

Step-by-Step Guide: Creating an EC2 Instance in AWS



➤ What is EC2?

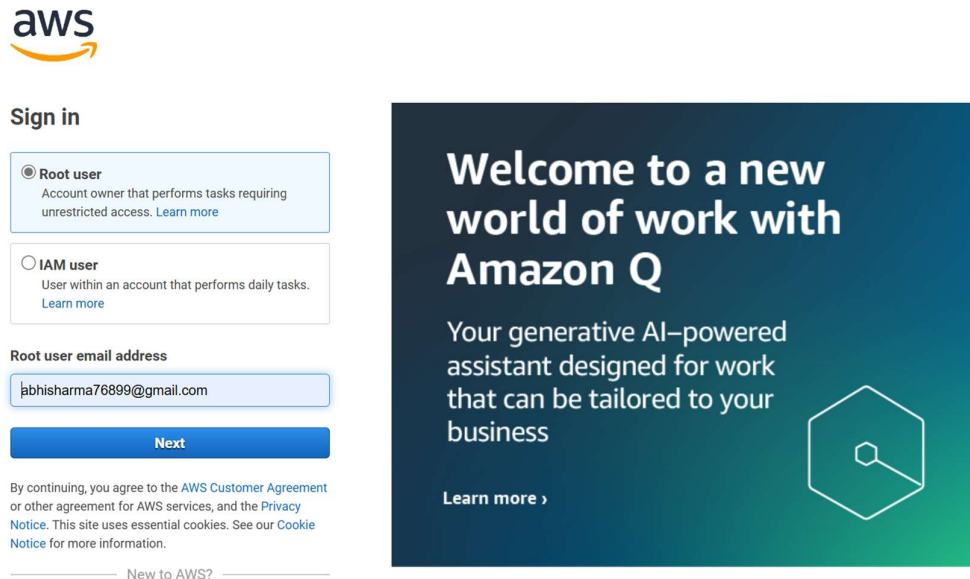
Amazon Elastic Compute Cloud (EC2) is a web service provided by Amazon Web Services (AWS) that allows users to rent virtual servers (referred to as "instances") on which they can run their applications. EC2 instances are essentially virtual machines that can be launched in the cloud and scaled up or down as needed. EC2 provides a wide range of instance types to choose from, allowing users to select the instance size and configuration that best fits their needs.

➤ Why do we need an EC2 instance?

One of the main reasons we need EC2 instances is because they offer scalability and flexibility. We can launch EC2 instances on demand and scale up or down as needed to match our workload requirements. This means we can easily provision resources when we need them and only pay for what we use.

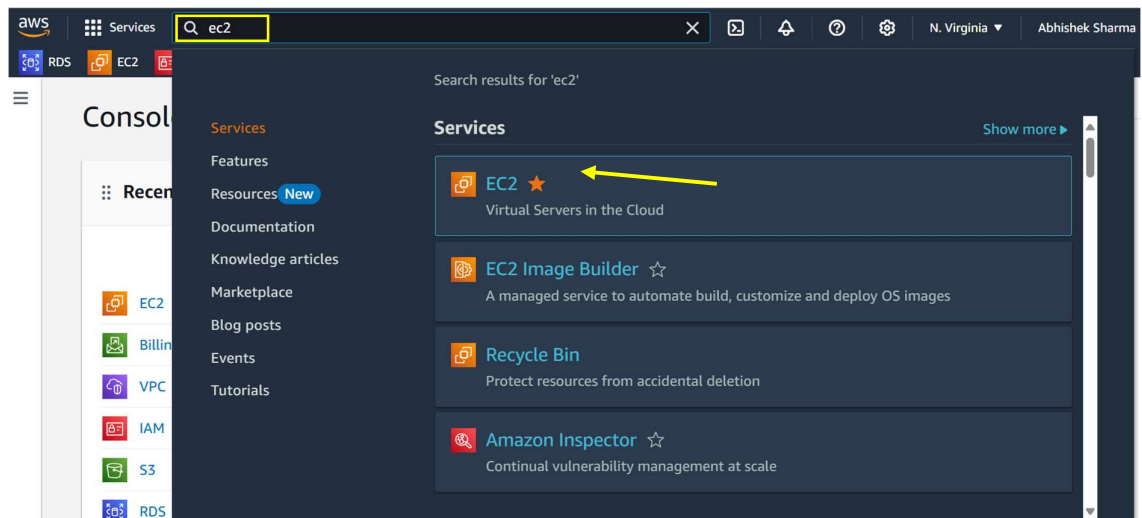
Step 1: Log in to the AWS Management Console

- Log in using your **AWS** account credentials.



