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**Vellore Institute of Technology**  
(Deemed to be University under section 3 of UGC Act, 1956)

**Principles of Cloud Computing**  
**CSE3035**

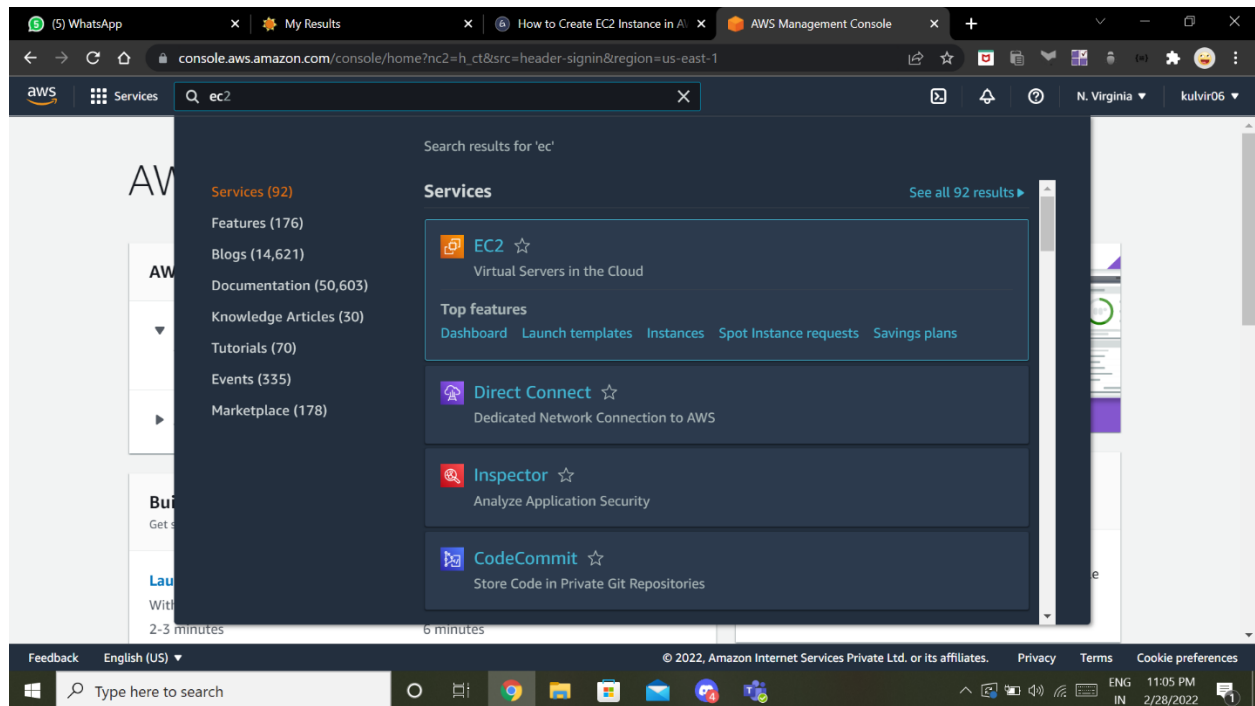
***Lab Assignment 5-***  
**Launching an Instance in AWS EC2**

