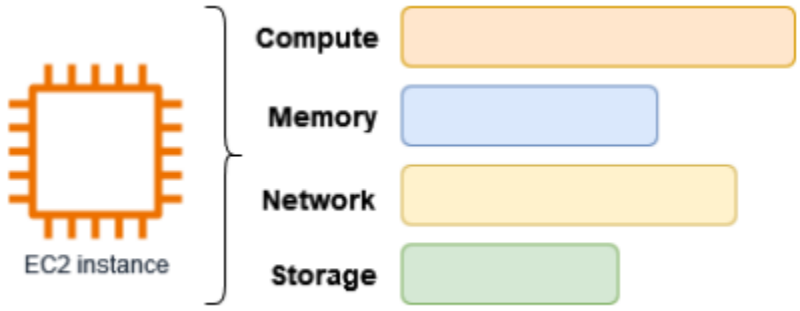
EC2 INSTANCE

What is AWS(Amazon Web Services)?
AWS is a comprehensive cloud platform offering a wide range of services such as storage, computing, databases, and networking. It enables businesses to build, deploy, and manage applications without the need for physical infrastructure.

Features AWS provides are:

- Global Cloud Platform
- Used by around 80 percent of Fortune 500 Companies
- Infrastructure as Service
- Platform as Service
- Software as Service
- Cloud Storage Platform

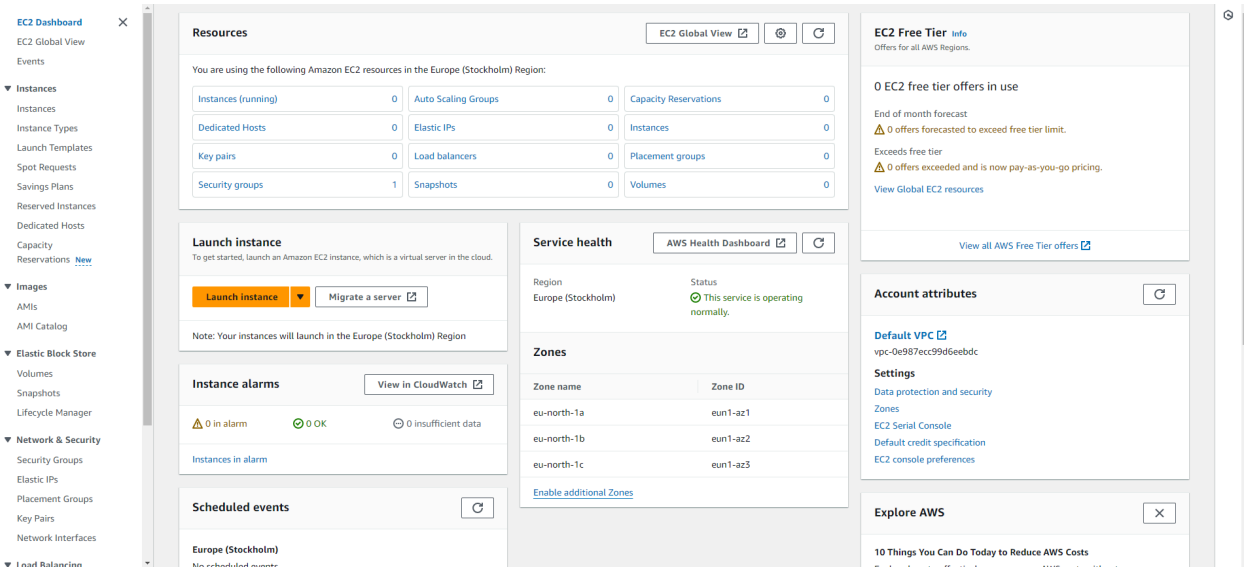
What is Amazon EC2?
Amazon Elastic Compute Cloud (Amazon EC2) provides on-demand, scalable computing capacity in the Amazon Web Services (AWS) Cloud. Using Amazon EC2 reduces hardware costs so you can develop and deploy applications faster. You can use Amazon EC2 to launch as many or as few virtual servers as you need, configure security and networking, and manage storage. 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. An EC2 instance is a virtual server in the AWS Cloud. When you launch an EC2 instance, the instance type that you specify determines the hardware available to your instance. Each instance type offers a different balance of compute, memory, network, and storage resources.

