

AWS SOLUTIONS ARCHITECT

ASSIGNMENT-2

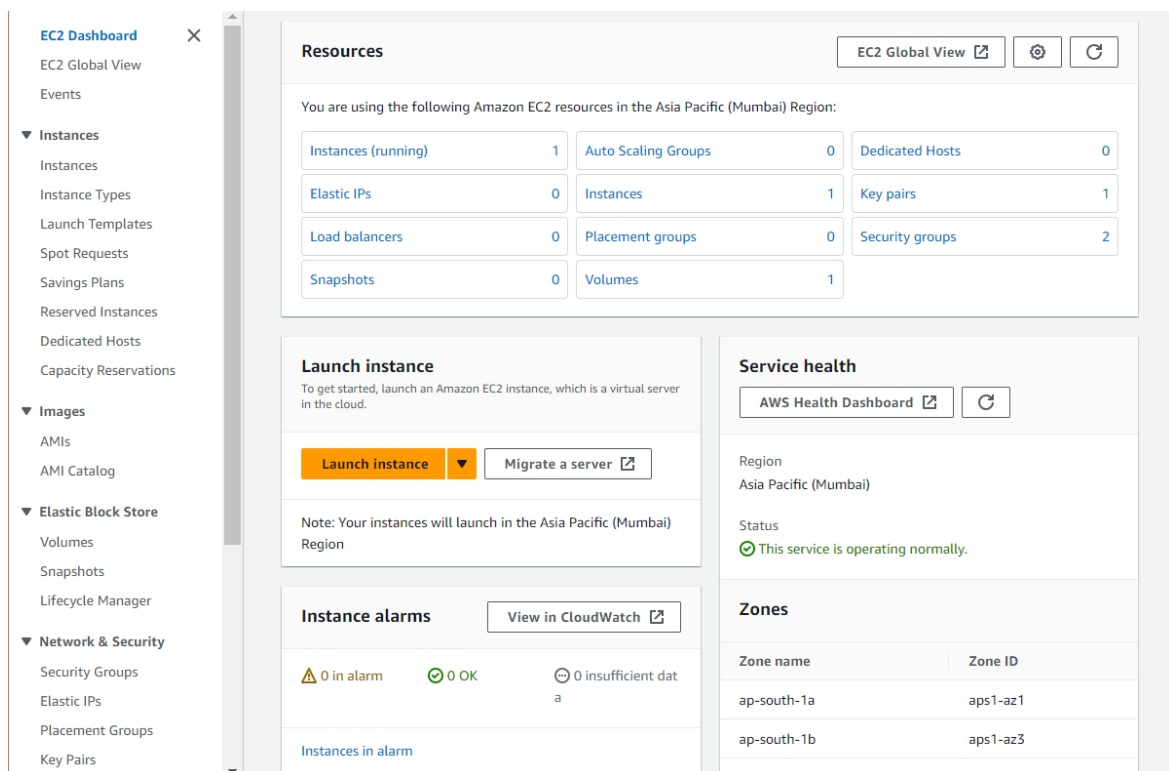
HARINI L

22BCE5233

SERIAL NUMBER:106

2. Create an EC2 instance and launch a static website

Navigate to EC2 Service



The screenshot shows the AWS Management Console for the EC2 service. The left sidebar contains navigation links for EC2 Dashboard, EC2 Global View, Events, Instances, Instance Types, Launch Templates, Spot Requests, Savings Plans, Reserved Instances, Dedicated Hosts, Capacity Reservations, Images, AMIs, AMI Catalog, Elastic Block Store, Volumes, Snapshots, Lifecycle Manager, Network & Security, Security Groups, Elastic IPs, Placement Groups, and Key Pairs.

The main content area is titled "Resources" and shows the following Amazon EC2 resources in the Asia Pacific (Mumbai) Region:

Resource	Count
Instances (running)	1
Elastic IPs	0
Load balancers	0
Snapshots	0
Auto Scaling Groups	0
Instances	1
Placement groups	0
Volumes	1
Dedicated Hosts	0
Key pairs	1
Security groups	2

The "Launch instance" section provides instructions on how to get started and includes a "Launch instance" button and a "Migrate a server" link. A note states: "Your instances will launch in the Asia Pacific (Mumbai) Region".

The "Instance alarms" section shows the status of alarms: 0 in alarm, 0 OK, and 0 insufficient data. A "View in CloudWatch" link is provided.

The "Service health" section shows the AWS Health Dashboard and indicates that the service is operating normally in the Asia Pacific (Mumbai) Region.

The "Zones" section lists the available zones in the region:

Zone name	Zone ID
ap-south-1a	aps1-az1
ap-south-1b	aps1-az3
ap-south-1c	aps1-az2

Launching an instance

EC2 Dashboard
EC2 Global View
Events
▼ Instances
Instances
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances
Dedicated Hosts
Capacity Reservations
▼ Images
AMIs
AMI Catalog
▼ Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
▼ Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
▼ Load Balancing
Load Balancers
Target Groups
Trust Stores [New](#)
▼ Auto Scaling
Auto Scaling Groups
Settings

Instances (1) [Info](#)

All states

	Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
<input type="checkbox"/>	First_Instance	i-086c26fe202c13bb1	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1a	ec2-13-235-246-17.ap-...	13.235.246.17	-	-

Select an instance

Choose an Amazon Machine Image (AMI)

[EC2](#) > [Instances](#) > Launch an instance

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.

