

Present By **Amit Ganvir**



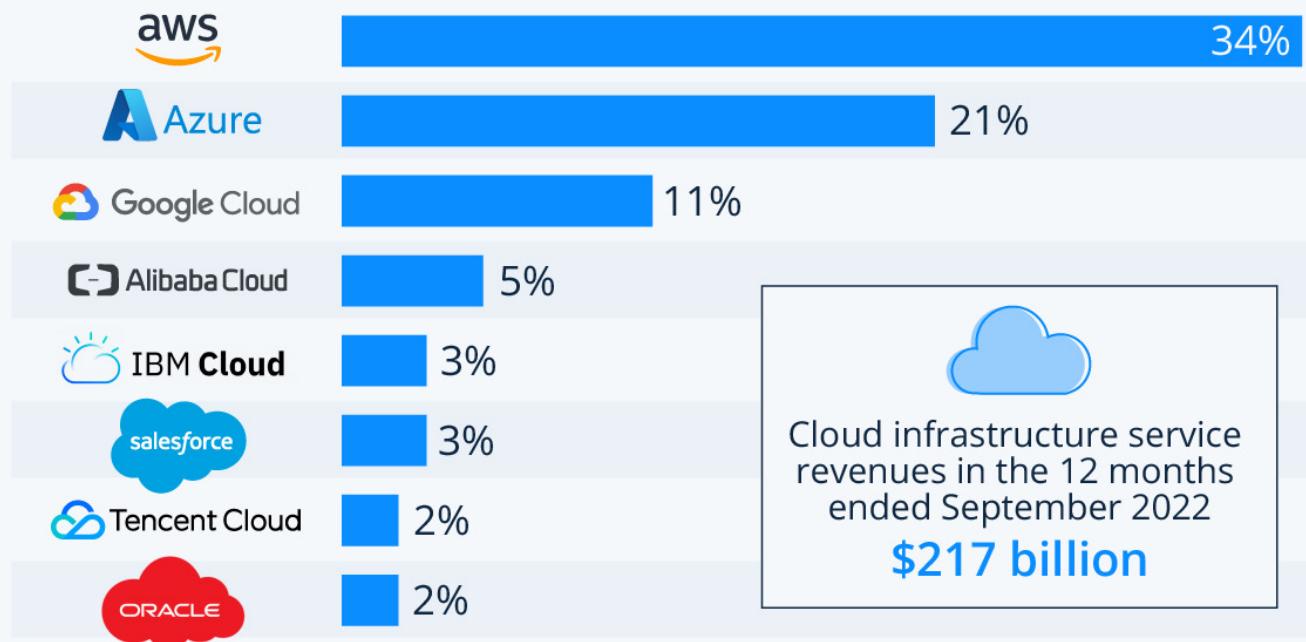
# Overview of Amazon Web Services

- Amazon Web Services offers a broad set of global cloud-based products including
  - Compute, Storage, Databases, Analytics, Networking
  - Mobile
  - developer tools
  - management tools
  - IoT, security
  - enterprise applications: on-demand, available in seconds, with pay-as-you-go pricing
- In 2006, Amazon Web Services (AWS) began offering IT infrastructure services to businesses as web services—now commonly known as cloud computing
- Today, AWS provides a highly reliable, scalable, low-cost infrastructure platform in the cloud that powers hundreds of thousands of businesses in 190 countries around the world
- With the cloud, businesses no longer need to plan for and procure servers and other IT infrastructure weeks or months in advance. Instead, they can instantly spin up hundreds or thousands of servers in minutes and deliver results faster.
- There 200 AWS services are available

# Cloud Service Provider

## Amazon, Microsoft & Google Dominate Cloud Market

Worldwide market share of leading cloud infrastructure service providers in Q3 2022\*



Cloud infrastructure service revenues in the 12 months ended September 2022  
**\$217 billion**

\* includes platform as a service (PaaS) and infrastructure as a service (IaaS) as well as hosted private cloud services