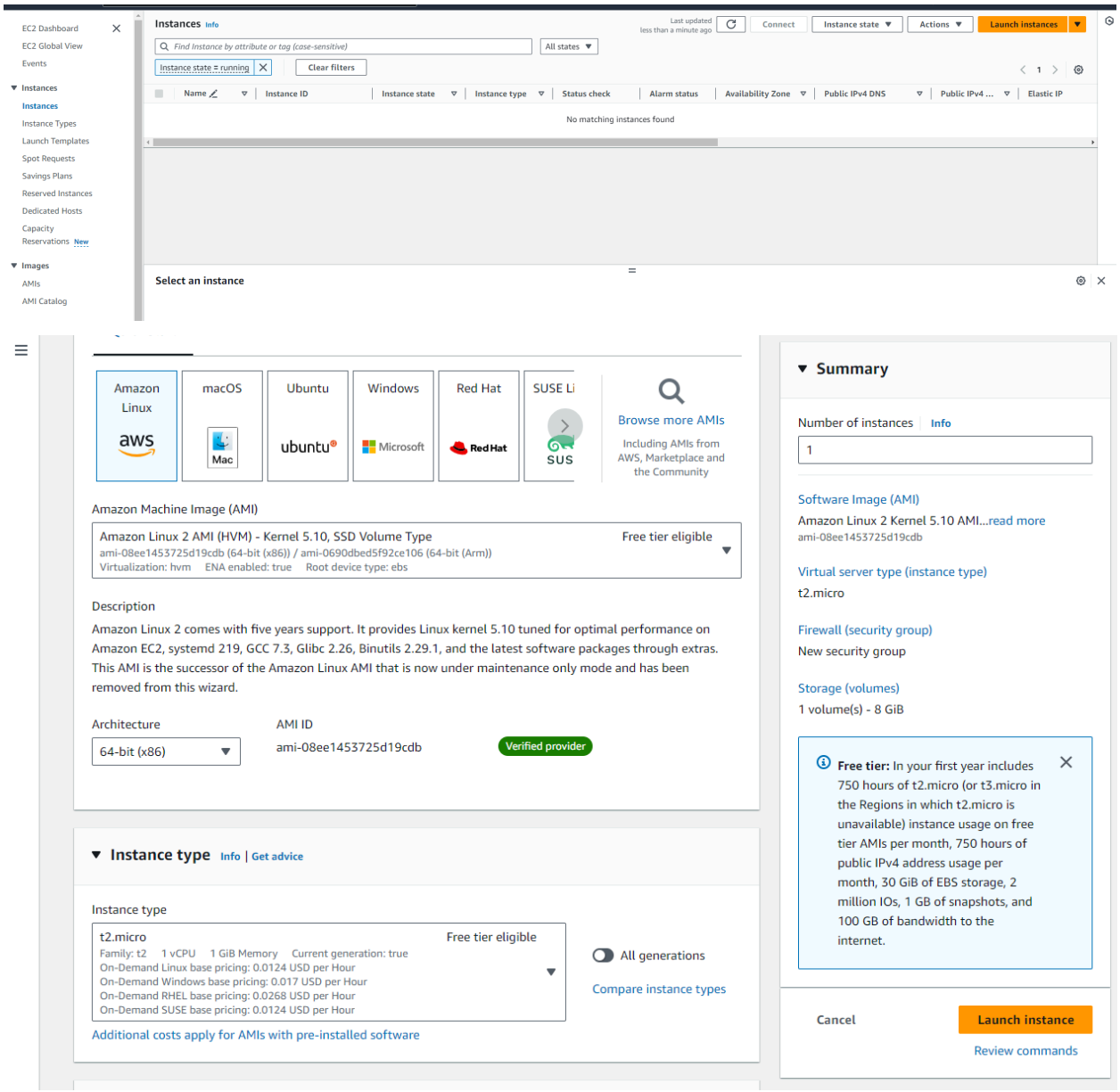


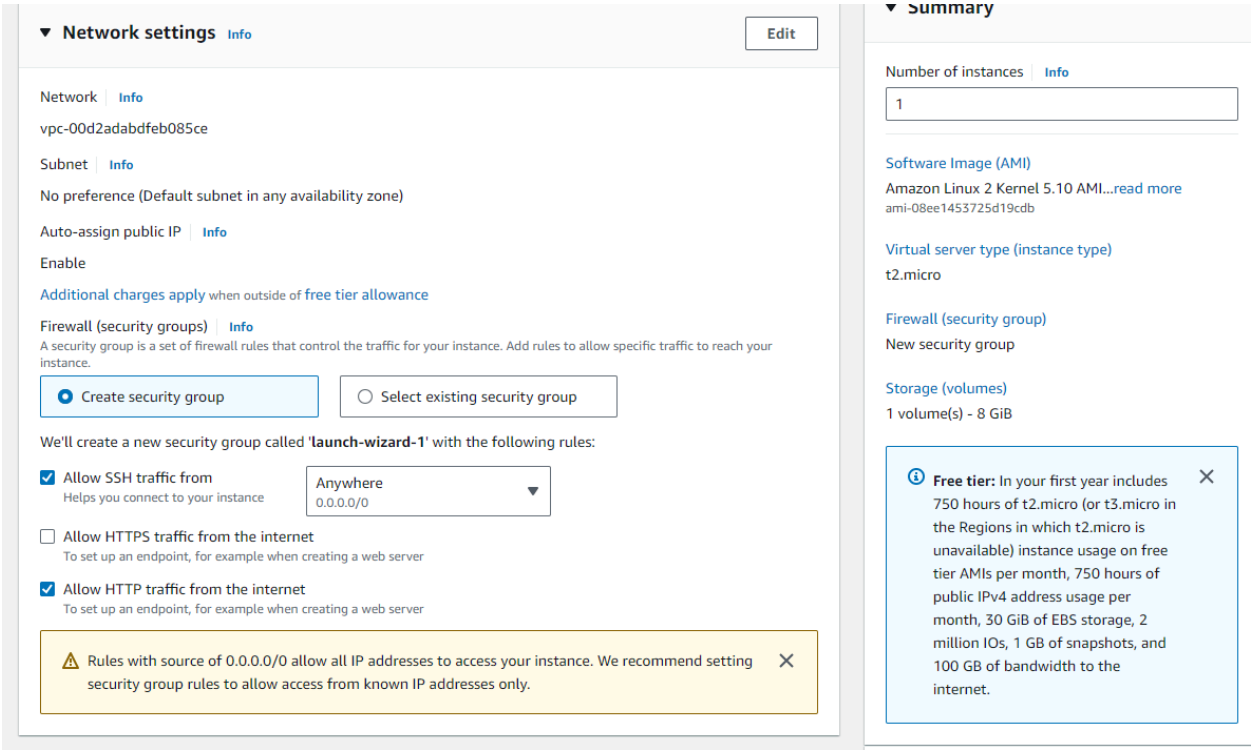
Features of Amazon EC2
Amazon EC2 provides the following high-level features:

- Instances: Virtual servers.

- Amazon Machine Images (AMIs): Preconfigured templates for your instances that package the components you need for your server (including the operating system and additional software).
- Instance types: Various configurations of CPU, memory, storage, networking capacity, and graphics hardware for your instances.
- Amazon EBS volumes: Persistent storage volumes for your data using Amazon Elastic Block Store (Amazon EBS).
- Instance store volumes: Storage volumes for temporary data that is deleted when you stop, hibernate, or terminate your instance.
- Key pairs: Secure login information for your instances. AWS stores the public key and you store the private key in a secure place.
- Security groups: A virtual firewall that allows you to specify the protocols, ports, and source IP ranges that can reach your instances, and the destination IP ranges to which your instances can connect.




EC2 Dashboard
EC2 Global View
Events
Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations New
Images
AMIs
AMI Catalog
Instances Info
Last updated less than a minute ago
Connect
Instance state
Actions
Launch instances
Find Instance by attribute or tag (case-sensitive)
All states
Instance state = running
Clear filters
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
Public IPv4 ...
Elastic IP
