

ASG Tasks - 01

- Create one VPC in North Virginia region.

Details		Info		Block Public Access		DNS hostnames	
VPC ID	vpc-0535d400a67eee4e7	State	Available	Block Public Access	<input checked="" type="checkbox"/> Off	Disabled	
DNS resolution	Enabled	Tenancy	default	DHCP option set	dopt-054937f55b4bc2575	Main route table	rtb-0f8e62999289eb8ae
Main network ACL	acl-058f025e7cf6faaba	Default VPC	No	IPv4 CIDR	192.168.0.0/16	IPv6 pool	-
IPv6 CIDR (Network border group)	-	Network Address Usage metrics	Disabled	Route 53 Resolver DNS Firewall rule groups	-	Owner ID	526018540742
Encryption control ID	-	Encryption control mode	-				

- Create two subnets: one public subnet and one private subnet.

<input type="checkbox"/> asg-01	subnet-0f528593936e9d361	Available	vpc-0535d400a67eee4e7 ASG...	<input checked="" type="checkbox"/> Off	192.168.0.0/26
<input type="checkbox"/> asg-02	subnet-0cd7db87245e9c9c7	Available	vpc-0535d400a67eee4e7 ASG...	<input checked="" type="checkbox"/> Off	192.168.0.96/28

- Attach an IGW to the VPC.

Internet gateway igw-018fe7d055545f12 successfully attached to vpc-0535d400a67eee4e7						X
igw-018fe7d055545f12 / ASG-gw						
Actions ▾						
Details	Info	State	VPC ID	Owner		
Internet gateway ID igw-018fe7d055545f12	Attached		vpc-0535d400a67eee4e7 ASG-01	526018540742		

- Create one public route table (RT) and one private route table.

<input type="checkbox"/> asg-pub	rtb-018d66a7d870cf5f9	subnet-0f528593936e9d...	-	No	vpc-0535d400a67eee4e7 ASG...	526018540742
<input type="checkbox"/> asg-pri	rtb-0522d4627df9b5e67	subnet-0cd7db87245e9c...	-	No	vpc-0535d400a67eee4e7 ASG...	526018540742

- Deploy a NAT gateway in the public subnet and attach the NAT gateway to the private subnet.

rtb-0522d4627df9b5e67 / asg-pri						
Details						
Route table ID						
Route table ID	rtb-0522d4627df9b5e67	Main	<input checked="" type="checkbox"/> No	Explicit s...		
VPC						
VPC	vpc-0535d400a67eee4e7 ASG-01	Owner ID	526018540742	Explicit s...		
Routes	Subnet associations	Edge associations	Route propagation	Tags		
Routes (2)						
Filter routes						
Destination	▼	Target	▼	Status		
0.0.0.0/0		nat-157f1a77192259e38		Active		
192.168.0.0/16		local		Active		

- Create two instances, one in the public subnet and one in the private subnet.

<input type="checkbox"/> Private-ASG	i-07b92145b12858462	Running	<input checked="" type="checkbox"/> View alarms +	us-east-1a
<input type="checkbox"/> Public-ASG	i-01da19c813a6fedf2	Running	<input checked="" type="checkbox"/> View alarms +	us-east-1a

ASG Tasks - 01

- Deploy Apache server on both EC2 instances with a sample index.html file.



Apache is running!

Instance: ip-192-168-0-19.ec2.internal

Public Instance

```
[ec2-user@ip-192-168-0-106 ~]$ curl http://192.168.0.106
<!DOCTYPE html>
<html>
<head>
  <title>Apache Test</title>
</head>
<body>
  <h1>Apache is running! even on private</h1>
  <p>Instance: ip-192-168-0-106.ec2.internal</p>
</body>
</html>
[ec2-user@ip-192-168-0-106 ~]$ |
```

Private Instance.

- Create one application load balancer and attach it to both EC2 instances.

The screenshot shows the AWS Application Load Balancer (ALB) configuration for a load balancer named "AGS-01".