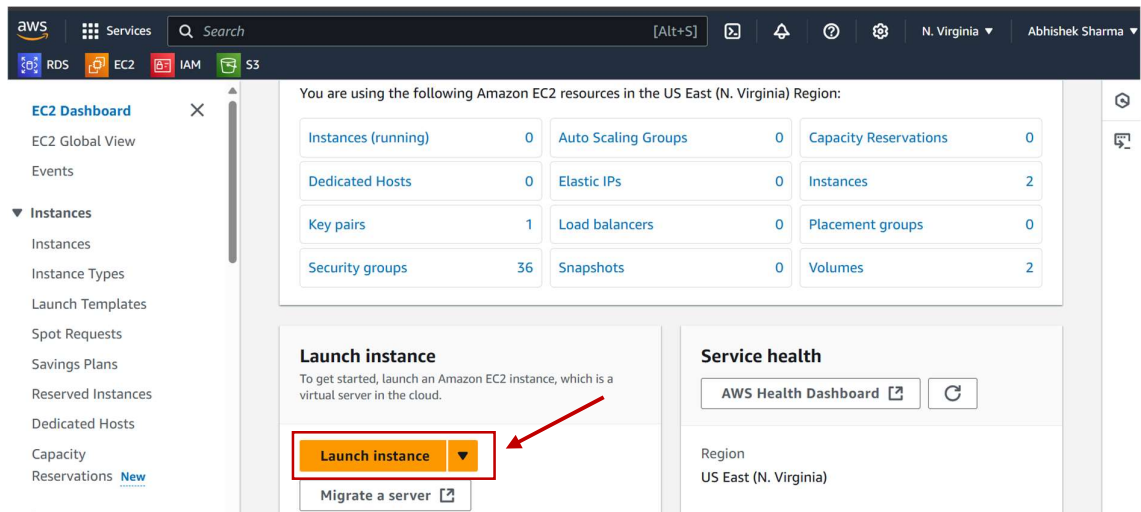
Step 2: Navigate to EC2 Dashboard

- Search for **EC2** service on the search bar and **Click** on **EC2**

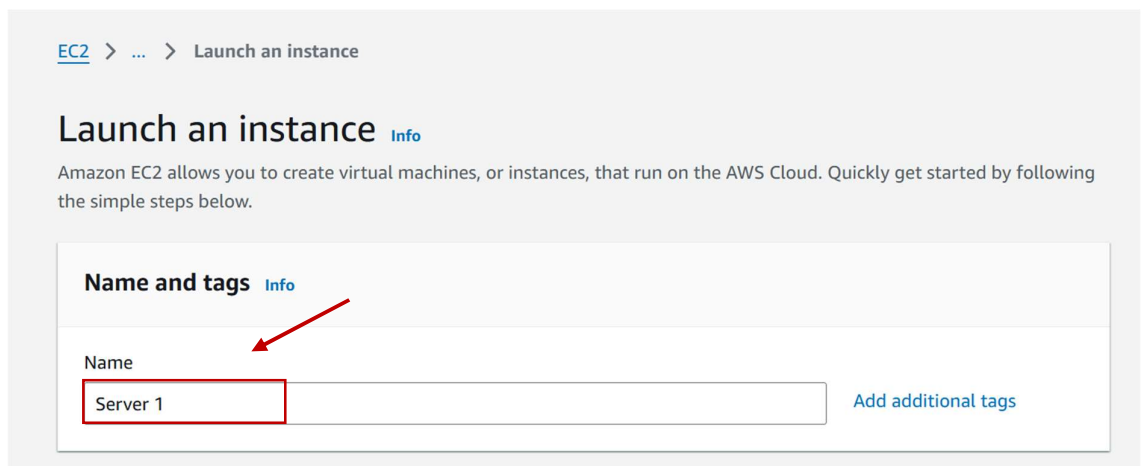


Step 3: Launch an Instance

- Click on **Launch Instance**.

