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2KE20CS032

Assignment 41

Understood. To follow the provided instructions and create the files/directory using the same name and case as provided in the task steps, please provide me with the specific names and case instructions for the files/directory you want to create.

AWS

Assignment:8 Load_Configure Application Load Balancer

Create Application Load Balancer

- 1. Navigate to EC2 Load Balancer and click on Create Load Balancer**
- 2. In the Load Balancer type choose Application Load Balancer and click on Create option**
- 3. Provide the load balancer name, select Internet-facing, and IPv4 address type**
- 4. In the network mapping select your VPC**
- 5. In the subnet mapping select the availability zones and select public subnets that you have created from the dropdown**

The screenshot shows the AWS EC2 Load Balancer creation process. In the 'Basic configuration' step, a new load balancer is being created with the name 'mattermost_LB-01'. It is set to be 'Internet-facing' and uses 'IPv4' as the IP address type. In the 'Network mapping' step, two Availability Zones (ap-south-1a and ap-south-1b) are selected, each associated with a specific subnet (subnet-0f3a2030b8047392a and subnet-0cd9caa8bc0c4598b) within the 'my-vpc-01' VPC.

6. In the Security groups, click on create new security group and create as inbound and outbound rules as below

The screenshot shows the AWS Security Groups creation process. A new security group named 'SG_mattermost_LB-01' is being created. The description field contains the text: 'This is the security group for mattermost load balancer'. The VPC dropdown is set to 'vpc-0e190ca43b317839f (my-vpc-01)'.

7. Once you create, select the security group and map it INBOUND

Type	Protocol	Port range	Source	Destination
All ICMP - IPv4	ICMP	All	Anywhere-IPv4	0.0.0.0/0
HTTP	TCP	80	Anywhere-IPv4	0.0.0.0/0
HTTPS	TCP	443	Anywhere-IPv4	0.0.0.0/0

OUTBOUND

Type	Protocol	Port range	Source	Destination
All traffic	All	All	Custom	0.0.0.0/0
All ICMP - IPv4	ICMP	All	Anywhere-IPv4	0.0.0.0/0
HTTP	TCP	80	Anywhere-IPv4	0.0.0.0/0
HTTPS	TCP	443	Anywhere-IPv4	0.0.0.0/0

Security groups [Info](#)

A security group is a set of firewall rules that control the traffic to your load balancer. Select an existing security group, or you can [create a new security group](#).

Security groups

Select up to 5 security groups

SG_mattermost_LB-01 [X](#)
sg-0d9085f82835e6578 VPC: vpc-0e190ca43b317839f

Target group name

A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.

Protocol : Port

Choose a protocol for your target group that corresponds to the Load Balancer type that will route traffic to it. Some protocols now include anomaly detection for the targets and you can set mitigation options once your target group is created. This choice cannot be changed after creation

HTTP	80
1-65535	

IP address type

- 8. In the Listeners and Routing, click on Create target group, select your VPC provide target group name from the list. Other options can be default.**
- 9. In the Advanced health check settings you can give your custom values in the traffic port. (you can leave as default if you don't wish to change it)**
- 10. Click on 'Next' option and in the List of Registered Instances select your public instances where your nginx server runs , click 'include as pending now option and then Create the Target Group**

Available instances (2/6)

<input type="checkbox"/>	Instance ID	Name	State	Security groups
<input checked="" type="checkbox"/>	i-05a4e1f88e7ed4668	public-inst(a)nginx-2	Running	launch-wizard-34
<input type="checkbox"/>	i-0afa5896198d39468	private-inst(a)appserver-2	Running	launch-wizard-41
<input type="checkbox"/>	i-0ec2b95123cb3bc84	openvpn-server-01	Running	OpenVPN Access Server
<input checked="" type="checkbox"/>	i-059f3bb15a76aad7d	public-inst(a)nginx-1	Running	launch-wizard-29
<input type="checkbox"/>	i-0e7568659b5b24589	private-inst(a)appserver-1	Running	launch-wizard-31
<input type="checkbox"/>	i-0a6d610ce310ab3bf	private-inst(a)dbserver	Running	launch-wizard-30

The screenshot shows the 'Targets' tab in the CloudWatch Metrics interface. It displays a table of registered targets, each with its Instance ID, Name, Port, Zone, Health status, and Anomaly detection details. Two targets are listed: 'i-059f3bb15a76aad7d' and 'i-05a4e1f88e7ed4668', both of which are marked as 'Unused' and have a 'Normal' anomaly status.