Slot : L11+L12

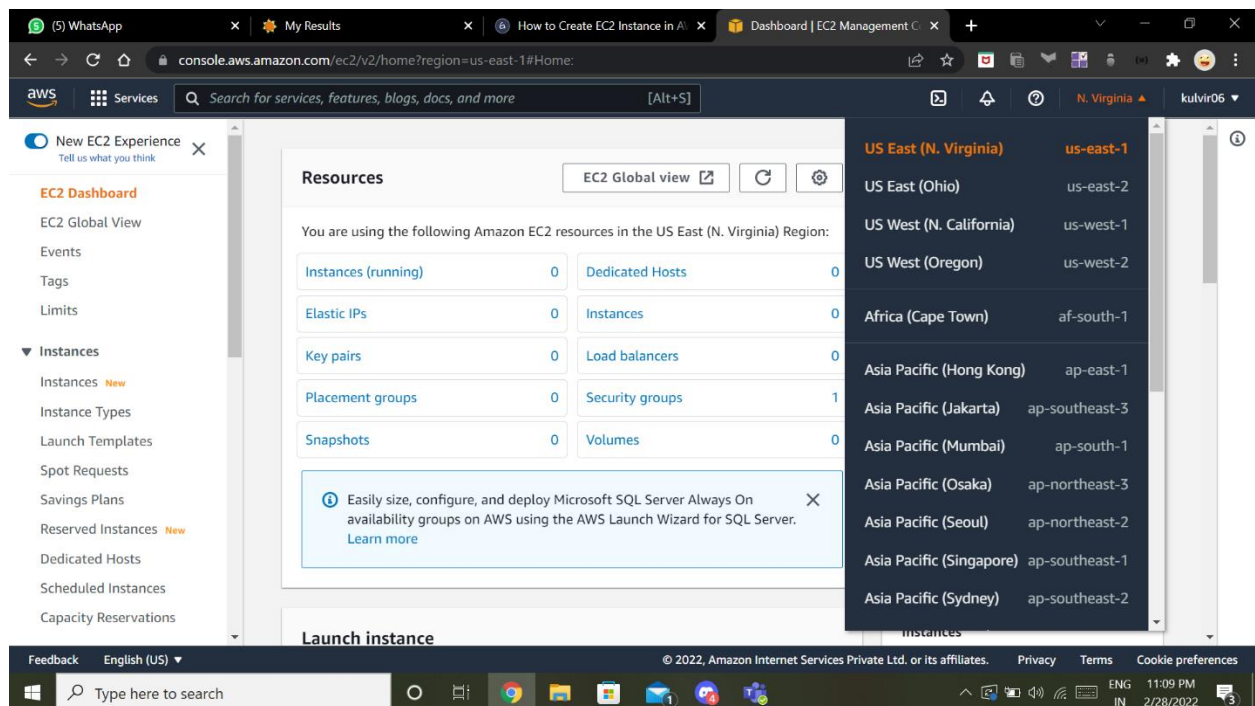
Name : Kulvir Singh

Register Number : 19BCE2074

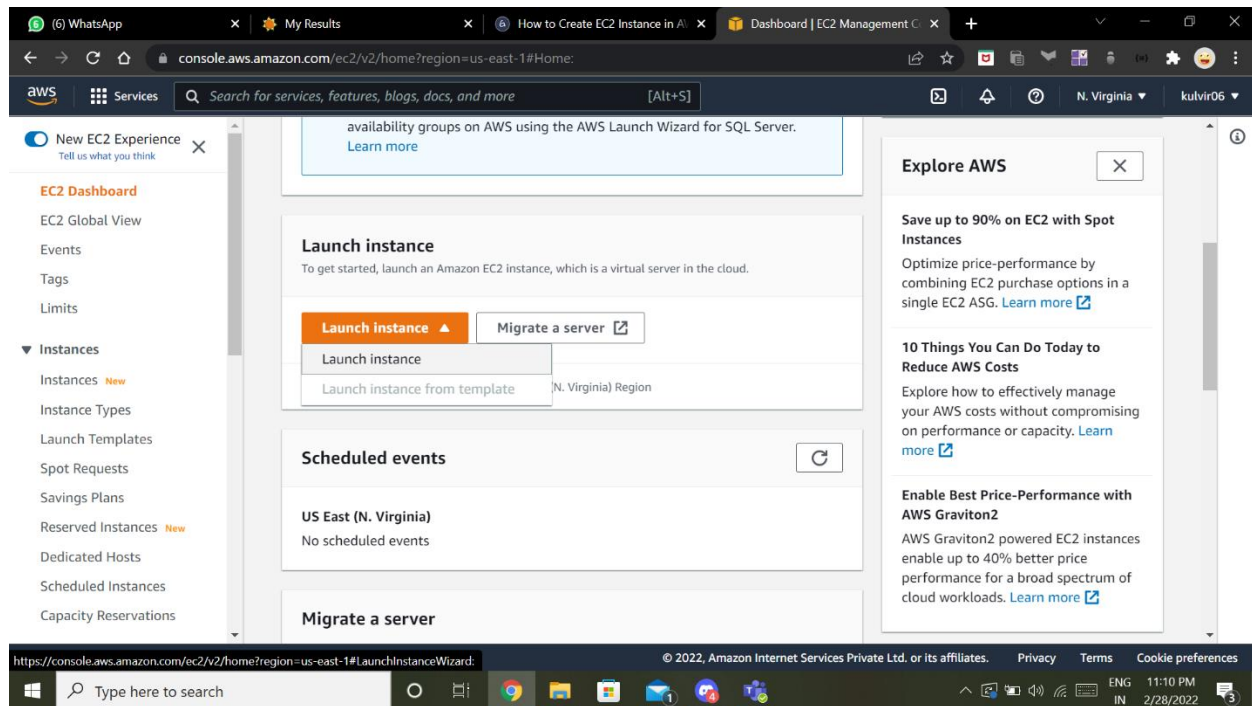
Login to aws console and search for ec2 under services