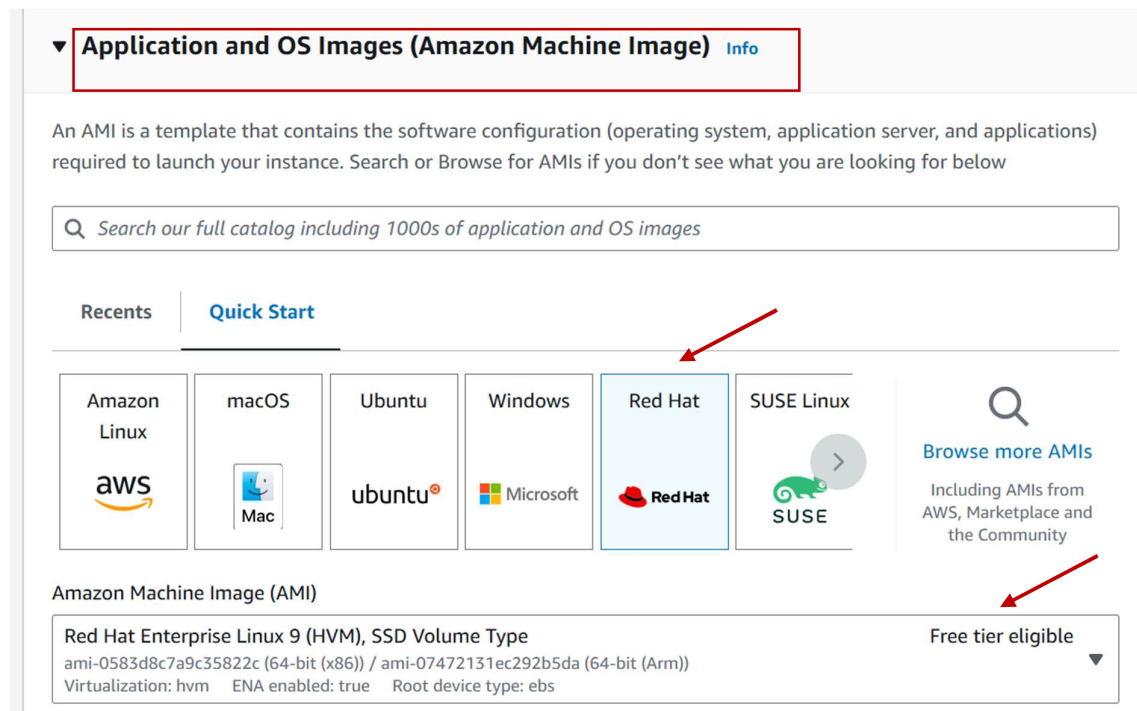


- Enter a name for your instance under **Name and Tags**.



Step 4: Choose an Amazon Machine Image (AMI)

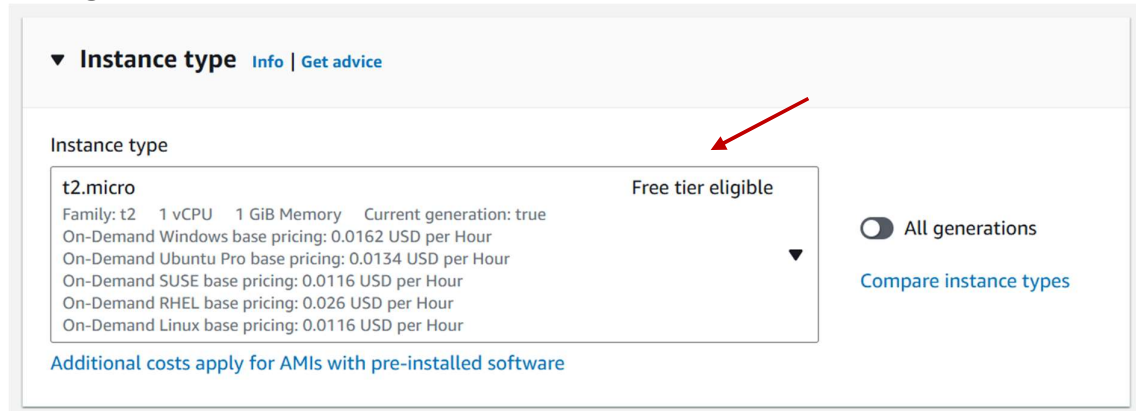
- An **Amazon Machine Image (AMI)** is a preconfigured template for your instance, which includes an operating system and other required configurations.
- Choose from **Amazon Linux 2, Ubuntu, Red Hat, Microsoft Windows Server**, if you want other then **Browse more AMIs**.
- Click **Select** on your chosen **AMI**.