Instance ID	Name	Port	Zone	Health status	Anomaly detection
i-059f3bb15a76aad7d	public-instanc...	80	ap-south-1a	Unused	Target group is not co... Normal
i-05a4e1f88e7ed4668	public-instanc...	80	ap-south-1b	Unused	Target group is not co... Normal

The screenshot shows the 'Listeners and routing' section of the CloudWatch Metrics interface. It details a listener configuration for port 80, which forwards requests to a target group named 'tgLBmatter'. The target type is specified as 'Instance, IPv4'. There is also a link to 'Create target group'.

Listener HTTP:80

Protocol	Port	Default action
HTTP	: 80	Forward to tgLBmatter Target type: Instance, IPv4

Listener tags - optional
Consider adding tags to your listener. Tags enable you to categorize your AWS resources so you can more easily manage them.

[Add listener tag](#)
You can add up to 50 more tags.

- 11. Map the Target group in the Load balancer configuration**
- 12. Now click on Create Load Balancer and it should now be created successfully**
- 13. Navigate to Listeners tab in the Load balancer click in the Target group, select your target**
- 14. Navigate to target group and you can see the the details of the targets**
- 15. You can launch the Load Balancer using the DNS name as marked below**
- 16. Once you access the Load balancer DNS name the web server page should be displayed on the basis of round robin schedule which is been**

Dashboard

▼ Details

Load balancer type Application	Status ⌚ Provisioning	VPC vpc-0e190ca43b317839f	IP address type IPv4
Scheme Internet-facing	Hosted zone ZP97RAFLXTNZK	Availability Zones subnet-0f3a2030b8047392a ap-south-1a (aps1-az1) subnet-0cd9caa8bc0c4598b ap-south-1b (aps1-az3)	Date created November 28, 2023, 23:06 (UTC+05:30)
Load balancer ARN arn:aws:elasticloadbalancing:ap-south-1:405819896469:loadbalancer/app/mattermostLB01/cabee551d6de1c7f	DNS name Info mattermostLB01-264641899.ap-south-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.

<input type="checkbox"/> Protocol:Port	<input type="checkbox"/> Default action	<input type="checkbox"/> Rules	<input type="checkbox"/> ARN	<input type="checkbox"/> Security policy	<input type="checkbox"/> Default SSL/TLS certificate
<input type="checkbox"/> HTTP:80	Forward to target group <ul style="list-style-type: none">tgLBmatter: 1 (100%)Group-level stickiness: Off	1 rule	ARN	Not applicable	Not applicable

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Health checkup

[EC2](#) > Target groups

Target groups (1/1) [Info](#)

<input checked="" type="checkbox"/>	Name	ARN	Port	Protocol	Target type
<input checked="" type="checkbox"/>	tgLBmatter	arn:aws:elasticloadbalanci...	80	HTTP	Instance

Target group: tgLBmatter

Details

[arn:aws:elasticloadbalancing:ap-south-1:405819896469:targetgroup/tgLBmatter/7fb92735ced08489](#)

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1
IP address type IPv4	Load balancer None associated	
2 Total targets	健康的 2	不健康 0
		Unused

tgLBmatter

Details all are off

arn:aws:elasticloadbalancing:ap-south-1:405819896469:targetgroup/tgLBMatter/7fb92735ced08489

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-0e190ca43b317839f		
IP address type IPv4	Load balancer mattermostLB01				
2 Total targets	0 Healthy	0 Unhealthy	2 Unused		
			0 Initial		
			0 Draining		
0 Anomalous					

► **Distribution of targets by Availability Zone (AZ)**
Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets **Monitoring** **Health checks** **Attributes** **Tags**

tgLBmatter

Details

arn:aws:elasticloadbalancing:ap-south-1:405819896469:targetgroup/tgLBMatter/7fb92735ced08489

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-0e190ca43b317839f		
IP address type IPv4	Load balancer mattermostLB01				
2 Total targets	1 Healthy	0 Unhealthy	1 Unused		
			0 Initial		
			0 Draining		
0 Anomalous					

► **Distribution of targets by Availability Zone (AZ)**
Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets **Monitoring** **Health checks** **Attributes** **Tags**

tgLBmatter

Details

arn:aws:elasticloadbalancing:ap-south-1:405819896469:targetgroup/tgLBMatter/7fb92735ced08489

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-0e190ca43b317839f		
IP address type IPv4	Load balancer mattermostLB01				
2 Total targets	0 Healthy	1 Unhealthy	1 Unused		
			0 Initial		
			0 Draining		
0 Anomalous					

► **Distribution of targets by Availability Zone (AZ)**
Select values in this table to see corresponding filters applied to the Registered targets table below.

