



Launching an EC2 Instance

Launch the EC2 instance on AWS and access Amazon's EC2 server from your local machine using Windows or Linux/Mac OS. Here's the link to AWS EC2:

1. To access the AWS platform, make sure that you have the login credentials.
Click to Jump to console tab.

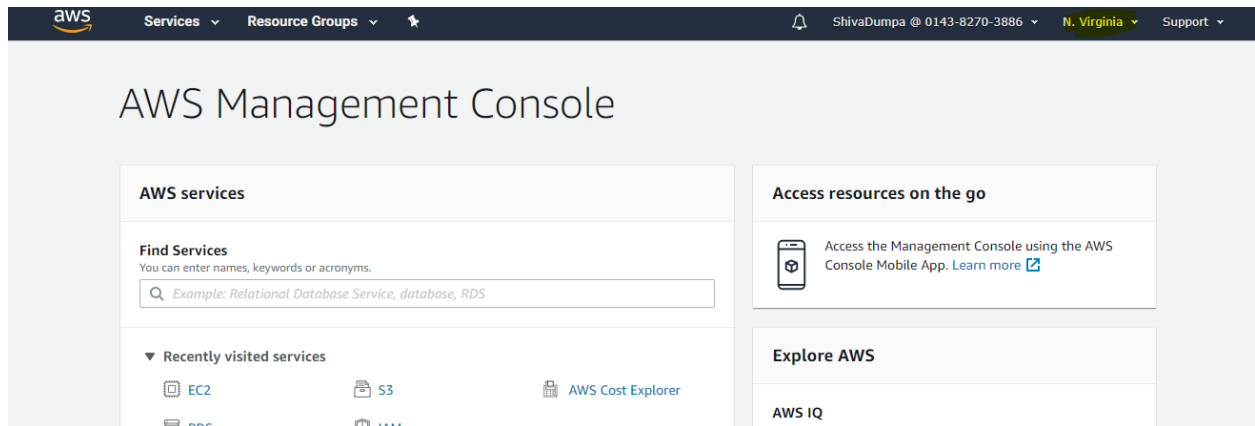
The screenshot displays the AWS Lab Control Panel interface. At the top, there's a navigation bar with tabs for Usage, Events, Feedback, and Cost explorer. The main content area is divided into two sections. On the left, under 'Lab Control Panel', it shows the 'Amazon Web Services Account for Upgrad' with a 'Stop' button. Below this, the 'Latest Status' is 'ResourceStop - Complete'. A table titled 'Access Details' provides login information:

Access Details	
loginId	ShivaDumpa
loginpassword	#97b1#97G36# Copy
isReadyToUse	true
userName	ShivaDumpa
registeredMailId	upgraduser755@nuvelabs.com
userId	10060

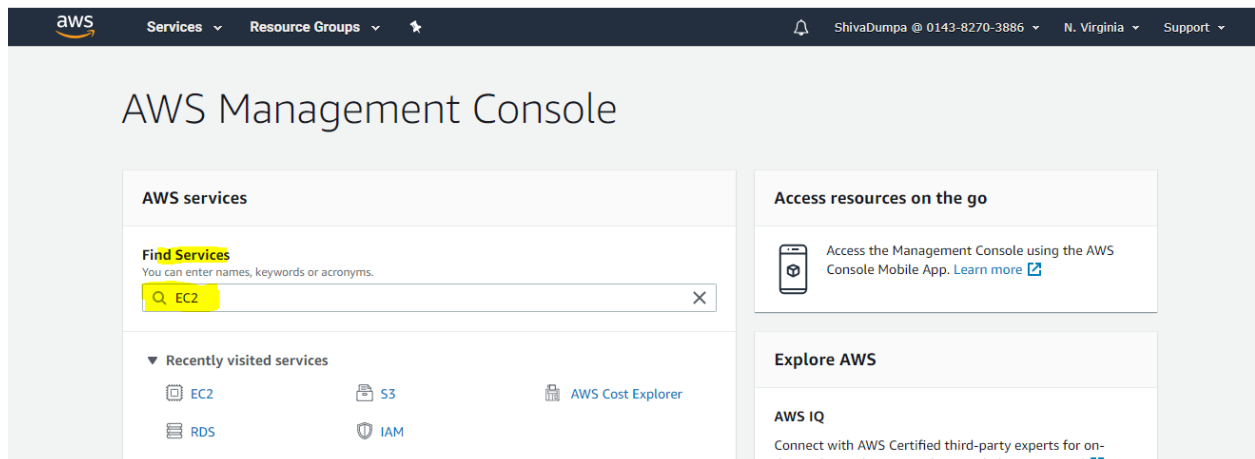
On the right side of the panel, there is a prominent 'Jump to Console' button with a right-pointing arrow icon. Below this, a 'More Details' section is expanded, showing links for Actions, Policies, Instructions, and Other Details.