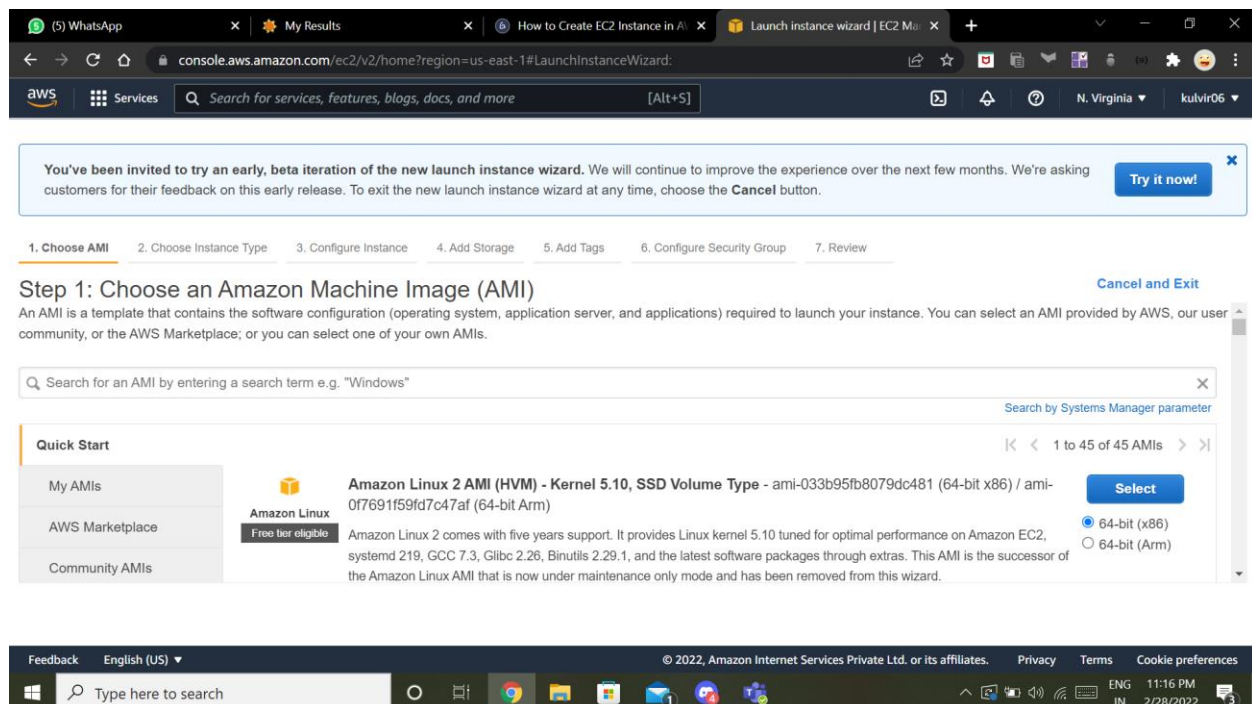
Go to the ec2 dashboard and select an AWS Region



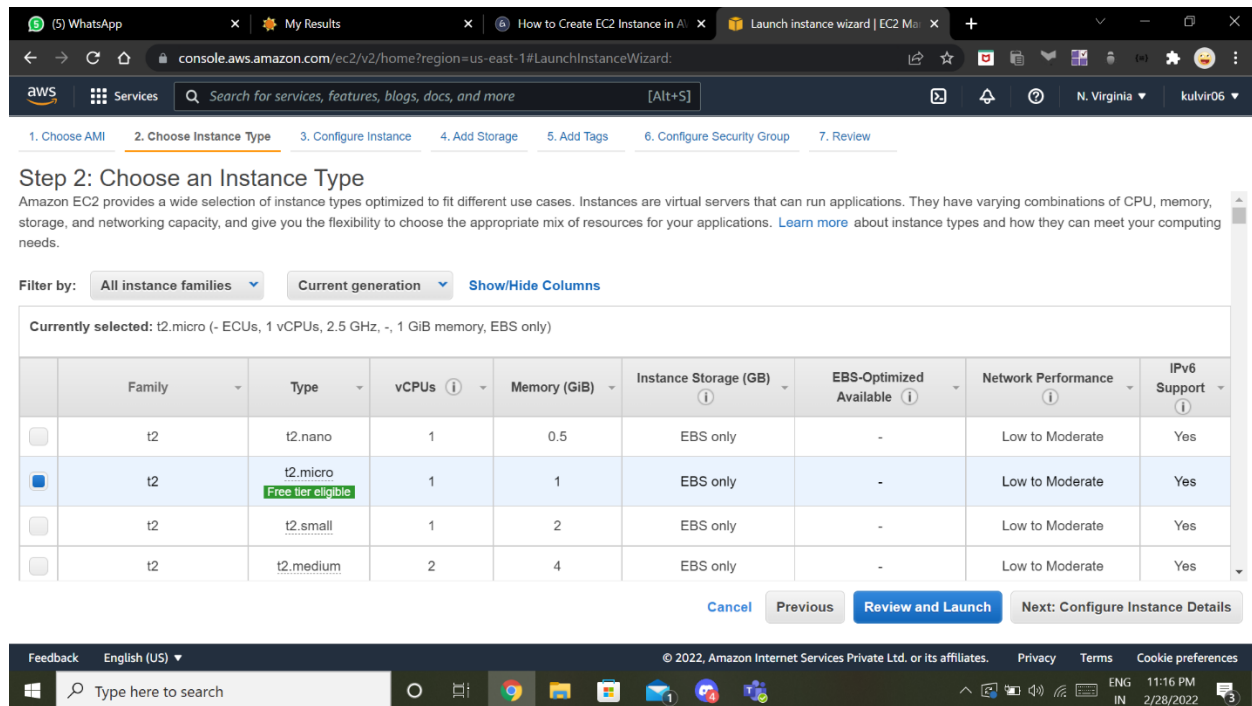
## Launch an instance under the ec2 dashboard