Source: Synergy Research Group

# Cloud Service types



## On-Premises



## IaaS

Infrastructure as a Service



## PaaS

Platform as a Service



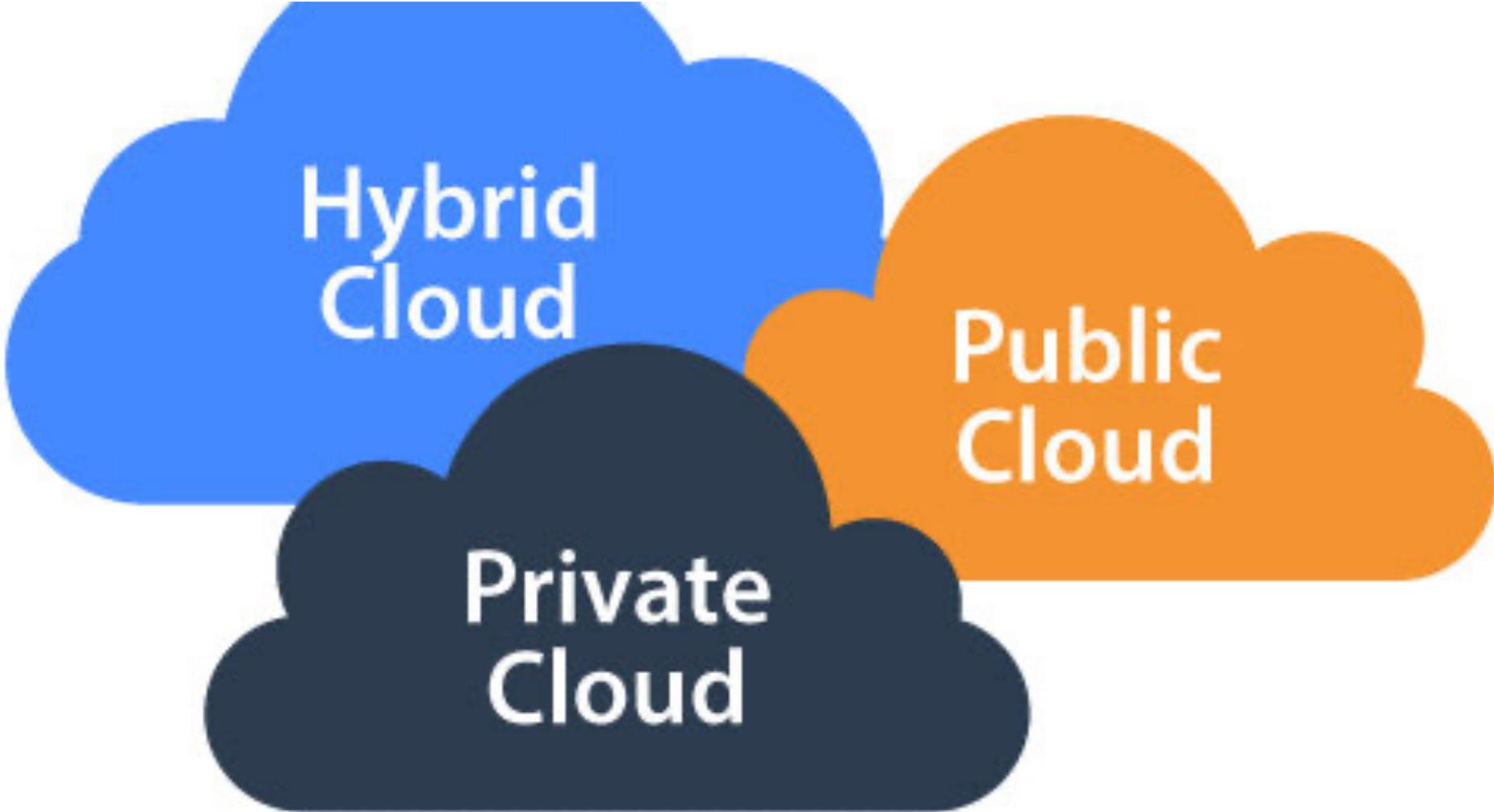
## SaaS

Software as a Service

|                |                |                |                |
|----------------|----------------|----------------|----------------|
| Applications   | Applications   | Applications   | Applications   |
| Data           | Data           | Data           | Data           |
| Runtime        | Runtime        | Runtime        | Runtime        |
| Middleware     | Middleware     | Middleware     | Middleware     |
| O/S            | O/S            | O/S            | O/S            |
| Virtualization | Virtualization | Virtualization | Virtualization |
| Servers        | Servers        | Servers        | Servers        |
| Storage        | Storage        | Storage        | Storage        |
| Networking     | Networking     | Networking     | Networking     |

You Manage

Other Manages



Hybrid  
Cloud

Public  
Cloud

Private  
Cloud

## Types of Cloud Deployment



### Public Cloud

Typically have massive amounts of available space, which translates into easy scalability. Recommended for software development and collaborative projects.

### Private Cloud

Usually reside behind a firewall and are utilized by a single organization. Recommended for businesses with very tight regulatory requirements