Details:

- Load balancer type: Application
- Status: Provisioning
- VPC: vpc-0535d400a67eee4e7
- Hosted zone: Z35SXDOTRQ7X7K
- Availability Zones:
 - subnet-0f528593936e9d361 (us-east-1a)
 - subnet-0dbba00d1cf0d4355 (us-east-1b)
- Date created: January 23, 2026, 16:55 (UTC+05:30)
- DNS name: AGS-01-619536953.us-east-1.elb.amazonaws.com (A Record)

Listeners and rules:

Listeners and rules (1) Info

A listener checks for connection requests on its configured protocol and port. Traffic received by the listener is routed according to the default action and any additional rules.

Protocol:Port	Default action	Rules	ARN	Security policy	Default SSL/TLS certificate	mTLS	Trust store
HTTP:80	Forward to target group AGS-test (100%) Target group stickiness: Off	1 rule	ARN	Not applicable	Not applicable	Not applicable	Not applicable

ASG Tasks - 01

The screenshot shows the AWS Elastic Load Balancing Target Groups page for a target group named 'ags-01-619536953.us-east-1.elb.amazonaws.com'. The target group has two registered targets:

Target	Name	Port	Zone	Health Status	Health Status Details	Administrative Overwrite	Override Details	Last Update
1	i-01da19c813a6fedf2	80	us-east-1a (us...)	Initial	Target registration is i...	No override	No override is curre...	January 1, 2024
2	i-07b92145b12858462	80	us-east-1a (us...)	Initial	Target registration is i...	No override	No override is curre...	January 1, 2024

Below the table, there is a browser address bar showing the URL 'ags-01-619536953.us-east-1.elb.amazonaws.com' with a 'Not secure' warning.

Apache is running! even on private

Instance: ip-192-168-0-106.ec2.internal

ASG Tasks - 01

- Store application load balancer logs in S3.

```
{  
    "Version": "2012-10-17",  
    "Statement": [  
        {  
            "Sid": "AWSALBLogDeliveryWrite",  
            "Effect": "Allow",  
            "Principal": {  
                "AWS": "arn:aws:iam::127311923021:root"  
            },  
            "Action": "s3:PutObject",  
            "Resource": "arn:aws:s3:::alb-logs-ags01/AWSLogs/526018540742/*",  
            "Condition": {  
                "StringEquals": {  
                    "s3:x-amz-acl": "bucket-owner-full-control"  
                }  
            }  
        },  
        {  
            "Sid": "AWSALBLogDeliveryAclCheck",  
            "Effect": "Allow",  
            "Principal": {  
                "AWS": "arn:aws:iam::127311923021:root"  
            },  
            "Action": "s3:GetBucketAcl",  
            "Resource": "arn:aws:s3:::alb-logs-ags01"  
        }  
    ]  
}
```

Protection

Deletion protection

To prevent your load balancer from being deleted accidentally, turn on deletion protection. If you turn on deletion protection, you must turn it off before you can delete the load balancer.

Monitoring

Access logs

Access logs deliver detailed logs of all requests made to your Elastic Load Balancer. Choose an existing S3 location. If you don't specify a prefix, the logs are stored in the root of the bucket. Additional charges apply. [Learn more](#)

S3 URI

s3://alb-logs-ags01

Format: s3://bucket/prefix

Connection logs

Connection logs deliver detailed logs of all connections made to your Elastic Load Balancer. Choose an existing S3 location. If you don't specify a prefix, the logs are stored in the root of the bucket. Additional charges apply. [Learn more](#)

Health check logs - new

Health check logs deliver detailed logs of health checks for all targets in your Elastic Load Balancer's target groups. Choose an existing S3 location. If you don't specify a prefix, the logs are stored in the root of the bucket. Additional charges apply. [Learn more](#)

