

# AMAZON EC2

## Server: Understanding the Basics of Servers

A server is a computer that provides essential services to other computers, such as running applications, storing and managing data, and web hosting. Servers play a vital role in many industries.

### Types of servers:

1. Application servers - Apache Tomcat, IBM WebSphere etc..
2. Web servers - Apache, Ngnix, Google Web Server(GWS)
3. Database server
4. Email server
5. File server
6. proxy server
7. streaming server
8. IRC server
9. Fax server

### Virtual Machine:

A Virtual Machine (VM) is a computer program that operates like a separate entity within a host computer system. Each VM acts as an independent computer, complete with its own operating system, network, and storage capabilities.

### Types of VM:

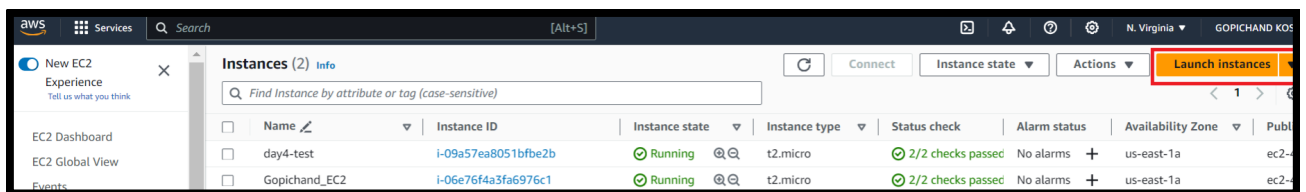
1. System VM
2. Process VM

### Amazon EC2 (Elastic Cloud Compute):

Amazon EC2 is a web service offered by AWS, providing secure, resizable capacity in the cloud. Its primary goal is to simplify web-scale cloud computing for developers. One of the key benefits of Amazon EC2 is its user-friendly web service interface, which enables you to easily access and configure capacity with minimal friction.

### Here are the steps to launch an EC2 instance:

Launching an EC2 Instance in 7 Easy Steps (in no particular order):



- Step 1: Choose or Create an Amazon Machine Image (AMI) that suits your needs

#### ▼ Application and OS Images (Amazon Machine Image) Info

An AMI is a template that contains the software configuration (operating system, application server, and applications) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below

Q Search our full catalog including 1000s of application and OS images

Recents

Quick Start

Amazon Linux

aws

macOS

Mac

Ubuntu

ubuntu

Windows

Microsoft

Red Hat

Red Hat

SUSE Li

SUSE

Q

Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type

Free tier eligible

ami-0bb4c991fa89d4b9b (64-bit (x86)) / ami-0a445ece583184891 (64-bit (Arm))  
Virtualization: hvm ENA enabled: true Root device type: ebs

- Step 2: Customize CPU and RAM settings

▼ Instance type Info

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 SUSE base pricing: 0.0116 USD per Hour  
On-Demand RHEL base pricing: 0.0716 USD per Hour  
On-Demand Linux base pricing: 0.0116 USD per Hour

All generations

Compare instance types

Additional costs apply for AMIs with pre-installed software

- Step 3: Configure networking settings

▼ Network settings Info

Edit

Network Info

vpc-0f312f877144b2fd2

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

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-1' 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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- Step 4: Add storage to the instance

▼ Configure storage Info

Advanced

1x  GiB  Root volume (Not encrypted)

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

×

Add new volume

0 x File systems

Edit

- Step 5: Give the instance a name

Name and tags Info

Name

Add additional tags

- Step 6: Set up Security Groups to protect the instance

▼ Network settings Info

Edit

Network Info

vpc-0f312f877144b2fd2

Subnet Info

No preference (Default subnet in any availability zone)

Auto-assign public IP Info

Enable

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- Step 7: Review your settings and launch the instance

Instances (4) Info

Find Instance by attribute or tag (case-sensitive)

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	My_Web_2	i-079aead4d123746fa	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-3-91-195-109.com...
<input type="checkbox"/>	My_Web_1	i-00081f9e8b4c707d8	Running	t2.micro	2/2 checks passed	No alarms	us-east-1c	ec2-100-24-41-22.com...

**Important Notes:** To view all the details of the instance, simply check the box next to it and the details will appear below.

Instances (1/4) Info

Find Instance by attribute or tag (case-sensitive)

<input type="checkbox"/>	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS
<input type="checkbox"/>	My_Web_2	i-079aead4d123746fa	Running	t2.micro	2/2 checks passed	No alarms	us-east-1a	ec2-3-91-195-109.com
<input checked="" type="checkbox"/>	My_Web_1	i-00081f9e8b4c707d8	Running	t2.micro	2/2 checks passed	No alarms	us-east-1c	ec2-100-24-41-22.com
<input type="checkbox"/>	day4-test	i-09a57ea8051bfbe2b	Terminated	t2.micro	-	No alarms	us-east-1a	-
<input type="checkbox"/>	Gopichand_EC2	i-06e76f4a3fa6976c1	Terminated	t2.micro	-	No alarms	us-east-1a	-

Instance: i-00081f9e8b4c707d8 (My\_Web\_1)

Details

Security

Networking

Storage

Status checks

Monitoring

Tags

Instance summary Info

Instance ID

i-00081f9e8b4c707d8 (My\_Web\_1)

IPv6 address

-

Public IPv4 address

100.24.41.22 | open address

Instance state

Running

Private IPv4 addresses

172.31.45.164

Public IPv4 DNS

ec2-100-24-41-22.compute-1.amazonaws.com | open address

Private IP DNS name (IPv4 only)

Two Ways to Launch an EC2 Instance

Here are the two methods to launch an EC2 instance:

- AWS Console: Launch the instance with or without a key pair using the console.
  - Putty or MobaXterm: Launch with a key pair. There are two types of keys available, namely (.ppk) and (.pem).
- PPK - Putty Private Key
  - PEM - Privacy Enhanced Mail

Create key pair

#### key pair name

Key pairs allow you to connect to your instance securely.

Enter key pair name

The name can include upto 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

RSA supports all types of OS

ED25519 will not support on Windows

#### Private key file format

☒ .pem

For use with OpenSSH

.pem will not support in putty but we can login through by converting .pem into .ppk

☐ .ppk

For use with PuTTY

we cannot convert .ppk into .pem

.pem to .ppk

.ppk to .pem



When prompted, store the private key in a secure and accessible location on your computer. **You will need it later to connect to your instance.** [Learn more](#)

Cancel

Create key pair