### Hybrid Cloud

Combine public clouds with private clouds to allow the two platforms to interact seamlessly. Recommended for businesses balancing big data analytics with strict data privacy regulations.

### Community Cloud

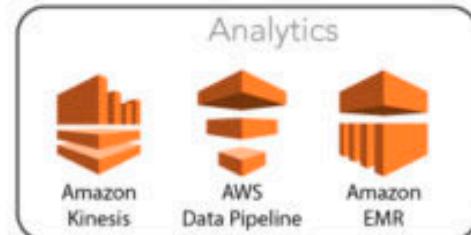
A collaborative, multi-tenant platform used by several distinct organizations to share the same applications. Users are typically operating within the same industry or field.

# AWS Services

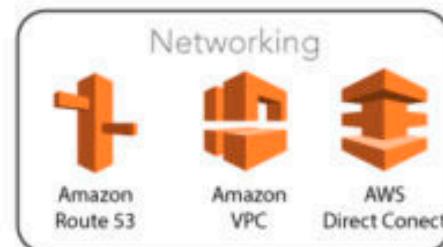
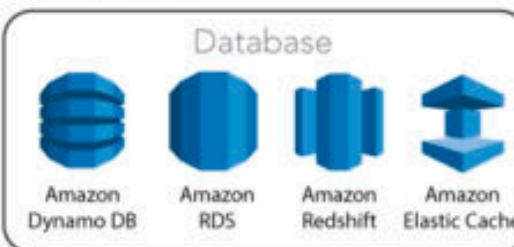
## Deployment & Management



## Application Services



## Foundation Services



**Create AWS Account**

Open the Amazon EC2 console at <https://console.aws.amazon.com>

## What is Amazon EC2?

- Amazon EC2 stand for Amazon Elastic Compute Cloud
- It provides on-demand, scalable computing capacity
- Amazon EC2 to launch as many or as few virtual servers as you need
- You can add capacity (scale up) to handle compute-heavy tasks, such as monthly or yearly processes, or spikes in website traffic. When usage decreases, you can reduce capacity (scale down) again

# Launch the EC2 Instance

**create a key pair** - If you already have a key pair, you don't need to create a new one. You can use your existing key pair for this exercise.

**Step 1:** Open the Amazon EC2 console at <https://console.aws.amazon.com>

**Step 2:** Choose **Launch Instance**.

**Step 3:** Choose an Amazon Machine Image (AMI), find an Amazon Linux 2 AMI at the top of the list and choose **Select**.

