Module-3: ELB Assignment - 1

You have been asked to:

1. Create a Classic Load Balancer and register 3 EC2 instances with different web pages running in them.
2. Migrate the Classic Load Balancer into an Application Load Balancer.

1. Create 3 EC2 instances

- Follow steps in answer to module 2 assignment 1 to create EC2 instance and install/configure nginx.
- Repeat the same steps to create 3 EC2 instances, as briefly described below.
  - Instance 1: Ubuntu t2.micro EC2 instance, 64-bit (x86), tag **module_1_assignment_1_ec2_vm1**, new inbound TCP rule on port 81 allowing TCP to 0.0.0.0/0
  - Instance 2: Ubuntu t2.micro EC2 instance, 64-bit (x86), tag **module_1_assignment_1_ec2_vm2**, new inbound TCP rule on port 81 allowing TCP to 0.0.0.0/0
  - Instance 3: Ubuntu t2.micro EC2 instance, 64-bit (x86), tag **module_1_assignment_1_ec2_vm3**, new inbound TCP rule on port 81 allowing TCP to 0.0.0.0/0
  - On all 3 EC2 instances, do the following steps:
    - Install nginx
    - Create a new nginx configuration file in /etc/nginx/sites-enabled/module_1_assignment_1_web_server_landing_site to listen on port 81.
    - Create a new index.html file in /var/www/module_1_assignment_1_web_server_landing_site/index.html
    - Verify that the new index.html can be accessed from the browser by providing the dnsname and port 81 in the address bar.

2. Create a Classic Load Balancer

- In the "EC2 Management Console", select **Load Balancers** under **Load Balancing**. Click on **Create Load Bakancer**.
- In the page "Select load balancer type", select **Classic Load Balancer - previous generation** and click on **Create**.
- In "Step 1: Define Load Balancer", give "Load Balancer name" as **module-1-assignment-1-classicelb** and select **Next: Assign Security Groups**.
- In " Step 2: Assign Security Groups", select all the security groups and select **Next: Configure Security Settings**.
- Keep clicking Next step until you reach **Step 6: Add Tags". Here, provide **module-1-assignment-1-classicelb** as a Tag.
- Click on **Review and Create**. In the next page, review all your settings and click on **Create** whne ready.
- Go back to the Load Balancers page in the EC2 console to verify that ELB is created.

3. Register the 3 EC2 instances to the Classic Load Balancer

- Option-1: During creation of a new Load Balancer
  - While creating a new load balancer, **Step 5: Add EC2 Instances** provides an opportunity to select EC2 instances to attach to the load balancer.
- Option-2: After creation of a new Load Balancer
  - In the "EC2 Management Console", select **Load Balancers** under **Load Balancing**. Select the load balancer created above, in this page.
  - Click on **Actions --> Edit instances**.
  - In the dialog "Add and Remove Instances", choose all the 3 EC2 instances shown. Select **Save**.
  - Back in the EC2 Management Console page for Load Balancers, click on **Instances** to verify that all 3 instances are selected.

4. Migrate the Classic Load Balancer into an Application Load Balancer

- In the "EC2 Management Console", select **Load Balancers** under **Load Balancing**. Select the load balancer created above, in this page.
- Under the tab "Description", note the entry called **Type Classic (Migrate Now)**. Click on **Migrate Now**.
- In the "Migration" tab, click on **Launch ALB Migration Wizard**. This will take to **Step 6: Review**. Review and finally click on **Create**.
- Go back to the "EC2 Management Console" and verify that there are now 2 load balancers. One id of Type **Classic** and a new ELB is of Type **Application**.

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Create Load Balancer | Actions

Filter by tags and attributes or search by keyword

None found

Name	DNS name	State	VPC ID	Availability Zones	Type	Created At	Monitoring

You do not have any load balancers in this region.

