Ec2 instance

Amazon EC2 (Elastic Compute Cloud) is a web service interface that provides resizable compute capacity in the AWS cloud. It is designed for developers to have complete control over web-scaling and computing resources.

EC2 instances can be resized and the number of instances scaled up or down as per our requirement. These instances can be launched in one or more geographical locations or regions, and **Availability Zones (AZs)**. Each region comprises of several AZs at distinct locations, connected by low latency networks in the same region.

Features of ec2

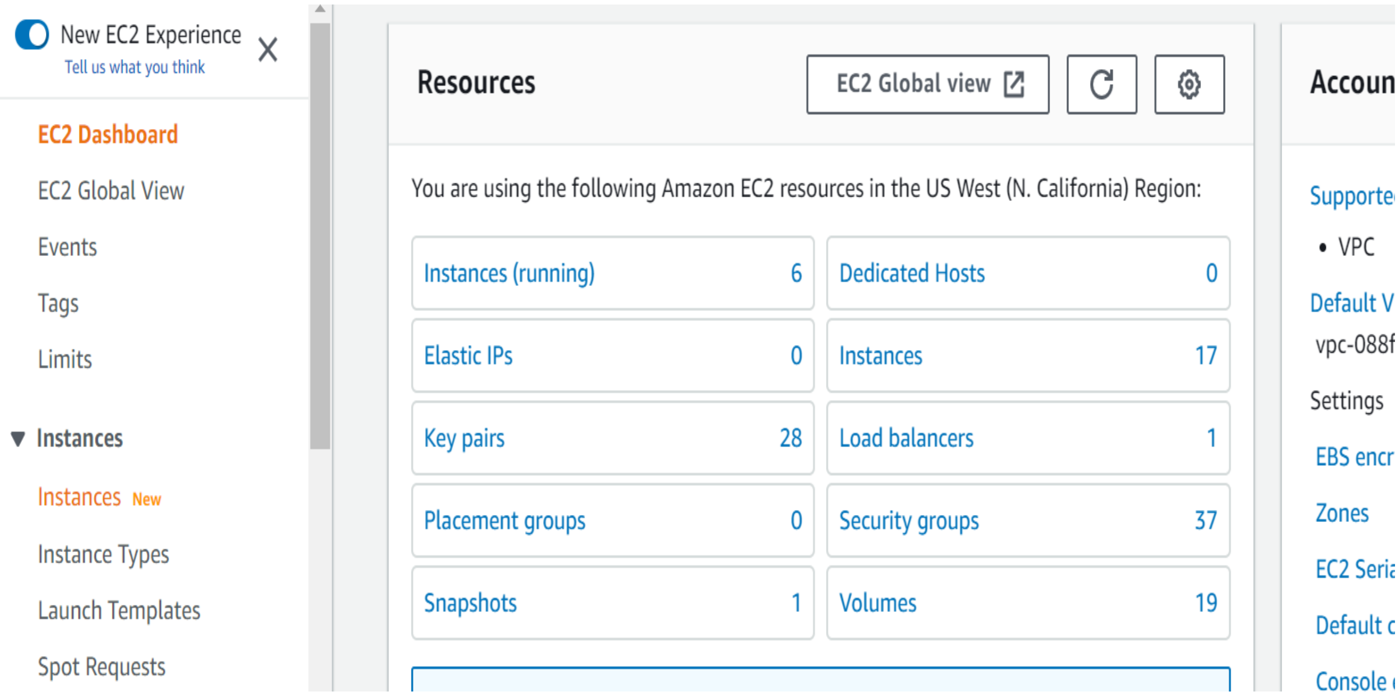
1. **Reliable** − Amazon EC2 offers a highly reliable environment where replacement of instances is rapidly possible. Service Level Agreement commitment is 99.9% availability for each Amazon EC2 region.
2. **Designed for Amazon Web Services** − Amazon EC2 works fine with Amazon services like Amazon S3, Amazon RDS, Amazon DynamoDB, and Amazon SQS. It provides a complete solution for computing, query processing, and storage across a wide range of applications
3. **Secure** − Amazon EC2 works in Amazon Virtual Private Cloud to provide a secure and robust network to resources.
4. **Flexible Tools** − Amazon EC2 provides the tools for developers and system administrators to build failure applications and isolate themselves from common failure situations.
5. **Inexpensive** − Amazon EC2 wants us to pay only for the resources that we use. It includes multiple purchase plans such as On-Demand Instances, Reserved Instances, Spot Instances, etc. which we can choose as per our requirement.