No matching instances found
Select an instance
Amazon Linux
macOS
Ubuntu
Windows
Red Hat
SUSE Li
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-08ee1453725d19cdb (64-bit (x86)) / ami-0690dbed5f92ce106 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs
Description
Amazon Linux 2 comes with five years support. It provides Linux kernel 5.10 tuned for optimal performance on Amazon EC2, systemd 219, GCC 7.3, Glibc 2.26, Binutils 2.29.1, and the latest software packages through extras. This AMI is the successor of the Amazon Linux AMI that is now under maintenance only mode and has been removed from this wizard.
Architecture
64-bit (x86)
AMI ID
ami-08ee1453725d19cdb
Verified provider
Instance type Info | Get advice
Instance type
t2.micro
Free tier eligible
Family: t2 1 vCPU 1 GiB Memory Current generation: true
On-Demand Linux base pricing: 0.0124 USD per Hour
On-Demand Windows base pricing: 0.017 USD per Hour
On-Demand RHEL base pricing: 0.0268 USD per Hour
On-Demand SUSE base pricing: 0.0124 USD per Hour
All generations
Compare instance types
Additional costs apply for AMIs with pre-installed software
Summary
Number of instances Info
1
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-08ee1453725d19cdb
Virtual server type (instance type)
t2.micro
Firewall (security group)
New security group
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, 750 hours of public IPv4 address usage 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
Review commands


