

Elastic Compute Cloud EC2

Amazon Elastic Compute Cloud (Amazon EC2) provides scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 eliminates your need to invest in hardware up front, so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. Amazon EC2 enables you to scale up or down to handle changes in requirements or spikes in popularity, reducing your need to forecast traffic.

EC2 provides us with Compute As a Service(CAAS).

Vertical Scaling and horizontal Scaling of EC2 instances can be done.

INSTANCE FAMILIES:

General Purpose.

Compute Optimized.

Memory Optimized.

Accelerated Computing.

Storage Optimized.

EC2 Purchase Options:

On-Demand.

Service Plan.

Reserved Instances.

Spot Instances.

Dedicated Hosts.

Steps To make An EC2 Instance from AWS management Console:

⇒ To search for Ec2 in the console and click the button launch instance from instances in the side bar.
And then adding the necessary details:

-Naming the instance.

-Selecting Image.

-Downloading .ppk Key.

-adding tags.

-finally click the button launch instance.

The screenshot shows the 'Launch an instance' page in the AWS Management Console. The page is divided into two main sections: 'Name and tags' and 'Application and OS Images (Amazon Machine Image)'. In the 'Name and tags' section, the 'Name' field is filled with 'KoushikPurva-B5'. In the 'Application and OS Images' section, the 'Quick Start' tab is selected, showing a search bar and a list of AMIs. The 'Summary' panel on the right shows the configuration: 'Number of instances' is 1, 'Amazon Linux 2 Kernel 5.10 AMI' is selected, 'Virtual server type (instance type)' is 't2.micro', 'Firewall (security group)' is 'New security group', and 'Storage (volumes)' is '1 volume(s) - 8 GiB'. A 'Free tier' notification is displayed. At the bottom right, there are 'Cancel' and 'Launch Instance' buttons.

⇒ EC2 Instance created

The screenshot shows the 'Next Steps' page in the AWS Management Console after launching an EC2 instance. A green success message at the top states 'Successfully initiated launch of instance (i-0389931c51d4f6a26)'. Below this, the 'Next Steps' section contains three cards: 'Create billing and free tier usage alerts', 'Connect to your instance', and 'Connect an RDS database'. Each card has a button to perform the action. At the bottom right, there is a 'View all instances' button.

Docker vs Virtual Machine

Docker:

Docker is an open platform for developing, shipping, and running applications. Docker enables you to separate your applications from your infrastructure so you can deliver software quickly.

Docker provides the ability to package and run an application in a loosely isolated environment called a container.

Containers are lightweight and contain everything needed to run the application, so you do not need to rely on what is currently installed on the host.

Virtual Machine:

A virtual machine (VM) is the virtualization/emulation of a computer system.

One or more virtual “guest” machines run on a physical “host” machine.

Each virtual machine runs its own operating system and functions separately from the other VMs, even when they are all running on the same host.