How to Use AWS EC2

1 – Sign-in to AWS account and open EC2 console by using the following link https://console.aws.amazon.com/

2- Now go to ec2 in console

3 – now click on instance to create a instance



New EC2 Experience
Tell us what you think

EC2 Dashboard

EC2 Global View

Events

Tags

Limits

▼ Instances

Instances New

Instance Types

Launch Templates

Spot Requests

Resources

EC2 Global view

You are using the following Amazon EC2 resources in the US West (N. California) Region:

Instances (running)	6	Dedicated Hosts	0
Elastic IPs	0	Instances	17
Key pairs	28	Load balancers	1
Placement groups	0	Security groups	37
Snapshots	1	Volumes	19

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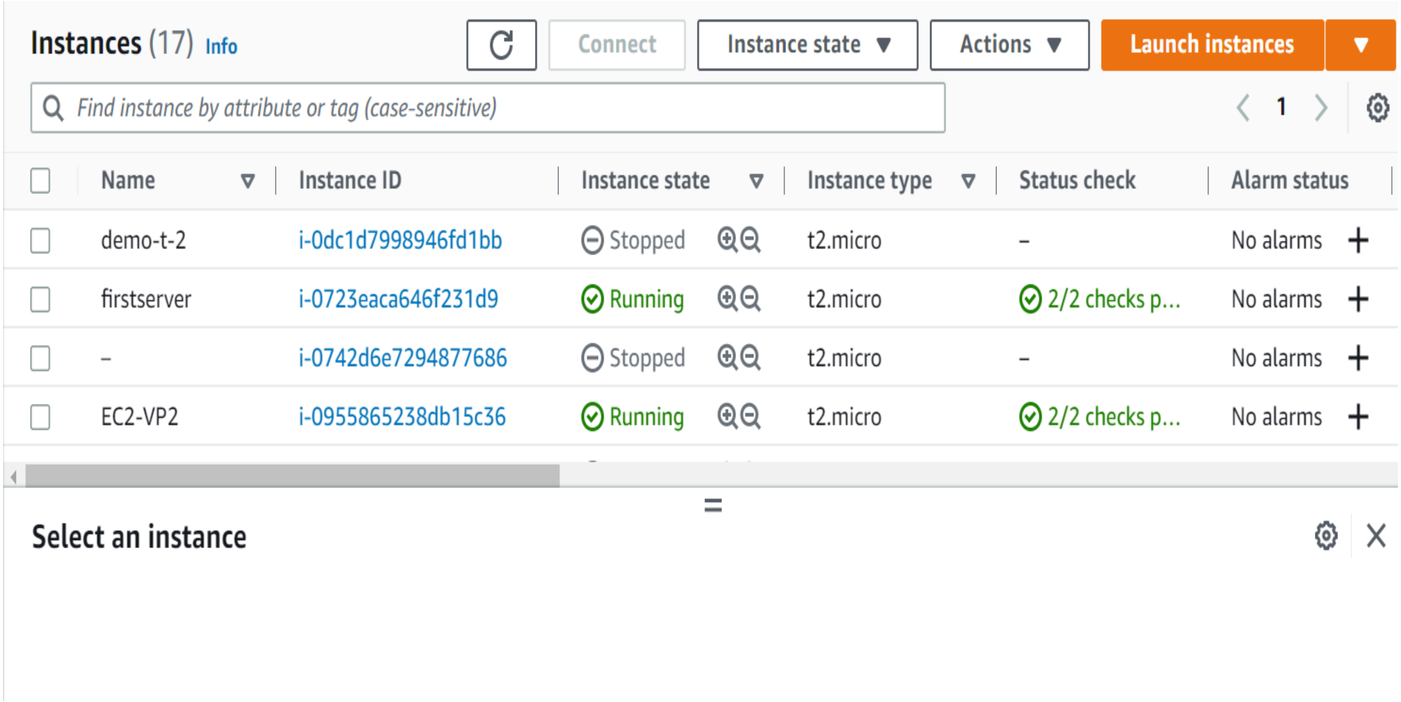
Console