Step 5: Choose an Instance Type

- An instance type determines the computing resources (**CPU, RAM, storage, etc.**) available to your **EC2 instance**. There are a variety of **instance types** to choose from, ranging from **small** and **low-cost** to **large** and **high-performance**. Select the instance type that best fits your needs and budget.

- By default, the instance type is **"t2.micro"** which is a free tier-eligible service.



▼ Instance type [Info](#) | [Get advice](#)

Instance type

t2.micro Free tier eligible

Family: t2 1 vCPU 1 GiB Memory Current generation: true

On-Demand Windows base pricing: 0.0162 USD per Hour

On-Demand Ubuntu Pro base pricing: 0.0134 USD per Hour

On-Demand SUSE base pricing: 0.0116 USD per Hour

On-Demand RHEL base pricing: 0.026 USD per Hour

On-Demand Linux base pricing: 0.0116 USD per Hour

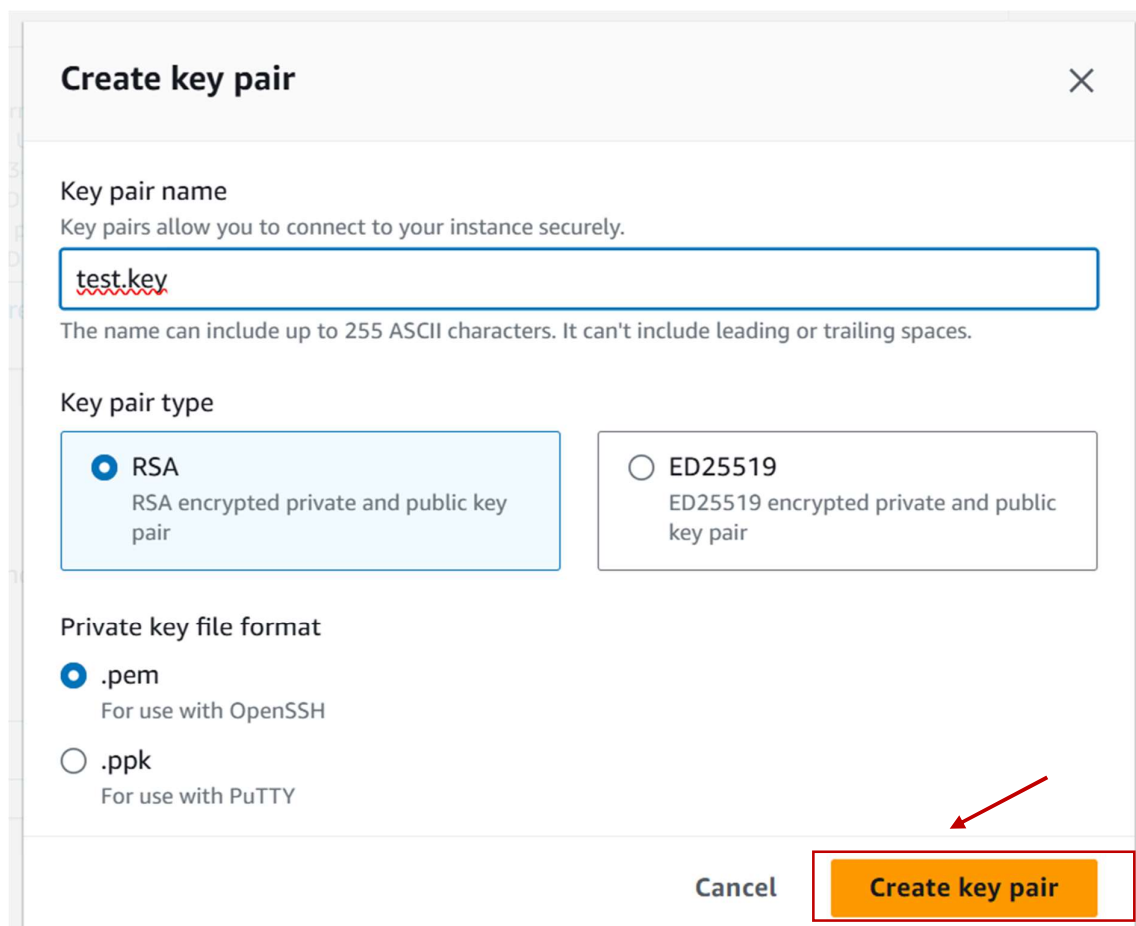
[Additional costs apply for AMIs with pre-installed software](#)

☐ All generations

[Compare instance types](#)

Step 6: Create a key pair

- Create a **key pair** and **store** it in a safe place because it will act as a key to **log in** to your instance.