2. After signing in, select region **N.Virginia**. from the drop-down menu at the top-right corner.

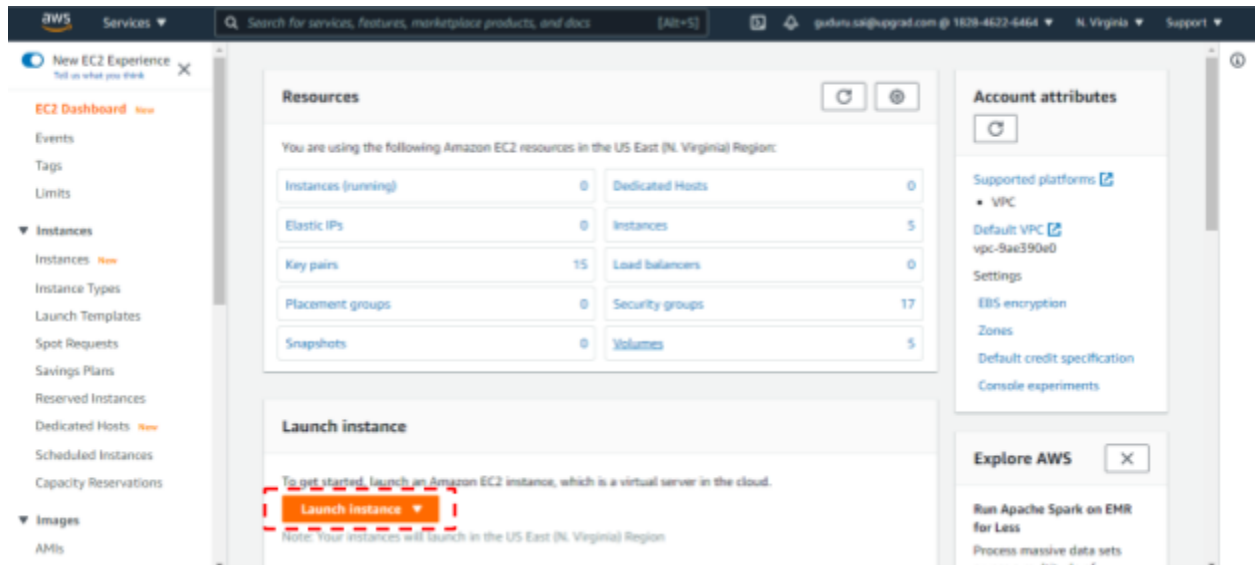


3. Click on **EC2** that is shown below the 'Services' under 'Find services'.



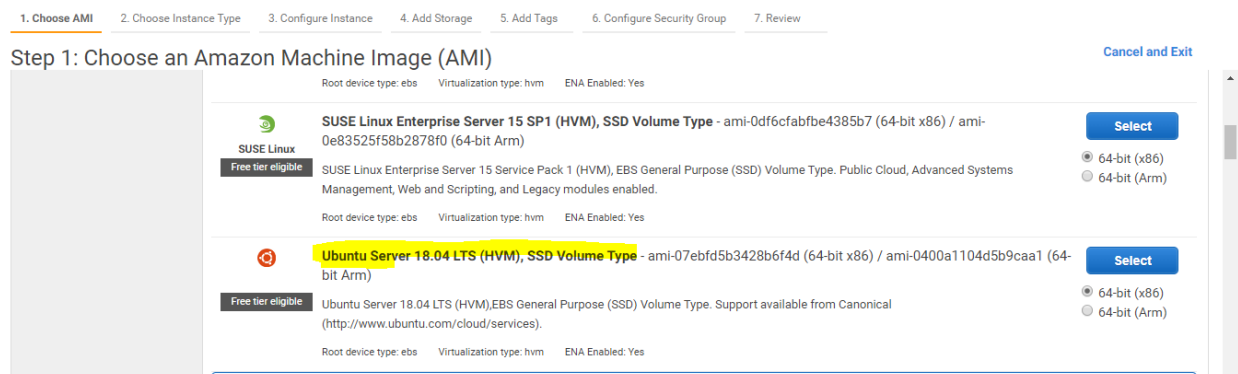


4. Then, click on 'Launch Instance' as shown below.



5. In the 'Step 1: Choose an Amazon Machine Image' page, select the OS (operating system) you want to install in the instance. In this module, we are selecting "Ubuntu Server 18.04 LTS (HVM), SSD Volume Type" and clicking on Select.

(Note, in future modules, you will be working with Amazon Linux.)





6. Next, select the type of machine or the configuration that you need. We recommend you to select a machine with **1 core (CPUs)** and **1 GB memory** – t2.micro.

aws Services Resource Groups

Avdesh Kumar Upgrad N. Virginia Support

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 2: Choose an Instance Type

Amazon EC2 provides a wide selection of instance types optimized to fit different use cases. Instances are virtual servers that can run applications. They have varying combinations of CPU, memory, storage, and networking capacity, and give you the flexibility to choose the appropriate mix of resources for your applications. [Learn more](#) about instance types and how they can meet your computing needs.

Filter by: All instance types Current generation Show/Hide Columns

Currently selected: t2.micro (Variable ECUs, 1 vCPUs, 2.5 GHz, Intel Xeon Family, 1 GiB memory, EBS only)