2.Now click on launch instances



Instances (17) Info

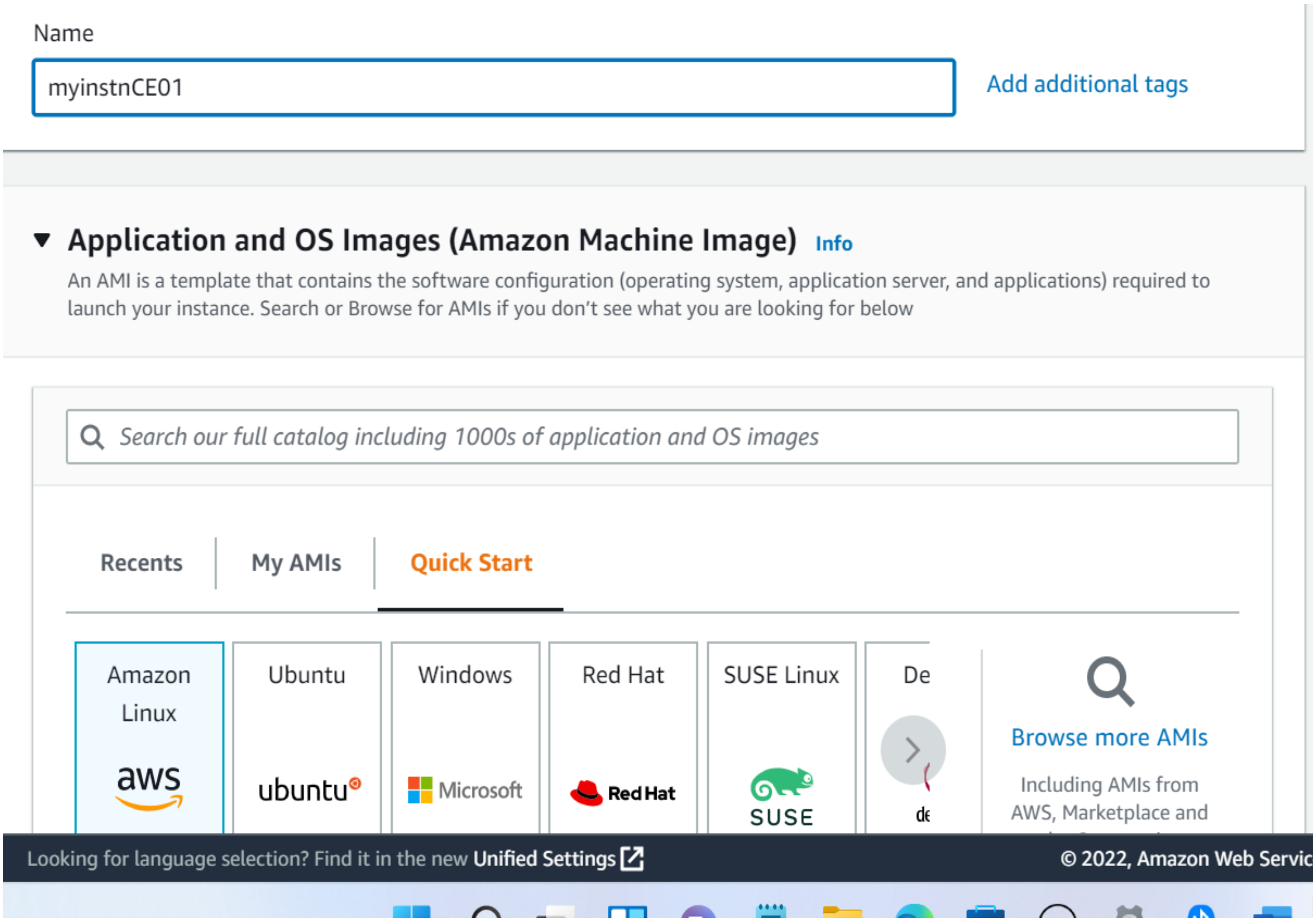
Connect | Instance state ▼ | Actions ▼ | Launch instances ▼