Create key pair

Key pair name

Key pairs allow you to connect to your instance securely.

test key

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

☒ RSA
RSA encrypted private and public key pair

☐ ED25519
ED25519 encrypted private and public key pair

Private key file format

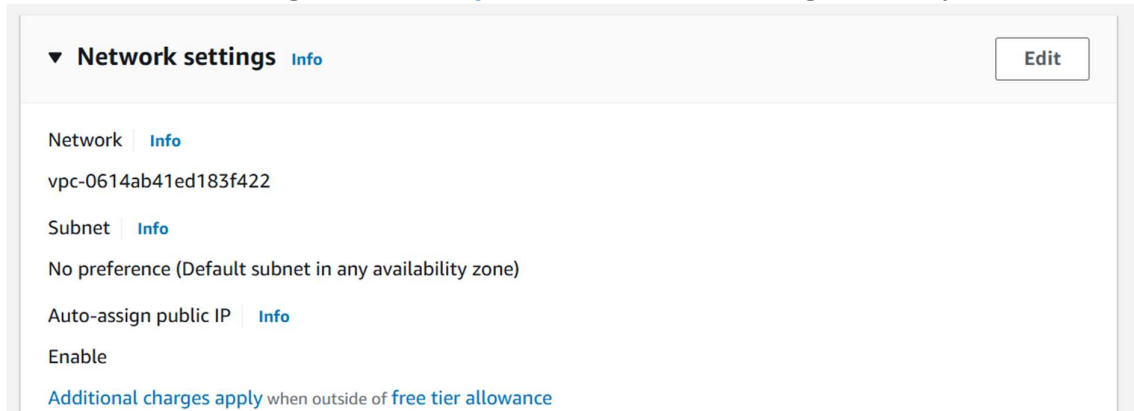
☒ .pem
For use with OpenSSH

☐ .ppk
For use with PuTTY

Cancel Create key pair

Step 7: Network settings

- Network Settings are **set by default** make changes if required.



▼ Network settings Info Edit

Network Info
vpc-0614ab41ed183f422

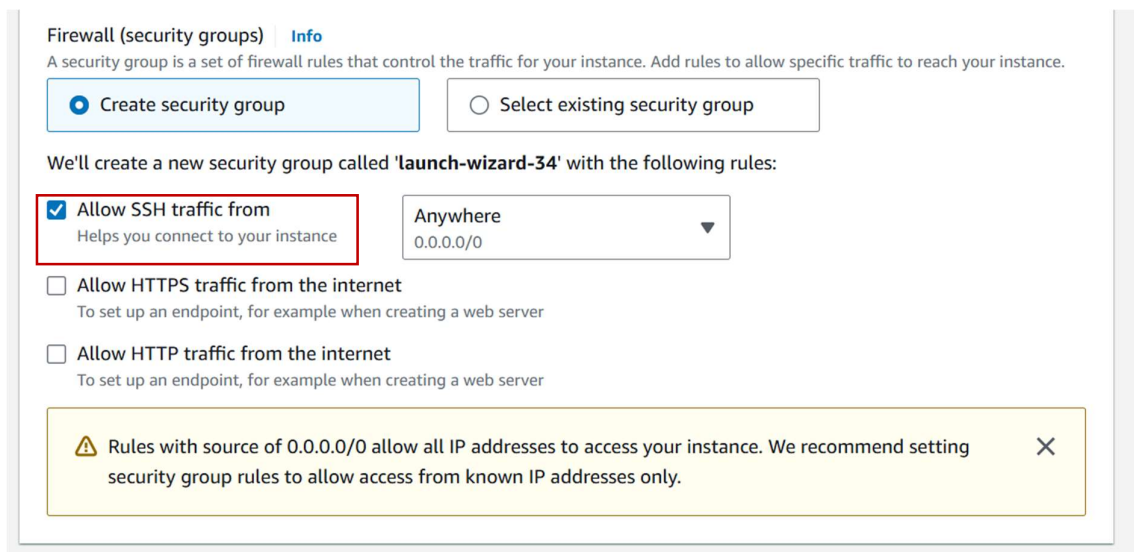
Subnet Info
No preference (Default subnet in any availability zone)