Network settings Info
Edit
Network Info
vpc-00d2adabdfeb085ce
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
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
Allow HTTP traffic from the internet
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.
Summary
Number of instances Info
1
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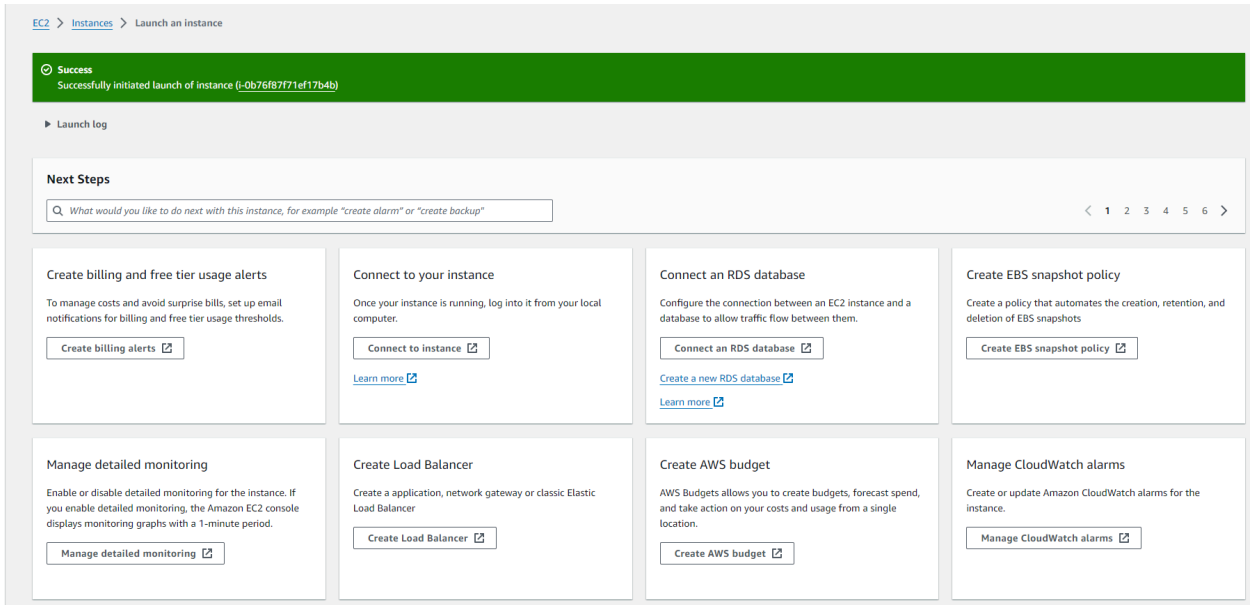
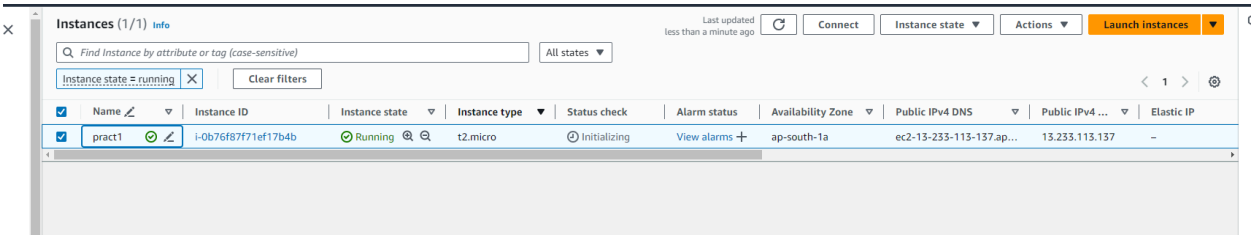