## Choose AMI



## Choose EC2 Instance Type



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.

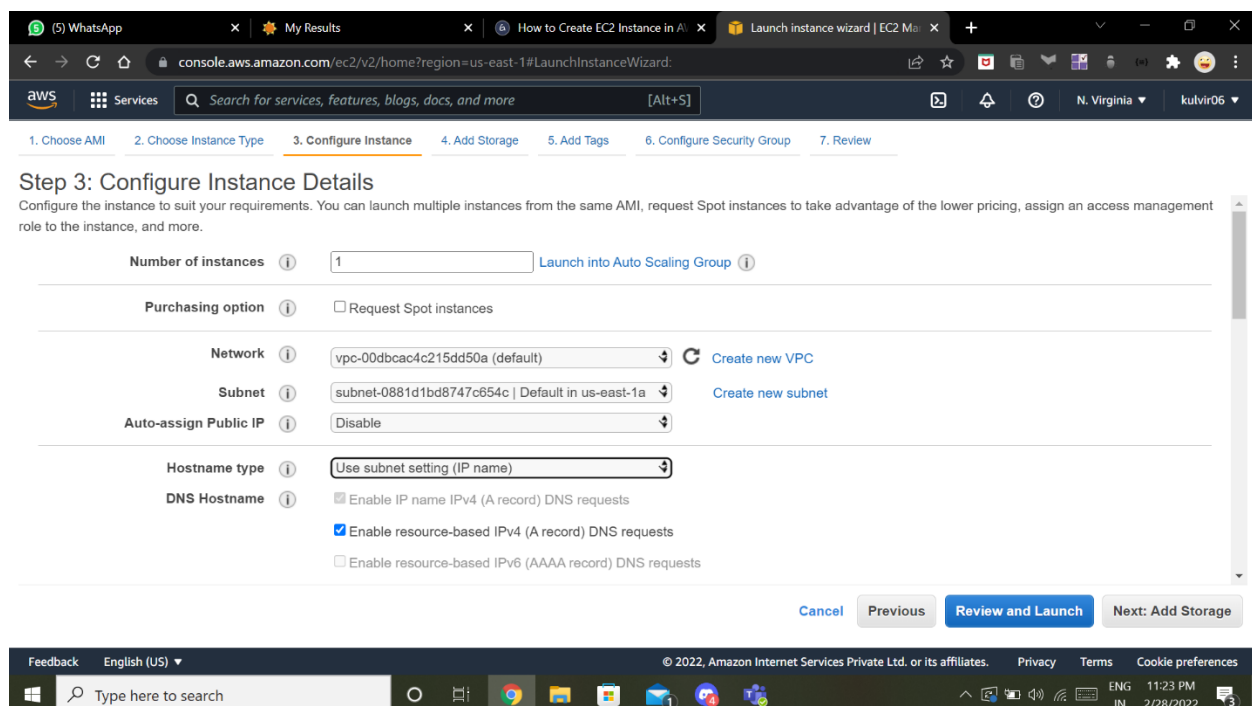
Filter by: All instance families Current generation [Show/Hide Columns](#)

Currently selected: t2.micro (- ECUs, 1 vCPUs, 2.5 GHz, -, 1 GiB memory, EBS only)

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

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Configure Instance Details](#)

## Configure Instance with the following options



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 access management role to the 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

Hostname type

DNS Hostname ☒ Enable IP name IPv4 (A record) DNS requests  
☒ Enable resource-based IPv4 (A record) DNS requests  
☐ Enable resource-based IPv6 (AAAA record) DNS requests