Select a load balancer

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Create Load Balancer | Actions

- Edit health check
- Edit subnets
- Edit IP address type
- Edit instances
- Edit listeners
- Edit security groups
- Edit attributes
- Delete

Filter by tags and attrib… 1 to 1 of 1

Name	State	VPC ID	Availability Zones	Type	Created At	Monitoring
module-1-assignmen…	…ignment-1-clas…	vpc-05a4f109d9ab4c43c	us-east-1f, us-east-1e, …	classic	November 28, 2021 at 10:29…	

Load balancer: module… …elb

Description | Instances | Health check | Listeners | Monitoring | Tags | Migration

Basic Configuration

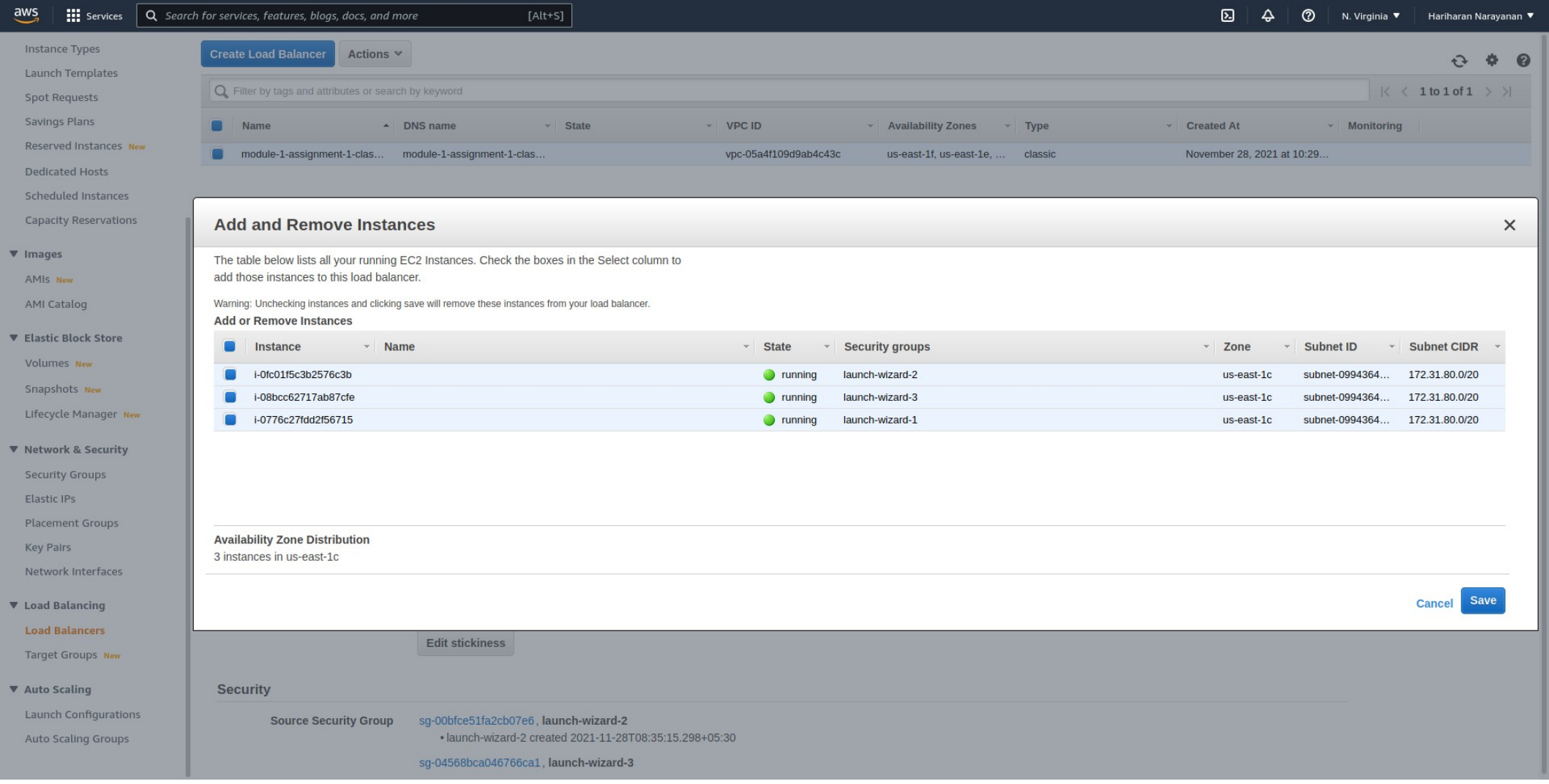
Name	module-1-assignment-1-classicelb
* DNS name	module-1-assignment-1-classicelb-1228721312.us-east-1.elb.amazonaws.com (A Record)
Type	Classic (Migrate Now)
Scheme	internet-facing
Availability Zones	subnet-01d3cea107de0cdf4 - us-east-1e, subnet-026908bd9ed58b20f - us-east-1f, subnet-060af38694e37fae9 - us-east-1b, subnet-06e773d674ee5fd8a - us-east-1a, subnet-099436460fb3ecea4 - us-east-1c, subnet-0e40cf59fbb32cddb - us-east-1d
Creation time	November 28, 2021 at 10:29:38 AM UTC+5:30
Hosted zone	Z35SXDOTRQ7X7K
Status	0 of 0 instances in service
VPC	vpc-05a4f109d9ab4c43c