ASG Tasks - 01



Apache is running! even on private

Instance: ip-192-168-0-106.ec2.internal

The screenshot shows the AWS S3 console interface. At the top, there is a header with the number '25/' and a 'Copy S3 URI' button. Below the header, there are tabs for 'Objects' (which is selected) and 'Properties'. A search bar labeled 'Find objects by prefix' is present. To the right of the search bar are buttons for 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', 'Create folder', and 'Upload'. Below these buttons, there is a link to 'Amazon S3 inventory' and a note about granting permissions. A 'Show versions' checkbox is also available. The main area displays a table of objects:

Name	Type	Last modified	Size	Storage class
526018540742_elasticloadbalancing_us-east-1.app.AGS-01.5b659762d9f61647_20260125T1235Z_98.86.29.61_5i0cp8kf.log.gz	gz	January 25, 2026, 18:05:07 (UTC+05:30)	1.3 KB	Standard
526018540742_elasticloadbalancing_us-east-1.app.AGS-01.5b659762d9f61647_20260125T1240Z_98.86.29.61_482irzy0.log.gz	gz	January 25, 2026, 18:07:45 (UTC+05:30)	1.0 KB	Standard
526018540742_elasticloadbalancing_us-east-1.app.AGS-01.5b659762d9f61647_20260125T1240Z	gz	January 25, 2026, 18:06:49 (UTC+05:30)	397.0 B	Standard

ASG Tasks - 01

- Store the VPC flow logs in a CloudWatch log group.

VPCFlowLogsRole Info

Summary

Creation date
January 06, 2026, 16:17 (UTC+05:30)

Last activity
 2 days ago

ARN
 arn:aws:iam::526...

Maximum session duration
1 hour

Permissions **Trust relationships** **Tags** **Last Accessed** **Revoke sessions**

Trusted entities

Entities that can assume this role under specified conditions.

```
1 [{}]
2   "Version": "2012-10-17",
3   "Statement": [
4     {
5       "Effect": "Allow",
6       "Principal": {
7         "Service": "vpc-flow-logs.amazonaws.com"
8       },
9       "Action": "sts:AssumeRole"
10    }
11  ]
12 ]
```

Permissions policies (1) Info

You can attach up to 10 managed policies.

Filter by Type

<input type="checkbox"/> Policy name ↴	<input type="checkbox"/> Type
<input type="checkbox"/> CloudWatchLogsFullAccess	AWS managed

▶ Permissions boundary (not set)

ASG Tasks - 01

fl-0b6ad0ab7431505c2

Details

Flow Log ID fl-0b6ad0ab7431505c2	Destination Type cloud-watch-logs	Traffic Type All	File Format -
Name -	Destination Name vpc-flow-logs	Max Aggregation Interval 10 minutes	Hive Output -
State Active	IAM Role arn:aws:iam::526018540742:role/VPCFlowLogsRole	Log Format Default	Partition -
Creation Time Sunday, January 25, 2026 at 18:16:08 GMT+5:30	Cross Account IAM Role -		