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

Step 3: Configure Instance Details

Placement group *i* ☐ Add instance to placement group

Capacity Reservation *i* Open

Domain join directory *i* No directory [Create new directory](#)

IAM role *i* None [Create new IAM role](#)

Shutdown behavior *i* Stop

Stop - Hibernate behavior *i* ☐ Enable hibernation as an additional stop behavior

Enable termination protection *i* ☒ Protect against accidental termination

Monitoring *i* ☐ Enable CloudWatch detailed monitoring  
[Additional charges apply.](#)

Tenancy *i* Shared - Run a shared hardware instance  
[Additional charges will apply for dedicated tenancy.](#)

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Storage](#)

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Type here to search

## 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 <i>i</i>	Device <i>i</i>	Snapshot <i>i</i>	Size (GiB) <i>i</i>	Volume Type <i>i</i>	IOPS <i>i</i>	Throughput (MB/s) <i>i</i>	Delete on Termination <i>i</i>	Encryption <i>i</i>
Root	/dev/xvda	snap-0e8a7a7609c630051	8	Provisioned IOPS SSD (io1)	400	N/A	<input checked="" type="checkbox"/>	Not Encrypt

[Add New Volume](#)

**General Purpose (SSD)** volumes provide the ability to burst to 3000 IOPS per volume, independent of volume size, to meet the performance needs of most applications and also deliver a consistent baseline of 3 IOPS/GiB. [Set my root volume to General Purpose \(SSD\).](#)

Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage. [Learn more](#) about free usage tier eligibility and usage restrictions.

[Cancel](#) [Previous](#) [Review and Launch](#) [Next: Add Tags](#)

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## Add Tags to the Instance

The screenshot shows the AWS Management Console at the URL `console.aws.amazon.com/ec2/v2/home?region=us-east-1#LaunchInstanceWizard`. The navigation bar at the top includes tabs for "1. Choose AMI", "2. Choose Instance Type", "3. Configure Instance", "4. Add Storage", "5. Add Tags" (which is the active tab), "6. Configure Security Group", and "7. Review".

**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	Value	Instances	Volumes	Network Interfaces
Name	Dev_Web Server 01	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

[Add another tag](#) (Up to 50 tags maximum)

Buttons at the bottom: [Cancel](#), [Previous](#), [Review and Launch](#), and [Next: Configure Security Group](#).

## Configure Security Groups

The screenshot shows the AWS Management Console at the same URL as the previous step. The navigation bar now highlights "6. Configure Security Group".

**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 59.98.16.209/32	e.g. SSH for Admin Desktop
HTTP	TCP	80	Custom 0.0.0.0/0, ::0	e.g. SSH for Admin Desktop
HTTPS	TCP	443	Custom 0.0.0.0/0, ::0	e.g. SSH for Admin Desktop

[Add Rule](#)

Buttons at the bottom: [Cancel](#), [Previous](#), and [Review and Launch](#).



## Review Instances

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](#)

**Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type - ami-033b95fb8079dc481**

Free tier eligible

Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is n...

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	-	1	1	EBS only	-	Low to Moderate

▼ Security Groups [Edit security groups](#)

Security group name: Web Server SG

[Cancel](#) [Previous](#) [Launch](#)

Step 7: Review Instance Launch

Security group name: Web Server SG

Description: launch-wizard-1 created 2022-02-28T23:26:58.163+05:30

Type	Protocol	Port Range	Source	Description
SSH	TCP	22	59.98.16.209/32	
HTTP	TCP	80	0.0.0.0/0	
HTTP	TCP	80	:::0	
HTTPS	TCP	443	0.0.0.0/0	
HTTPS	TCP	443	:::0	