EC2 > Instances > Launch an instance
Success
Successfully initiated launch of instance (i-0b76f87f71ef17b4b)
Launch log
Next Steps
What would you like to do next with this instance, for example "create alarm" or "create backup"
Create billing and free tier usage alerts
To manage costs and avoid surprise bills, set up email notifications for billing and free tier usage thresholds.
Create billing alerts
Connect to your instance
Once your instance is running, log into it from your local computer.
Connect to instance
Learn more
Connect an RDS database
Configure the connection between an EC2 instance and a database to allow traffic flow between them.
Connect an RDS database
Create a new RDS database
Learn more
Create EBS snapshot policy
Create a policy that automates the creation, retention, and deletion of EBS snapshots
Create EBS snapshot policy
Manage detailed monitoring
Enable or disable detailed monitoring for the instance. If you enable detailed monitoring, the Amazon EC2 console displays monitoring graphs with a 1-minute period.
Manage detailed monitoring
Create Load Balancer
Create a application, network gateway or classic Elastic Load Balancer
Create Load Balancer
Create AWS budget
AWS Budgets allows you to create budgets, forecast spend, and take action on your costs and usage from a single location.
Create AWS budget
Manage CloudWatch alarms
Create or update Amazon CloudWatch alarms for the instance.
Manage CloudWatch alarms


Instances (1/1) Info
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Find Instance by attribute or tag (case-sensitive)
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Availability Zone
Public IPv4 DNS
Public IPv4 ...
Elastic IP
pract1
i-0b76f87f71ef17b4b
Running
t2.micro
Initializing
View alarms
ap-south-1a
ec2-13-233-113-137.ap...
13.233.113.137
–

EC2 > Instances > i-0b76f87f71ef17b4b > Connect to instance

Connect to instance Info

Connect to your instance i-0b76f87f71ef17b4b (pract1) using any of these options

EC2 Instance Connect | Session Manager | SSH client | EC2 serial console

Port 22 (SSH) is open to all IPv4 addresses
Port 22 (SSH) is currently open to all IPv4 addresses, indicated by **0.0.0.0/0** in the inbound rule in your security group. For increased security, consider restricting access to only the EC2 Instance Connect service IP addresses for your Region: 13.233.177.0/29. Learn more.

Instance ID
i-0b76f87f71ef17b4b (pract1)

Connection Type

- (●) Connect using EC2 Instance Connect
  Connect using the EC2 Instance Connect browser-based client, with a public IPv4 address.
- ( ) Connect using EC2 Instance Connect Endpoint
  Connect using the EC2 Instance Connect browser-based client, with a private IPv4 address and a VPC endpoint.

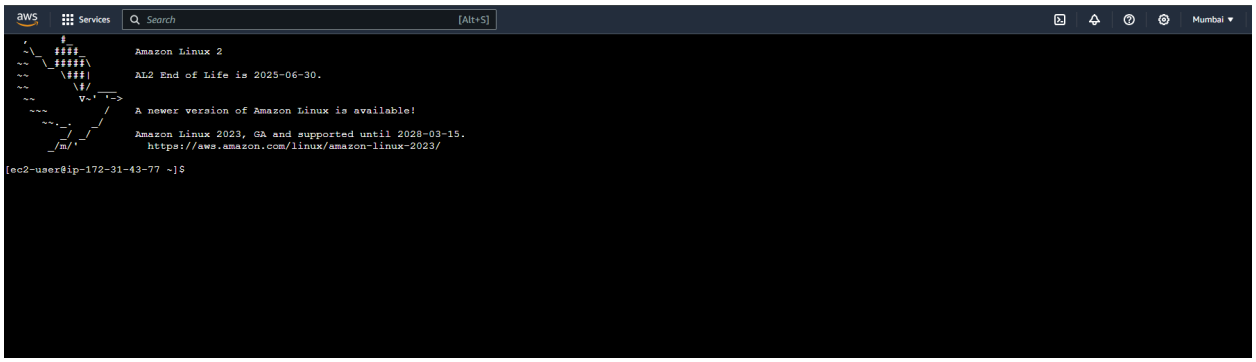
Public IP address
13.233.113.137

Username
Enter the username defined in the AMI used to launch the instance. If you didn't define a custom username, use the default username, ec2-user.

Pratik

Note: In most cases, the default username, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.

