name ☒ ☒ ☒ ☒

(Up to 50 tags maximum)

Step 7: Configure Security Group

When we configure our security group, we have our security group name and description for it. We then add in the various network protocols that we need in order for our application to be accessible.

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	Custom <input type="text" value="CIDR, IP or Security Group"/>	<input type="text" value="e.g. SSH for Admin Desktop"/>
HTTP	TCP	80	Custom <input type="text" value="0.0.0.0/0, ::0"/>	<input type="text" value="e.g. SSH for Admin Desktop"/>
HTTPS	TCP	443	Custom <input type="text" value="0.0.0.0/0, ::0"/>	<input type="text" value="e.g. SSH for Admin Desktop"/>

Step 8: Review Instance Launch and Create A Key Pair

We make sure the instances we are launching have all the elements that we need from security groups, to tags, to storage, etc.

Before we launch, we create a key pair. This can enable us to log into our instance from the CLI.

Create a new key pair ▼

Key pair name

youareawesome

Download Key Pair



You have to download the **private key file** (*.pem file) before you can continue. **Store it in a secure and accessible location.** You will not be able to download the file again after it's created.

Cancel

Launch Instances

Instances Launched



MyEC2Server

i-08db61ed0a6ef21ec

✓ Running



t2.micro

Step 9: Log into Instance from CLI

- With the use of our key pair, we log into the EC2 instance from the Command Line Interface. It shows that we can make changes, add new services to our application without having to log in to the Management Console.

```
(base) STs-MacBook-Pro:Downloads sttangirala$ chmod 400 youareawesome.pem
(base) STs-MacBook-Pro:Downloads sttangirala$ ssh -i youareawesome.pem ec2-user@
54.146.93.182
The authenticity of host '54.146.93.182 (54.146.93.182)' can't be established.
ECDSA key fingerprint is SHA256:CgjdDG8kR6Vm6oMewJ9MA/H+UADbYDNFhCrtDNQI2PI.
Are you sure you want to continue connecting (yes/no/[fingerprint])? yes
Warning: Permanently added '54.146.93.182' (ECDSA) to the list of known hosts.
```

```
__|  __|_ )
_| ( /   Amazon Linux 2 AMI
---| \___|___|
```

```
https://aws.amazon.com/amazon-linux-2/
[ec2-user@in-172-31-70-222 ~]$ █
```