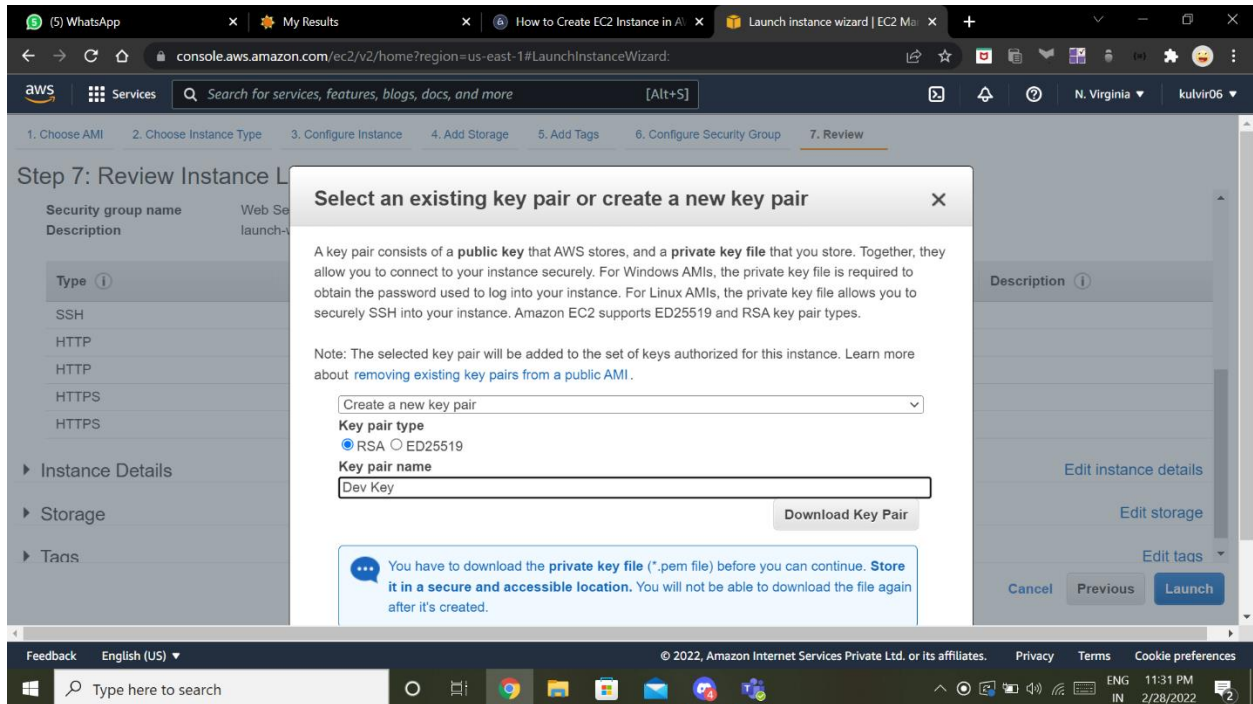
► Instance Details [Edit instance details](#)

► Storage [Edit storage](#)

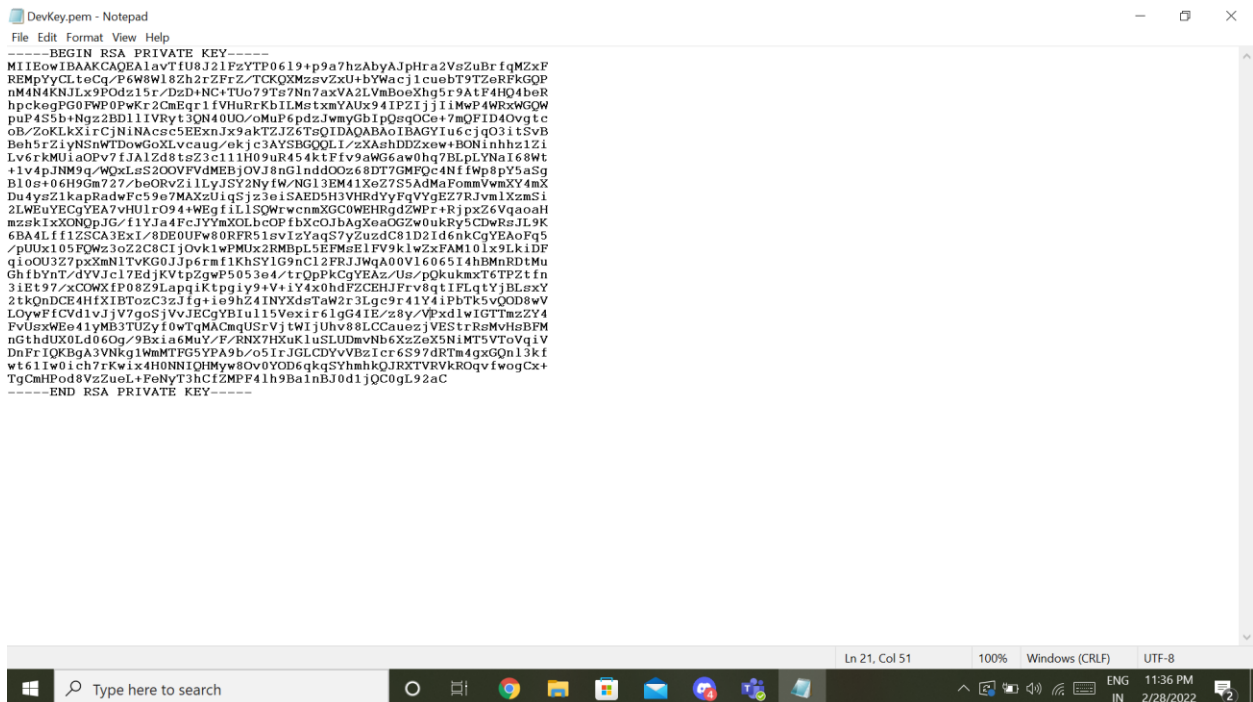
► Tags [Edit tags](#)