Cancel | Connect



```
[ec2-user@ip-172-31-43-77 ~]$ python --version
Python 2.7.18
[ec2-user@ip-172-31-43-77 ~]$ pwd
/home/ec2-user
[ec2-user@ip-172-31-43-77 ~]$ sudo su
[root@ip-172-31-43-77 ec2-user]# yum update
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
amzn2-core                                                                                          | 3.6 kB  00:00:00
No packages marked for update
[root@ip-172-31-43-77 ec2-user]# yum install httpd
Loaded plugins: extras_suggestions, langpacks, priorities, update-motd
Resolving Dependencies
--> Running transaction check
---> Package httpd.x86_64 0:2.4.62-1.amzn2.0.2 will be installed
--> Processing Dependency: httpd-filesystem = 2.4.62-1.amzn2.0.2 for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: httpd-tools = 2.4.62-1.amzn2.0.2 for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: /etc/mime.types for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: httpd-filesystem for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: mod_http2 for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: system-logos-httpd for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: libapr-1.so.0()(64bit) for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Processing Dependency: libaprutil-1.so.0()(64bit) for package: httpd-2.4.62-1.amzn2.0.2.x86_64
--> Running transaction check
---> Package apr.x86_64 0:1.7.2-1.amzn2 will be installed
---> Package apr-util.x86_64 0:1.6.3-1.amzn2.0.1 will be installed
--> Processing Dependency: apr-util-bdb(x86-64) = 1.6.3-1.amzn2.0.1 for package: apr-util-1.6.3-1.amzn2.0.1.x86_64
---> Package generic-logos-httpd.noarch 0:18.0.0-4.amzn2 will be installed
---> Package httpd-filesystem.noarch 0:2.4.62-1.amzn2.0.2 will be installed
---> Package httpd-tools.x86_64 0:2.4.62-1.amzn2.0.2 will be installed
---> Package mailcap.noarch 0:2.1.41-2.amzn2 will be installed
---> Package mod_http2.x86_64 0:1.15.19-1.amzn2.0.2 will be installed
--> Running transaction check
---> Package apr-util-bdb.x86_64 0:1.6.3-1.amzn2.0.1 will be installed
--> Finished Dependency Resolution

Dependencies Resolved

================================================================================================================
 Package                 Arch            Version                      Repository                          Size
================================================================================================================
Installing:
 httpd                   x86_64          2.4.62-1.amzn2.0.2           amzn2-core                          1.4 M
Installing for dependencies:
 apr                     x86_64          1.7.2-1.amzn2                amzn2-core                          130 k
 apr-util                x86_64          1.6.3-1.amzn2.0.1            amzn2-core                          101 k
 apr-util-bdb            x86_64          1.6.3-1.amzn2.0.1            amzn2-core                           22 k
```

```
Installed:
  httpd.x86_64 0:2.4.62-1.amzn2.0.2

Dependency Installed:
  apr.x86_64 0:1.7.2-1.amzn2             apr-util.x86_64 0:1.6.3-1.amzn2.0.1 apr-util-bdb.x86_64 0:1.6.3-1.amzn2.0.1 generic-logos-httpd.noarch 0:18.0.0-4.amzn2 httpd-filesystem.noarch 0:2.4.62-1.amzn2.0.2
  httpd-tools.x86_64 0:2.4.62-1.amzn2.0.2 mailcap.noarch 0:2.1.41-2.amzn2     mod_http2.x86_64 0:1.15.19-1.amzn2.0.2

Complete!
[root@ip-172-31-43-77 ec2-user]# systemctl start httpd
[root@ip-172-31-43-77 ec2-user]# systemctl start enable httpd
Failed to start enable.service: Unit not found.
[root@ip-172-31-43-77 ec2-user]# systemctl enable httpd
Created symlink from /etc/systemd/system/multi-user.target.wants/httpd.service to /usr/lib/systemd/system/httpd.service.
[root@ip-172-31-43-77 ec2-user]#
```

Conclusion: Amazon Web Services (AWS) is a leading cloud computing platform that offers a wide range of scalable and flexible services for businesses and developers. Key features include cost-effectiveness, robust security, and a comprehensive suite of tools. Among these services, EC2 (Elastic Compute Cloud) provides virtual server instances optimized for various workloads, allowing users to run everything from simple applications to complex data processing tasks. Together, AWS and EC2 enable organizations to leverage cloud technology for greater innovation and operational efficiency.