Find instance by attribute or tag (case-sensitive)

□	Name	Instance ID	Instance state	Instance type	Status check	Alarm status
□	demo-t-2	i-0dc1d7998946fd1bb	⊖ Stopped	t2.micro	–	No alarms +
□	firstserver	i-0723eaca646f231d9	✓ Running	t2.micro	✓ 2/2 checks p...	No alarms +
□	–	i-0742d6e7294877686	⊖ Stopped	t2.micro	–	No alarms +
□	EC2-VP2	i-0955865238db15c36	✓ Running	t2.micro	✓ 2/2 checks p...	No alarms +

Select an instance

3.Now fill the details and select ami id according to need


Name

myinstnCE01

▼ 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

Looking for language selection? Find it in the new Unified Settings

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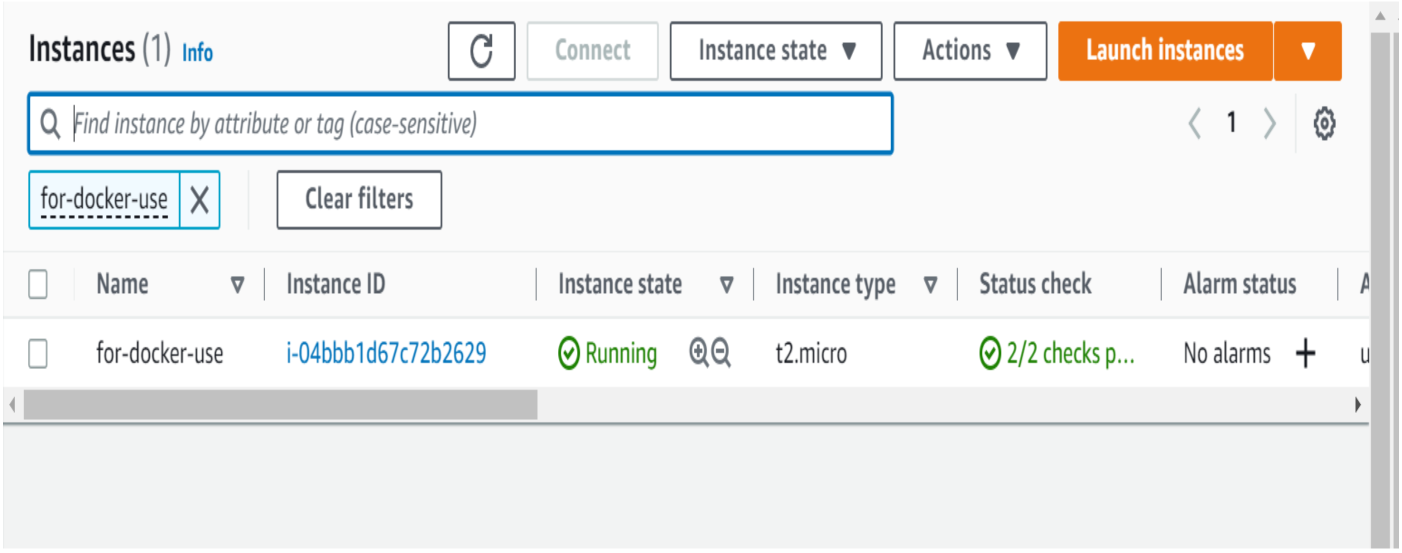
4.now click launch instance and your instance is created