Name and tags [Info](#)

Name
 [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

Recents | **Quick Start**

[Browse more AMIs](#)
Including AMIs from AWS, Marketplace and the Community

Amazon Machine Image (AMI)

▼ Summary

Number of instances [Info](#)

[Software Image \(AMI\)](#)
Amazon Linux 2023 AMI 2023.5.2...[read more](#)
ami-0a4408457f9a03be3

[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 I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel **Launch instance**

[Review commands](#)

CREATING SECURITY GROUPS AND OPEN PORTS 80 AND 22

▼ Network settings

Info

Edit

Network

Info

vpc-045b3ff08e095e0b0

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-2' 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.

×

Number of instances

Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.5.2...read more

ami-0a4408457f9a03be3

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

Review commands

Create security group

Info

A security group acts as a virtual firewall for your instance to control inbound and outbound traffic. To create a new security group, complete the fields below.

Basic details

Security group name

Info

Web_server

Name cannot be edited after creation.

Description

Info

allow access on ports 80 and 22

VPC

Info

vpc-045b3ff08e095e0b0

Inbound rules

Info

Inbound rule 1

Delete

Type

Info

SSH

Protocol

Info

TCP

Port range

Info

22

VPC dashboard

EC2 Global View

Filter by VPC

Virtual private cloud

Your VPCs

Subnets

Route tables

Internet gateways

Egress-only internet gateways

DHCP option sets

Elastic IPs

Managed prefix lists

Endpoints

Endpoint services

NAT gateways

Peering connections

Security

Network ACLs

Security groups

Security group (sg-01a6db7f312ac529a | Web_server) was created successfully

Details

VPC > Security Groups > sg-01a6db7f312ac529a - Web_server

sg-01a6db7f312ac529a - Web_server

Actions

Details

Security group name	Security group ID
Web_server	sg-01a6db7f312ac529a
Description	VPC ID
allow access on ports 80 and 22	yvc-045b3ff08e095e0b0
Owner	Inbound rules count
010928221736	1 Permission entry
Outbound rules count	
1 Permission entry	

Inbound rules

Outbound rules

Tags

Summary

Number of instances

Info

1

Software Image (AMI)

Amazon Linux 2023 AMI 2023.5.2...read more

ami-0a4408457f9a03be3

Virtual server type (instance type)

t2.micro

Firewall (security group)

New security group

Storage (volumes)

1 volume(s) - 8 GiB

Cancel

Launch instance

Review commands

EC2 > Instances > Launch an instance

Success

Successfully initiated launch of instance (i-00052dd4a0d220cab)

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

Create Load Balancer

Create a application, network

Create AWS budget

AWS Budgets allows you to create

Manage CloudWatch alarms

Create or update Amazon

EC2 Dashboard

EC2 Global View

Events

Instances

Instances

Instance Types

Launch Templates

Spot Requests

Savings Plans

Reserved Instances

Dedicated Hosts

Capacity Reservations

Images

AMIs

AMI Catalog

Elastic Block Store

Volumes

Snapshots

Lifecycle Manager

Network & Security

Security Groups

Elastic IPs

Placement Groups

Key Pairs

Network Interfaces

Load Balancing

Load Balancers

Target Groups

Trust Stores

Auto Scaling

Auto Scaling Groups

Instances (1) info

Find instance by attribute or tag (case-sensitive)

All states

Connect

Instance state

Actions

Launch instances

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public IPv4 DNS	Public IPv4 ...	Elastic IP	IPv6 IPs
First_Instance	i-086c26fe202c13bb1	Running	t2.micro	2/2 checks passed	View alarms	ap-south-1a	ec2-13-235-246-17.ap-...	13.235.246.17	-	-

Select an instance

EC2 > Instances > i-086c26fe202c13bb1 > Connect to instance

Connect to instance info

Connect to your instance i-086c26fe202c13bb1 (First_Instance) 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-086c26fe202c13bb1 (First_Instance)

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

13.235.246.17

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.


ec2-user

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.

SSH INTO THE EC2 INSTANCE

```
A newer release of "Amazon Linux" is available.  
Version 2023.5.20240730:  
Version 2023.5.20240805:  
Run "/usr/bin/dnf check-release-update" for full release and version update info
```



```
Amazon Linux 2023  
  
https://aws.amazon.com/linux/amazon-linux-2023  
  
Last login: Tue Jul 30 16:16:05 2024 from 13.233.177.5  
[ec2-user@ip-172-31-46-171 ~]$
```