Auto-assign public IP Info
Enable

Additional charges apply when outside of free tier allowance

Step 8: Configure Security Group

- Security groups act as **virtual firewalls** for your **EC2 instance**, **controlling inbound and outbound traffic**. You can configure security groups to **allow** or **deny traffic from specific IP addresses, protocols, and ports**. In this step, you'll need to create a new security group or select an existing one.
- Allow **SSH** Port for **Remote access**.



Firewall (security groups) Info

A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.

☒ Create security group ☐ Select existing security group

We'll create a new security group called 'launch-wizard-34' with the following rules:

☒ Allow SSH traffic from
Helps you connect to your instance

Anywhere
0.0.0.0/0

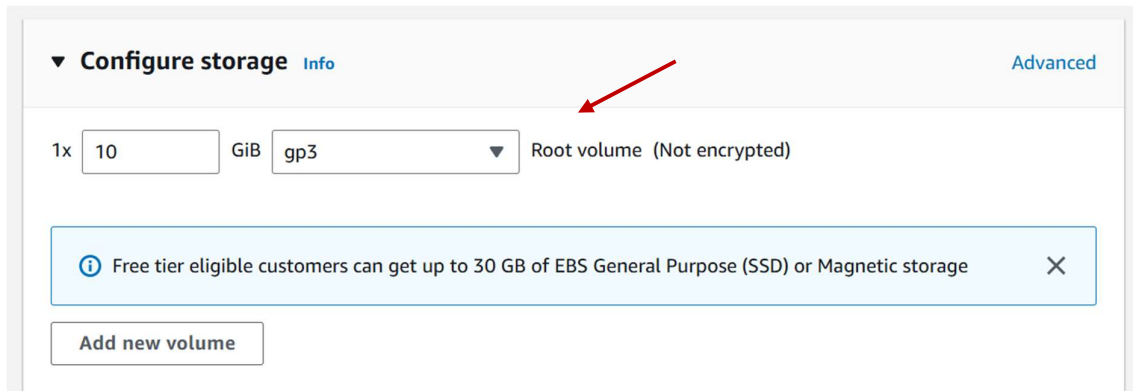
☐ Allow HTTPS traffic from the internet
To set up an endpoint, for example when creating a web server

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To set up an endpoint, for example when creating a web server

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only. X

Step 9: Configure Storage

- **EC2 instances** require **storage** for the **operating system, applications, and data**. In this step, you can **add** and **configure storage volumes** for **your instance**. You can choose from **different types of storage**, including **Amazon Elastic Block Store (EBS) volumes** and **instance store volumes**.
- **10 GiB** by **default** for Red Hat Linux.



▼ **Configure storage** [Info](#) [Advanced](#)