[Cancel](#) [Previous](#) [Launch](#)

## Create key pair to login to instance

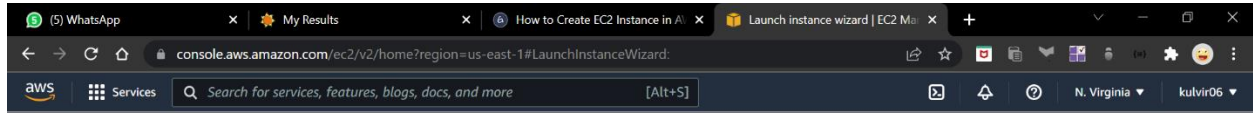


## Download the key pair





## Launch the instance



### Launch Status



#### Initiating Instance Launches

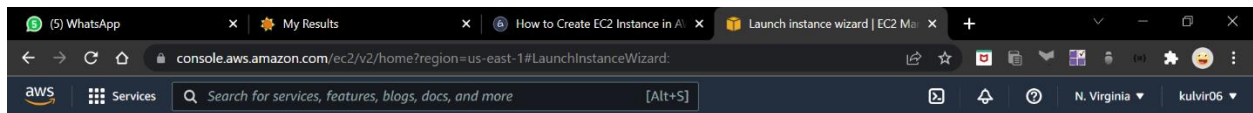
Please do not close your browser while this is loading

Creating security groups... Successful

Authorizing inbound rules...



## Launch Status



### Launch Status



#### Your instances are now launching

The following instance launches have been initiated: [i-0a89d582b2d2099b5](#) [Hide launch log](#)

Creating security groups	Successful (sg-07cdb1e23f83217c9)
Authorizing inbound rules	Successful
Initiating launches	Successful
Launch initiation complete	



#### Get notified of estimated charges

[Create billing alerts](#) to get an email notification when estimated charges on your AWS bill exceed an amount you define (for example, if you exceed the free usage tier).

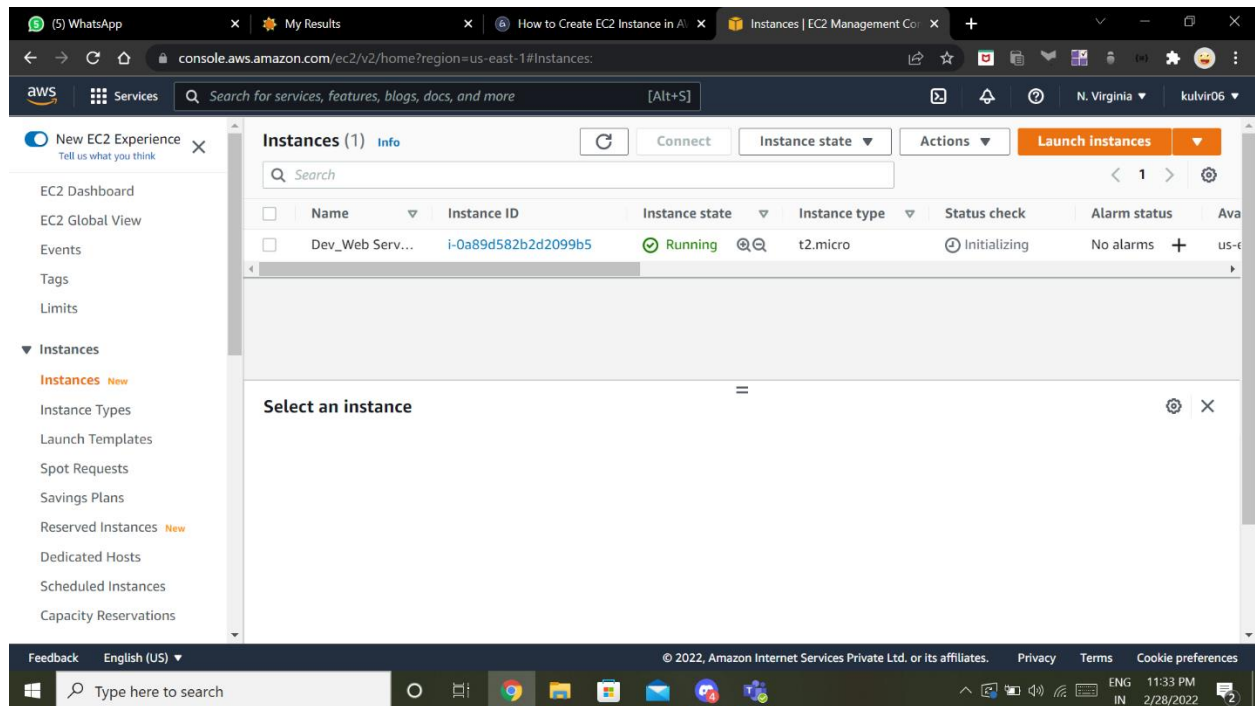
### How to connect to your instances

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.