	Family	Type	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance	IPv6 Support
<input type="checkbox"/>	General purpose	t2.nano	1	0.5	EBS only	-	Low to Moderate	Yes
<input checked="" type="checkbox"/>	General purpose	t2.micro Free tier eligible	1	1	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.small	1	2	EBS only	-	Low to Moderate	Yes
<input type="checkbox"/>	General purpose	t2.medium	2	4	EBS only	-	Low to Moderate	Yes

Cancel Previous **Review and Launch** Next: Configure Instance Details

7. Click on 'Next: Configure Instance Details'.
 - a. Set the 'Number of instances' to 1.
 - b. 'Network' to your VPC name.-default
 - c. Auto-assign Public IP- Enable

Keep all other settings unchanged.

Step 3: Configure Instance Details

Configure the 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 an instance, and more.

Number of instances [Launch into Auto Scaling Group](#)

Purchasing option ☐ Request Spot instances

Network [Create new VPC](#)

Subnet [Create new subnet](#)

Auto-assign Public IP

Placement group ☐ Add instance to placement group

Capacity Reservation [Create new Capacity Reservation](#)



8. Now, click on 'Next: Add Storage'.

Step 4: Add Storage

Your instance will be launched with the following storage device settings. You can attach additional EBS volumes and instance store volumes to your instance, or edit the settings of the root volume. You can also attach additional EBS volumes after launching an instance, but not instance store volumes. [Learn more](#) about storage options in Amazon EC2.