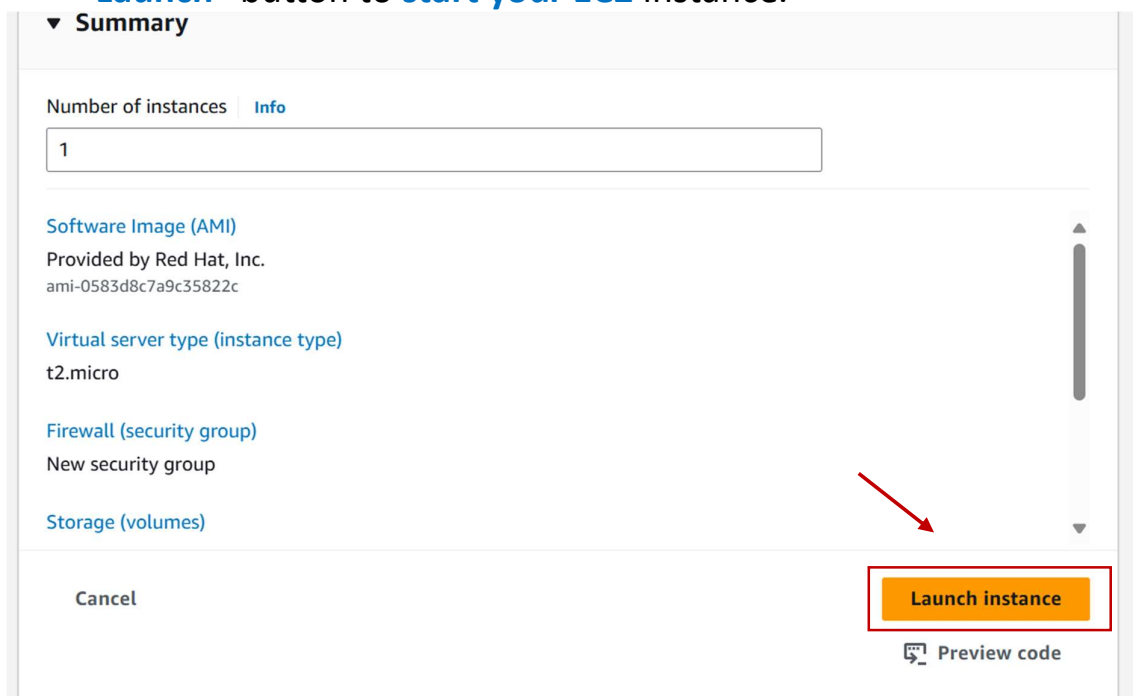
1x 10 GiB gp3 ▼ Root volume (Not encrypted)

[i](#) Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage [X](#)

[Add new volume](#)

Step 10: Review and Launch

- Before **launching** your **instance**, **review** all the details to make sure everything is correct. You can also modify any settings that need to be changed. Once you're ready, click the **"Launch"** button to **start your EC2** instance.



▼ **Summary**

Number of instances [Info](#)

1

[Software Image \(AMI\)](#)
Provided by Red Hat, Inc.
ami-0583d8c7a9c35822c

[Virtual server type \(instance type\)](#)
t2.micro

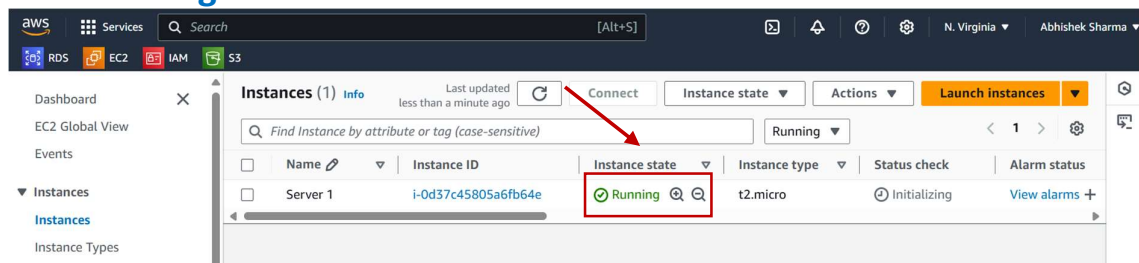
[Firewall \(security group\)](#)
New security group

[Storage \(volumes\)](#)

[Cancel](#) [Launch instance](#) [Preview code](#)

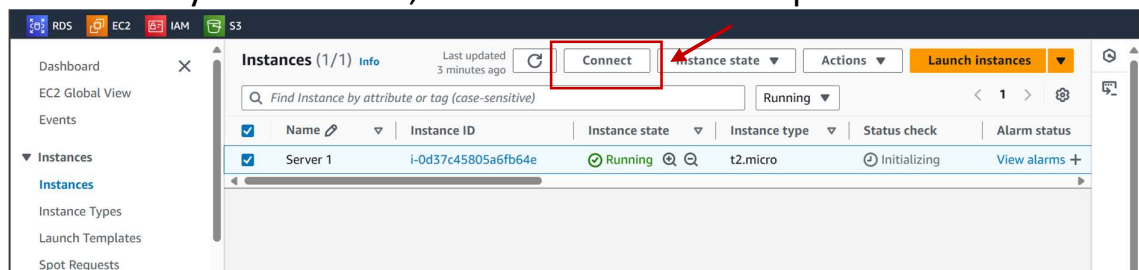
Step 11: Wait for the Instance to Start

- Go to the **Instances** page and **wait** until the **instance** status is **Running**.