**Step 4:** Choose an Instance Type, choose **Next: Configure Instance Details**.

Step 5: Configure Instance Details, provide the following information: - **Optional**

- Leave **Number of instances** at one.
- Leave **Purchasing option** at the default setting.
- For **Network**, choose the entry for the same VPC
- For **Subnet**, choose a default subnet in any Availability Zone.
- The **User data** automatically includes the commands

**Step 6:** Choose **Next: Add Storage - Optional**

**Step 7:** Choose **Next: Add Tags - Optional**

**Step 8:** Name your instance and choose **Next: Configure Security Group**.

**Step 9: Configure Security Group**, set **Assign a security group** to **Select an existing security group**.

**Step 10:** Choose **Review and Launch**.

**Step 11:** Choose **Launch**.



Services

Search

[Option+S]



## Launch an instance Info

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Step1

### Name and tags Info

Name

t1

Add additional tags

### ▼ 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

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

Recents

Quick Start

Step2

Amazon Linux



macOS



Ubuntu



Windows



Red Hat



S



Browse more AMIs

Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

Ubuntu Server 20.04 LTS (HVM), SSD Volume Type

ami-0778521d914d23bc1 (64-bit (x86)) / ami-0620aa8714211d0af (64-bit (Arm))

Virtualization: hvm ENA enabled: true Root device type: ebs

Free tier eligible

### ▼ Summary

Number of instances Info

1

Software Image (AMI)

Canonical, Ubuntu, 20.04 LTS, ...[read more](#)  
ami-0778521d914d23bc1

Virtual server type (instance type)

t2.micro

Firewall (security group)

mymac

Storage (volumes)

1 volume(s) - 8 GiB

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel

Launch instance

Services Search [Options]

Instance type Info

Instance type Step 3

t2.micro Family: t2 1 vCPU 1 GiB Memory  
On-Demand Linux pricing: 0.0116 USD per Hour  
On-Demand Windows pricing: 0.0162 USD per Hour

Free tier eligible Compare instance types

Key pair (login) Info

You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.

Step 4 Key pair name - required

mac2 Create new key pair

Network settings Info

Network Info  
vpc-07cab67d | Default

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

Summary

Number of instances Info  
1

Software Image (AMI)  
Canonical, Ubuntu, 20.04 LTS, ...[read more](#)  
ami-0778521d914d23bc1

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
mymac

Storage (volumes)  
1 volume(s) - 8 GiB

**Free tier:** In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

aws | Services Search [Option+S]

Network settings [Info](#)

Network [Info](#)  
vpc-07cab67d | Default

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 Step 5       Select existing security group

Security groups [Info](#)  
Select security groups ▾

mymac sg-07b7162dc8a3fb933 X  
VPC: vpc-07cab67d

Configure storage [Info](#)

Advanced

1x 8 GiB gp2 Root volume (Not encrypted)

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

Add new volume

Summary

Number of instances [Info](#)  
1

Software Image (AMI)  
Canonical, Ubuntu, 20.04 LTS, ...[read more](#)  
ami-0778521d914d23bc1

Virtual server type (instance type)  
t2.micro

Firewall (security group)  
mymac

Storage (volumes)  
1 volume(s) - 8 GiB

Free tier: In your first year includes 750 hours of t2.micro (or t3.micro in the Regions in which t2.micro is unavailable) instance usage on free tier AMIs per month, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet. X

Step 6

Cancel [Launch instance](#)

The screenshot shows the AWS Launch Wizard interface. On the left, under 'Network settings', the 'Create security group' option is circled in red. On the right, in the 'Summary' section, a callout box highlights the 'Free tier' information, and a red arrow points from this box to the 'Launch instance' button at the bottom right of the summary panel.

## What is Amazon S3?

- Amazon S3 stand for Amazon Simple Storage Service
- It is an object storage service
- offers industry-leading scalability, data availability, security, and performance
- Amazon S3 to store and protect any amount of data for a range of use cases, such as data lakes, websites, mobile applications, backup and restore, archive, enterprise applications, IoT devices, and big data analytics

## **Data Available in Github Repository**

<https://github.com/amitganvir23/devops-session>

<https://www.aquasec.com/cloud-native-academy/kubernetes-101/kubernetes-dashboard/>



Thank  
You!

<https://www.serverkaka.com/2018/08/enable-password-authentication-aws-ec2-instance.html>