Volume Type ⓘ	Device ⓘ	Snapshot ⓘ	Size (GiB) ⓘ	Volume Type ⓘ	IOPS ⓘ	Throughput (MB/s) ⓘ	Delete on Termination ⓘ	Encryption ⓘ
Root	/dev/sda1	snap-06d5ff6578c781b6a	8	General Purpose SSD (gp2)	100 / 3000	N/A	<input checked="" type="checkbox"/>	Not Encrypted
<button>Add New Volume</button>								

9. Click on 'Next: Add Tags'. Then Click on 'click to add a Name tag' as shown in the image below.

Step 5: Add Tags

A tag consists of a case-sensitive key-value pair. For example, you could define a tag with key = Name and value = Webserver. A copy of a tag can be applied to volumes, instances or both. Tags will be applied to all instances and volumes. [Learn more](#) about tagging your Amazon EC2 resources.

Key (128 characters maximum)	Value (256 characters maximum)	Instances ⓘ	Volumes ⓘ
This resource currently has no tags			
Choose the Add tag button or click to add a Name tag . Make sure your IAM policy includes permissions to create tags.			
<button>Add Tag</button> (Up to 50 tags maximum)			

- Give a name in the cell under 'Value'. In our case, we have named the instance as 'Ubuntu'.

Step 5: Add Tags

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Key (128 characters maximum)	Value (256 characters maximum)	Instances ⓘ	Volumes ⓘ
Name	Ubuntu	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<button>Add another tag</button> (Up to 50 tags maximum)			



10. Click on 'Next: Configure Security Group'.

Select the option 'Create a new security group' and name it as 'ml-sec'. You should select the source as My IP for best practice. It automatically puts your system IP address in the section.

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 6: Configure Security Group

A security group is a set of firewall rules that control the traffic for your instance. On this page, you can add rules to allow specific traffic to reach your instance. For example, if you want to set up a web server and allow Internet traffic to reach your instance, add rules that allow unrestricted access to the HTTP and HTTPS ports. You can create a new security group or select from an existing one below. [Learn more](#) about Amazon EC2 security groups.

Assign a security group: ☒ Create a new security group ☐ Select an existing security group

Security group name:

Description:

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	My IP 103.211.15.40/32	e.g. SSH for Admin Desktop

Note: You can also verify your source ip address or your system ip address using the below link.

<https://www.ip2location.com/>

You have to be careful when you are using the office laptop or a VPN network. In a few cases, you might not be able to access EC2 instances as your company might have blocked these services. In that case, please use a personal laptop or another network.

Learn more about your Internet traffics

Your IP Address 103.211.15.40	ISP Jain Net Services	Time Zone +05:30
Country India	Coordinates 28.66667, 77.21667	Net Speed DSL
Region Delhi	Usage Type ISP	

Accurate Geolocation
IP2Location™ is a non-intrusive IP location lookup technology that retrieves geolocation information with no explicit permission required from users. All you need is your client's IP address.

Supports IPv4 & IPv6
It works for all IP addresses including IPv4 and IPv6 in one database or API. Simple and no extra cost required for IP location lookup.

Easy Integration
It can be seamlessly integrated into any software platforms to retrieve IP geolocation information using [Database](#), [REST API](#) and SDK (Java, .NET, PHP, Ruby, Python, Perl and [many more](#))

Multiple Granularity
It comes with different IP database packages with varying levels of IP geolocation information granularity to suit your business needs. Pay for what you need.

Try IP2Location Demo



Then click on “Review and launch”

11. Finally, Click on “Launch”.

1. Choose AMI 2. Choose Instance Type 3. Configure Instance 4. Add Storage 5. Add Tags 6. Configure Security Group 7. Review

Step 7: Review Instance Launch

Please review your instance launch details. You can go back to edit changes for each section. Click **Launch** to assign a key pair to your instance and complete the launch process.