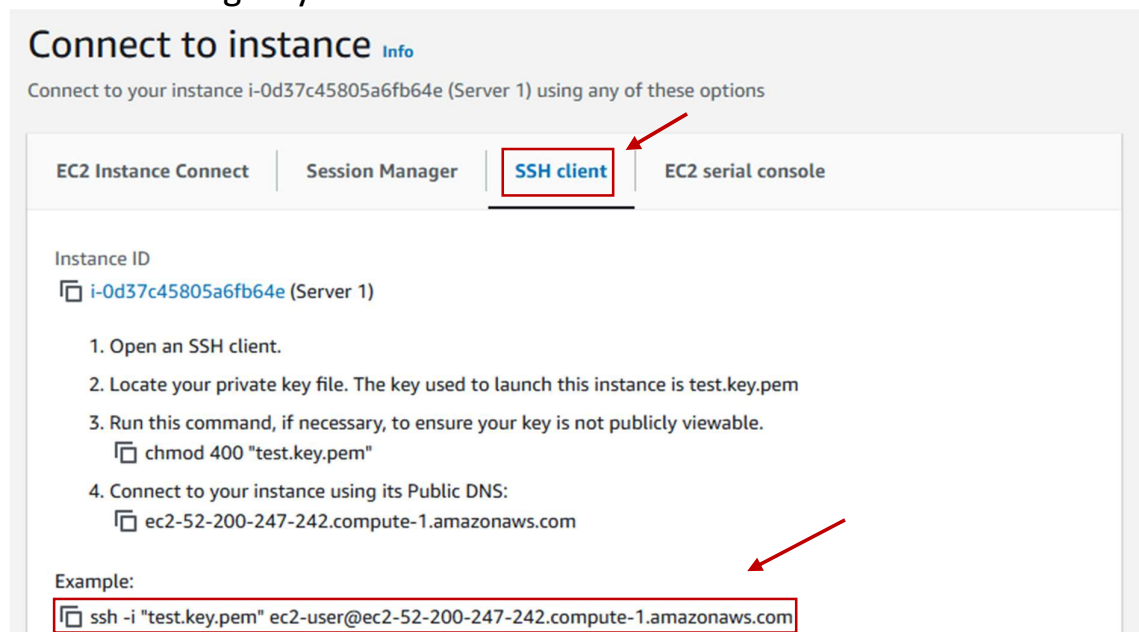


Step 12: Connect to Your Instance With Command Prompt

- After launching your instance, you can connect to it using various methods, such as **SSH** or **Remote Desktop Protocol (RDP)**.
- You can also use the AWS Systems Manager Session Manager to connect to your instance securely without the need for a public IP address.
- Select your **instance**, click **Connect** at the top.



- choose the **SSH Client** tab and **copy SSH commands** for connecting to your instance.



- Open **Command Prompt**, navigate to your **.pem** file location, and **Paste the SSH command** provided in the AWS SSH Client tab.
- If prompted with **“Are you sure you want to continue?”**, type **yes**.

```
Microsoft Windows [Version 10.0.22631.4391]
(c) Microsoft Corporation. All rights reserved.

C:\Users\abhic>cd Downloads

C:\Users\abhic\Downloads>ssh -i "test.key.pem" ec2-user@ec2-52-200-247-242.compute-1.amazonaws.com
The authenticity of host 'ec2-52-200-247-242.compute-1.amazonaws.com (64:ff9b::34c8:f7f2)' can't be established.
ED25519 key fingerprint is SHA256:mby2r0qrvSt8ivMrHdBtvUcuXM4L5da2KeUNvmVrfzM.
This key is not known by any other names.
Are you sure you want to continue connecting (yes/no/[fingerprint]): yes
Warning: Permanently added 'ec2-52-200-247-242.compute-1.amazonaws.com' (ED25519) to the list of known hosts.
Register this system with Red Hat Insights: insights-client --register
Create an account or view all your systems at https://red.ht/insights-dashboard
[ec2-user@ip-172-31-21-250 ~]$
```

You're connected!

Note: Remember to **terminate your instance** when it's no longer in use to avoid unnecessary charges.

Conclusion

- Creating an EC2 instance in AWS is a simple and straightforward process. With just a few clicks, you can launch a virtual machine in the cloud and start using it right away. By following the steps outlined in this guide, you can create your own EC2 instance in no time.