INSTALLING NECESSARY PACKAGES

```
[cloudshell-user@ip-10-138-30-31 ~]$ sudo yum update -y
Last metadata expiration check: 0:00:24 ago on Sun 11 Aug 2024 04:21:38 PM UTC.
Dependencies resolved.
=====
Package                                Architecture           Version                Repository             Size
-----
Upgrading:
amazon-linux-repo-cdn                 noarch                 2023.5.20240805-0.amzn2023 amazonlinux             17 k
device-mapper                         x86_64                 1.02.185-1.amzn2023.0.5 amazonlinux             137 k
device-mapper-libs                    x86_64                 1.02.185-1.amzn2023.0.5 amazonlinux             177 k
dnf                                    noarch                 4.14.0-1.amzn2023.0.5 amazonlinux             460 k
dnf-data                              noarch                 4.14.0-1.amzn2023.0.5 amazonlinux             34 k
glibc                                  x86_64                 2.34-52.amzn2023.0.11 amazonlinux             1.9 M
glibc-common                          x86_64                 2.34-52.amzn2023.0.11 amazonlinux             286 k
glibc-doc                             noarch                 2.34-52.amzn2023.0.11 amazonlinux             1.0 M
glibc-gconv-extra                     x86_64                 2.34-52.amzn2023.0.11 amazonlinux             1.5 M
glibc-langpack-en                     x86_64                 2.34-52.amzn2023.0.11 amazonlinux             544 k
glibc-minimal-langpack                x86_64                 2.34-52.amzn2023.0.11 amazonlinux             14 k
python3-dnf                           noarch                 4.14.0-1.amzn2023.0.5 amazonlinux             409 k
system-release                        x86_64                 2023.5.20240805-0.amzn2023 amazonlinux             28 k
systemd                               x86_64                 252.23-2.amzn2023 amazonlinux             4.2 M
systemd-libs                          x86_64                 252.23-2.amzn2023 amazonlinux             620 k
systemd-networkd                      x86_64                 252.23-2.amzn2023 amazonlinux             611 k
systemd-pam                           x86_64                 252.23-2.amzn2023 amazonlinux             322 k
systemd-resolved                      x86_64                 252.23-2.amzn2023 amazonlinux             274 k
yum                                    noarch                 4.14.0-1.amzn2023.0.5 amazonlinux             32 k
Installing dependencies:
dbus-libs                             x86_64                 1.11.28-1.amzn2023.0.1 amazonlinux             153 k
Installing weak dependencies:
rpm-plugin-systemd-inhibit            x86_64                 4.16.1.3-29.amzn2023.0.6 amazonlinux             18 k
```

```
CloudShell
ap-south-1 +

[cloudshell-user@ip-10-130-30-31 ~]$ sudo yum install httpd -y
Last metadata expiration check: 0:00:55 ago on Sun 11 Aug 2024 04:21:38 PM UTC.
Dependencies resolved.
=====
Package                                Architecture      Version            Repository          Size
=====
Installing:
httpd                                  x86_64            2.4.62-1.amzn2023  amazonlinux         48 k
Installing dependencies:
apr                                    x86_64            1.7.2-2.amzn2023.0.2  amazonlinux         129 k
apr-util                              x86_64            1.6.3-1.amzn2023.0.1  amazonlinux         98 k
generic-logos-httpd                  noarch            18.0.0-12.amzn2023.0.3  amazonlinux         19 k
httpd-core                           x86_64            2.4.62-1.amzn2023    amazonlinux         1.4 M
httpd-filesystem                     noarch            2.4.62-1.amzn2023    amazonlinux         14 k
httpd-tools                          x86_64            2.4.62-1.amzn2023    amazonlinux         81 k
mailcap                              noarch            2.1.49-3.amzn2023.0.3  amazonlinux         33 k
Installing weak dependencies:
apr-util-openssl                     x86_64            1.6.3-1.amzn2023.0.1  amazonlinux         17 k
mod_http2                            x86_64            2.0.27-1.amzn2023.0.3  amazonlinux         166 k
mod_lua                              x86_64            2.4.62-1.amzn2023    amazonlinux         61 k
=====
Transaction Summary
=====
Install 11 Packages

Total download size: 2.0 M
Installed size: 6.2 M
Downloading Packages:
(1/11): apr-1.7.2-2.amzn2023.0.2.x86_64.rpm                2.3 MB/s | 129 kB | 00:00
(2/11): apr-util-1.6.3-1.amzn2023.0.1.x86_64.rpm           1.5 MB/s | 98 kB | 00:00
(3/11): apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64.rpm   256 kB/s | 17 kB | 00:00
=====
```

ENABLING HTML AND OPENING NANO EDITOR TO CREATE STATIC WEBSITE

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>AWS Assignment</title>
  <style>
    body {
      margin: 0;
      background-color: #282c34;
      color: #61dafb;
    }
    .message {
      background-color: #20232a;
      font-family: 'Arial', sans-serif;
      display: flex;
      justify-content: center;
      align-items: center;
      height: 100vh;
      text-align: center;
      font-size: 2em;
      color: #61dafb;
      border: 2px solid #61dafb;
      border-radius: 10px;
      padding: 20px;
    }
  </style>
</head>
<body>
  <div class="message">
    Hi Harini. This is AWS assignment.
  </div>
</body>
</html>
```

Hi Harini. This is AWS assignment.