▼ AMI Details [Edit AMI](#)

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0d1cd67c26f5fca19
Free tier eligible
Ubuntu Server 18.04 LTS (HVM), EBS General Purpose (SSD) Volume Type. Support available from Canonical (<http://www.ubuntu.com/cloud/services>).
Root Device Type: ebs Virtualization type: hvm

▼ Instance Type [Edit instance type](#)

Instance Type	ECUs	vCPUs	Memory (GiB)	Instance Storage (GB)	EBS-Optimized Available	Network Performance
t2.micro	Variable	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

Security group name	Description
ml-sec	ml-sec-group

12. After that, select ‘Create a new key pair’ give the key pair a name (Test in our case), and then click on ‘Download Key Pair’.

Step 7: Review Instance Launch

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▼ AMI Details

Ubuntu Server 18.04 LTS (HVM), SSD Volume Type - ami-0d1cd67c26f5fca19
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Root Device Type: ebs Virtualization type: hvm

▼ Instance Type

Instance Type	ECUs
t2.micro	Variable

▼ Security Groups

Security group name	Description
ml-sec	ml-sec-group

Select an existing key pair or create a new key pair

A key pair consists of a **public key** that AWS stores, and a **private key file** that you store. Together, they allow you to connect to your instance securely. For Windows AMIs, the private key file is required to obtain the password used to log into your instance. For Linux AMIs, the private key file allows you to securely SSH into your instance.

Note: The selected key pair will be added to the set of keys authorized for this instance. Learn more about [removing existing key pairs from a public AMI](#).

Create a new key pair

Key pair name

Test

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

Note: You must download the pem file as it can't be accessed again. Also, it gives access to your instance, so please keep it in a safe location and do not share it with anybody.



13. Then, click on 'Launch Instances'.

Your instance is now ready. Click on 'View Instances' and your instances will appear on the screen, as shown below:

Launch Status

How to connect to your instances

Your instances are launching, and it may take a few minutes until they are in the **running** state, when they will be ready for you to use. Usage hours on your new instances will start immediately and continue to accrue until you stop or terminate your instances.

Click **View Instances** to monitor your instances' status. Once your instances are in the **running** state, you can **connect** to them from the Instances screen. [Find out](#) how to connect to your instances.

▼ Here are some helpful resources to get you started

- How to connect to your Linux instance
- Learn about AWS Free Usage Tier
- Amazon EC2: User Guide
- Amazon EC2: Discussion Forum

While your instances are launching you can also

- [Create status check alarms](#) to be notified when these instances fail status checks. (Additional charges may apply)
- [Create and attach additional EBS volumes](#) (Additional charges may apply)
- [Manage security groups](#)

[View Instances](#)

Check the 'Status Checks' column until '2/2 checks' appears.

New EC2 Experience
Tell us what you think

Launch Instance Connect Actions

Filter by tags and attributes or search by keyword

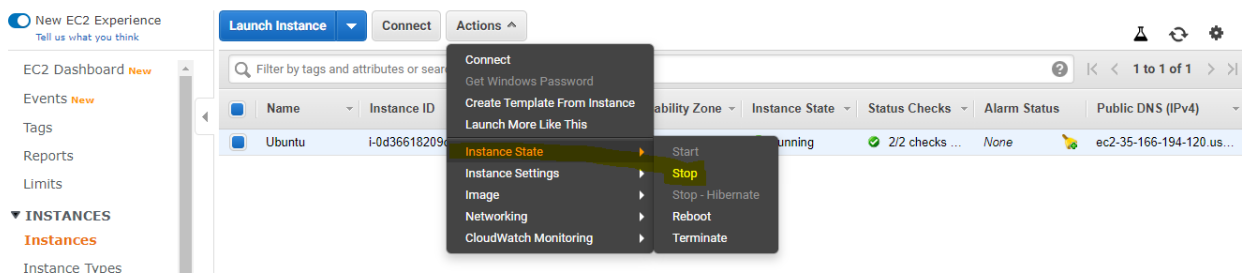
Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Ubuntu	i-0d36618209c675c91	t2.micro	us-west-2b	running	2/2 checks	None	ec2-35-166-194-120.us...