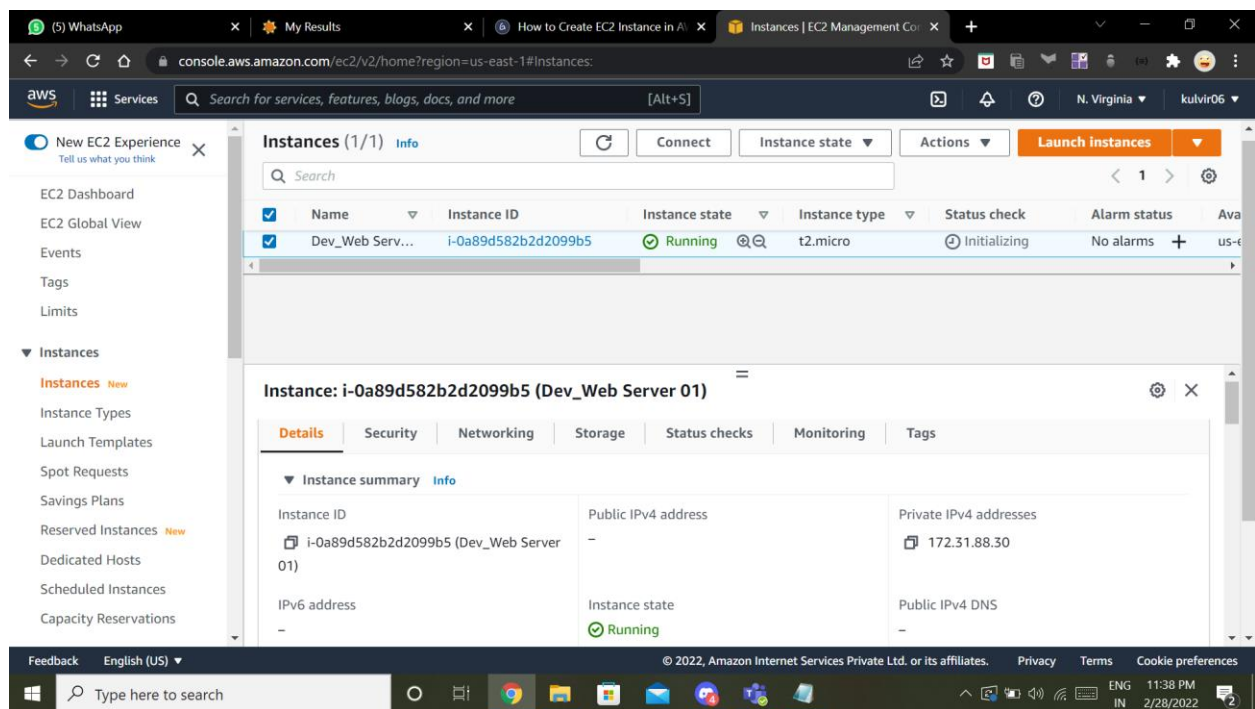
Once your instance is up and running, you can see its status as 'Running' now.



The screenshot shows the AWS Management Console for the 'Instances' page. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Tags, Limits, and a dropdown for 'Instances' which includes 'Instances New', Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances New, Dedicated Hosts, Scheduled Instances, and Capacity Reservations. The main content area shows a table with one instance:

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone
Dev_Web Serv...	i-0a89d582b2d2099b5	Running	t2.micro	Initializing	No alarms	us-east-1a

Below the table, there is a 'Select an instance' dialog box.



The screenshot shows the AWS Management Console for the 'Instances' page, specifically the details for the instance 'i-0a89d582b2d2099b5 (Dev\_Web Server 01)'. The instance is in a 'Running' state. The details are organized into tabs: Details, Security, Networking, Storage, Status checks, Monitoring, and Tags. The 'Details' tab is selected, showing the following information:

Instance summary Info		
Instance ID	Public IPv4 address	Private IPv4 addresses
i-0a89d582b2d2099b5 (Dev_Web Server 01)	-	172.31.88.30
IPv6 address	Instance state	Public IPv4 DNS
-	Running	-