Tags **Integrations**

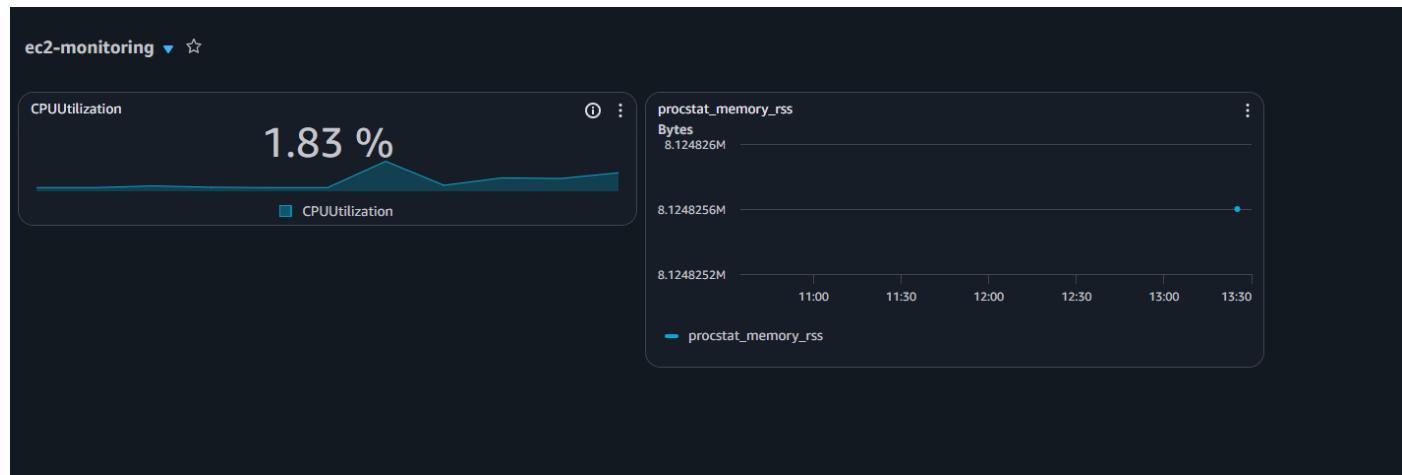
Log events

You can use the filter bar below to search for and match terms, phrases, or values in your log events. [Learn more about filter patterns](#)

Filter events - press enter to search

▶	Timestamp	Message
No older events at this moment. Retry		
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 192.168.0.19 192.168.0.38 80 43580 6 5 704 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 95.168.178.138 192.168.0.38 59134 23 6 2 80 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 192.168.0.38 95.168.178.138 23 59134 6 2 80 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 192.168.0.38 141.225.220.91 0 0 1 1 32 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 193.163.125.99 192.168.0.38 56954 10027 6 1 44 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 192.168.0.38 95.168.178.138 2222 43647 6 2 80 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 67.145.202.60 192.168.0.38 43097 23 6 1 60 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 141.225.220.91 192.168.0.38 0 0 1 1 32 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 192.168.0.106 192.168.0.38 80 64256 6 5 721 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 47.251.63.50 192.168.0.38 27195 3478 17 1 56 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 194.180.49.101 192.168.0.38 44904 495 6 1 40 1769345235 1769345262 ACCEPT OK
▶	2026-01-25T12:47:15.000Z	2 526018540742 eni-0328f0346c983e06a 95.168.178.138 192.168.0.38 43647 2222 6 2 80 1769345235 1769345262 ACCEPT OK

- Create monitoring dashboards to monitor CPU utilization and to monitor the Apache service.



ASG Tasks - 01

- If CPU utilization is more than 70%, then it should trigger auto scaling and launch new instance.

The screenshot shows the AWS Auto Scaling Groups and Launch Templates interfaces.

EC2 > Launch templates > Create launch template

Success
Successfully created [Testing-Template\(lt-0ca17c3617b859828\)](#).

Actions log

Next Step

Create dynamic scaling policy

Policy type: Target tracking scaling

Scaling policy name: Target Tracking Policy

Metric type: Average CPU utilization

Target value: 70

Instance warmup: 300 seconds

Disable scale in to create only a scale-out policy

Auto Scaling groups (1/1) [Info](#)

Last updated 4 minutes ago

[Launch configurations](#)

Name	Launch template/configuration	Instances	Status	Desired capacity	Min	Max	Availability
Test-Scaling	Testing-Template Version Default	1	-	1	1	3	use1-az1 (us-east-1)

Auto Scaling group: Test-Scaling

[Details](#) [Integrations](#) [Automatic scaling](#) [Instance management](#) [Instance refresh](#) [Activity](#) [Monitoring](#) [Tags - moved](#)

Test-Scaling Capacity overview

arn:aws:autoscaling:us-east-1:526018540742:autoScalingGroup:fb4f45c5-4222-4836-b255-d125f55c2d05:autoScalingGroupName/Test-Scaling

Desired capacity	Scaling limits	Desired capacity type
1	1 - 3	Units (number of instances)

Date created
Mon Jan 26 2026 12:46:55 GMT+0530 (India Standard Time)

Launch template