Targets **Monitoring** **Health checks** **Attributes** **Tags**

Registered targets (2) [Info](#)

[Anomaly mitigation: Not applicable](#) [C](#) [Deregister](#) [Register targets](#)

Target groups route requests to individual registered targets using the protocol and port number specified. Health checks are performed on all registered targets according to the target group's health check settings.

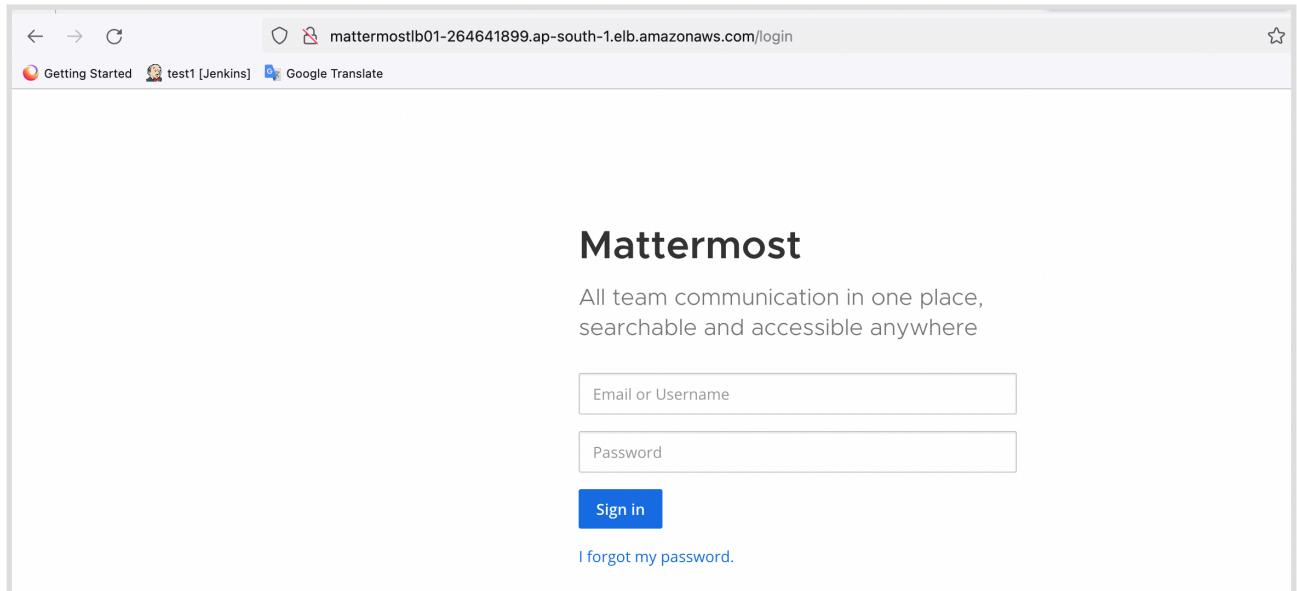
Results. All HTTP/HTTPS target groups now include anomaly detection by default. [Learn more](#)

tgLBMatter

[Actions ▾](#)

Details	
arn:aws:elasticloadbalancing:ap-south-1:405819896469:targetgroup/tgLBMatter/7fb92735ced08489	
Target type Instance	Protocol : Port HTTP: 80
IP address type IPv4	Protocol version HTTP1
VPC vpc-0e190ca43b317839f	
2 Total targets	○ 2 Healthy
	✖ 0 Unhealthy
	○ 0 Unused
	⌚ 0 Initial
	○ 0 Draining
Distribution of targets by Availability Zone (AZ) Select values in this table to see corresponding filters applied to the Registered targets table below.	

Verified: Yes it is coming in round-robin fashion



The screenshot shows a web browser window with the URL mattermostlb01-264641899.ap-south-1.elb.amazonaws.com/login. The page title is "Mattermost". Below the title, the tagline "All team communication in one place, searchable and accessible anywhere" is displayed. There are two input fields: "Email or Username" and "Password", followed by a blue "Sign in" button. Below the "Sign in" button, there is a link "I forgot my password."