However, there are additional steps to access it from your machine. Let's try to understand those.

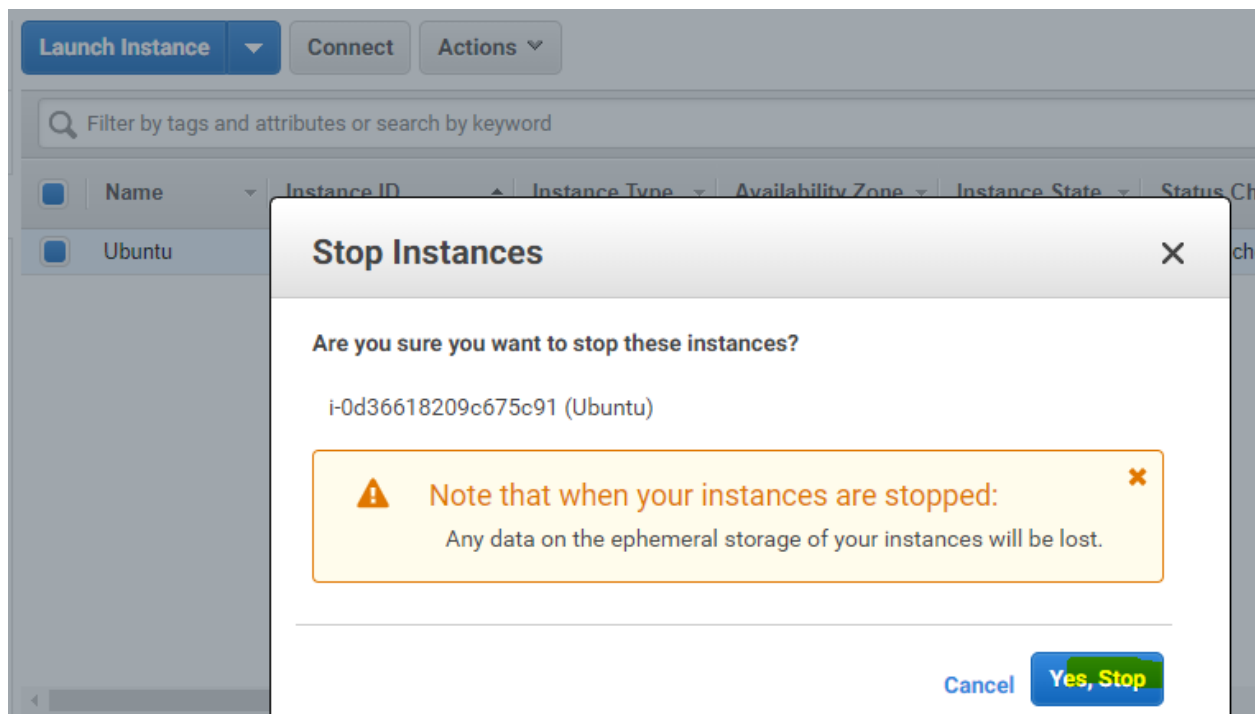


NOTE-: After you have created the instance, please stop the t2.micro instance when your work is over. Otherwise, your credits will get deducted. The steps to stop the instance are given below:

1. Go to your EC2 dashboard and select your ec2 instance then click to “Action”
> Instance State > Stop



2. Click on **Yes.Stop**.





3. Verify with Instance state.it should be stopped state and colour state is Red.

☒ New EC2 Experience
Tell us what you think

[Launch Instance](#) [Connect](#) [Actions](#)

EC2 Dashboard **New**

Events **New**

Tags

Reports

Limits

Filter by tags and attributes or search by keyword

Name	Instance ID	Instance Type	Availability Zone	Instance State	Status Checks	Alarm Status	Public DNS (IPv4)
Ubuntu	i-0d36618209c675c91	t2.micro	us-west-2b	stopped		None	