5.Go to ec2 and check your instance by name



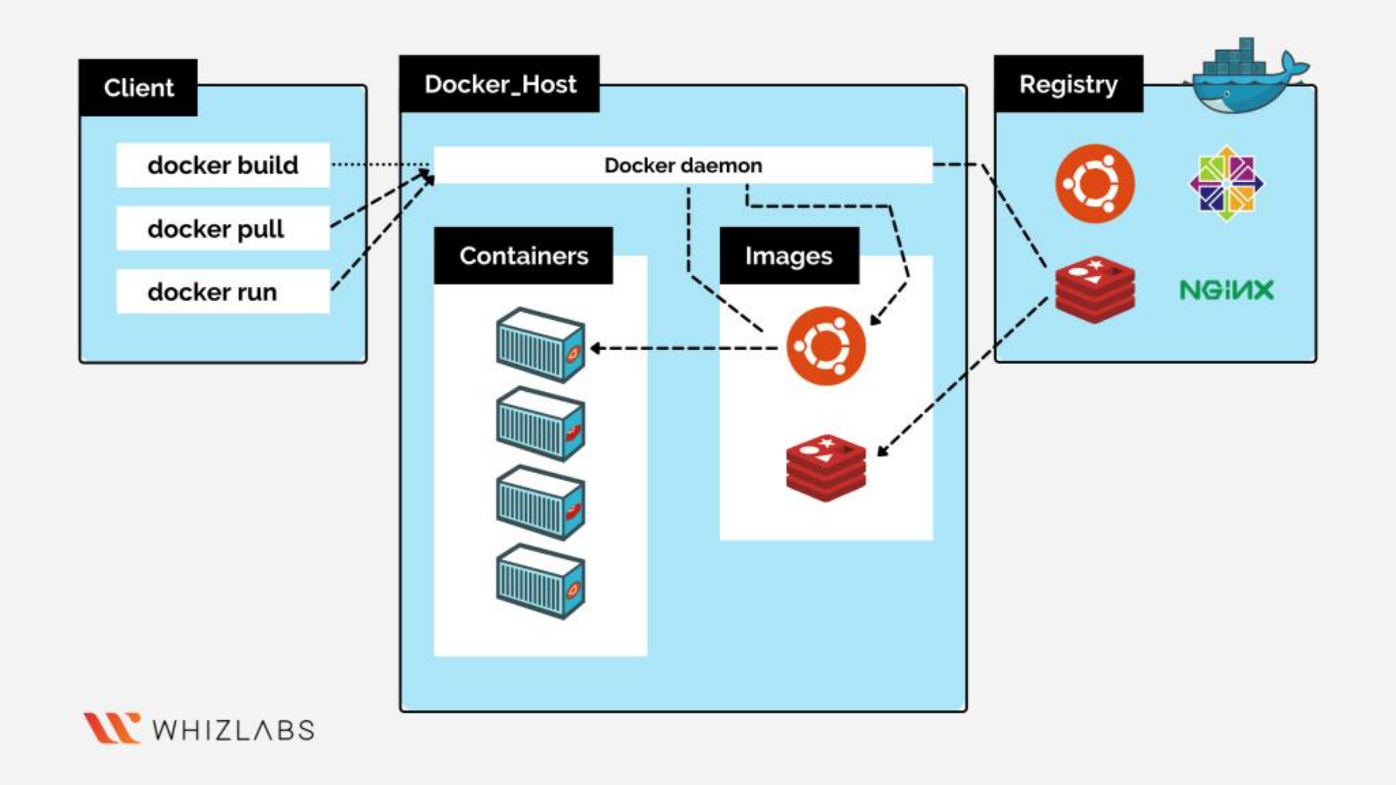
□	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	A
□	for-docker-use	i-04bbb1d67c72b2629	✓ Running	t2.micro	✓ 2/2 checks p...	No alarms +	u

Docker

Docker is a software framework for building, running, and managing containers on servers and the cloud. 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. With Docker, you can manage your infrastructure in the same ways you manage your applications. By taking advantage of Docker's methodologies for shipping, testing, and deploying code quickly, you can significantly reduce the delay between writing code and running it in production.

What can I use Docker for

- Your developers write code locally and share their work with their colleagues using Docker containers.
- They use Docker to push their applications into a test environment and execute automated and manual tests.
- When developers find bugs, they can fix them in the development environment and redeploy them to the test environment for testing and validation.
- When testing is complete, getting the fix to the customer is as simple as pushing the updated image to the production environment



Virtual machine

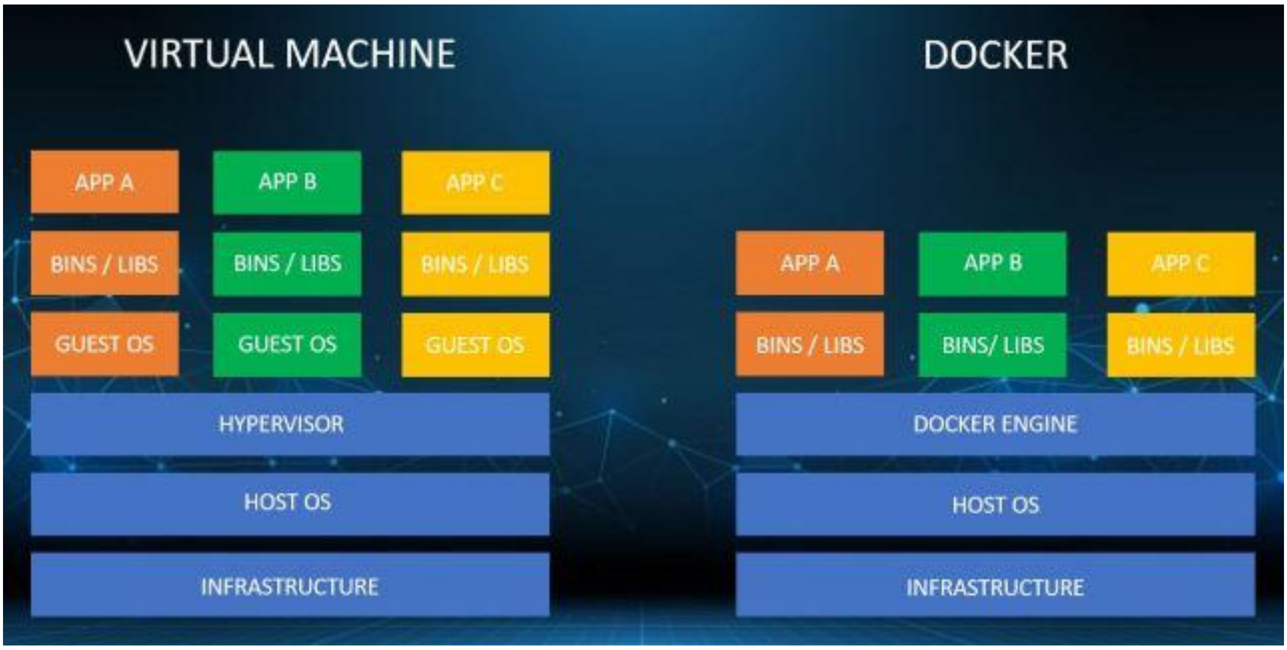
A virtual machine is a system which acts exactly like a computer.

In simple terms, it makes it possible to run what appears to be on many separate computers on hardware, that is one computer. Each virtual machine requires its underlying operating system, and then the hardware is virtualized.

Docker vs virtual machine

Virtual Machine	**Docker Container**
Hardware-level process isolation	OS level process isolation
Each VM has a separate OS	Each container can share OS
Boots in minutes	Boots in seconds
VMs are of few GBs	Containers are lightweight (KBs/MBs)
Ready-made VMs are difficult to find	Pre-built docker containers are easily available
Creating VM takes a relatively longer time	Containers can be created in seconds

Different architecture of both


VIRTUAL MACHINE
APP A
APP B
APP C
BINS / LIBS
BINS / LIBS
BINS / LIBS
GUEST OS
GUEST OS
GUEST OS
HYPERVISOR
HOST OS
INFRASTRUCTURE
DOCKER
APP A
APP B
APP C
BINS / LIBS
BINS/ LIBS
BINS / LIBS
DOCKER ENGINE
HOST OS
INFRASTRUCTURE