Port Configuration

Port Configuration	**80 (HTTP) forwarding to 80 (HTTP)** Stickiness: Disabled Edit stickiness

Security

Source Security Group	sg-00bfce51fa2cb07e6, **launch-wizard-2** • launch-wizard-2 created 2021-11-28T08:35:15.298+05:30 sg-04568bca046766ca1, **launch-wizard-3**


aws
Services
Search for services, features, blogs, docs, and more [Alt+S]
N. Virginia
Hariharan Narayanan
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Name
DNS name
State
VPC ID
Availability Zones
Type
Created At
Monitoring
module-1-assignment-1-clas…
module-1-assignment-1-clas…
vpc-05a4f109d9ab4c43c
us-east-1f, us-east-1e, …
classic
November 28, 2021 at 10:29…
Add and Remove Instances
The table below lists all your running EC2 Instances. Check the boxes in the Select column to add those instances to this load balancer.
Warning: Unchecking instances and clicking save will remove these instances from your load balancer.
Add or Remove Instances
Instance
Name
State
Security groups
Zone
Subnet ID
Subnet CIDR
i-0fc01f5c3b2576c3b
running
launch-wizard-2
us-east-1c
subnet-0994364…
172.31.80.0/20
i-08bcc62717ab87cfe
running
launch-wizard-3
us-east-1c
subnet-0994364…
172.31.80.0/20
i-0776c27fdd2f56715
running
launch-wizard-1
us-east-1c
subnet-0994364…
172.31.80.0/20
Availability Zone Distribution
3 instances in us-east-1c
Cancel
Save
Edit stickiness
Security
Source Security Group
sg-00bfce51fa2cb07e6, launch-wizard-2
• launch-wizard-2 created 2021-11-28T08:35:15.298+05:30
sg-04568bca046766ca1, launch-wizard-3

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Create Load Balancer | Actions

Filter by tags and attributes or search by keyword

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Name	DNS name	State	VPC ID	Availability Zones	Type	Created At	Monitoring
module-1-assignment-1-clas…	module-1-assignment-1-clas…		vpc-05a4f109d9ab4c43c	us-east-1f, us-east-1e, …	classic	November 28, 2021 at 10:29…	

Load balancer: module-1-assignment-1-classicelb

Description | **Instances** | Health check | Listeners | Monitoring | Tags | Migration

Connection Draining: Enabled, 300 seconds (Edit)

Edit Instances

Instance ID	Name	Availability Zone	Status	Actions
i-0fc01f5c3b2576c3b		us-east-1c	OutOfService	Remove from Load Balancer
i-08bcc62717ab87cfe		us-east-1c	OutOfService	Remove from Load Balancer
i-0776c27fdd2f56715		us-east-1c	OutOfService	Remove from Load Balancer

Edit Availability Zones

Availability Zone	Subnet ID	Subnet CIDR	Instance Count	Healthy?	Actions
us-east-1f	subnet-026908bd9ed58b20f	172.31.64.0/20	0	No (Availability Zone contains no healthy targets)	Remove from Load Balancer
us-east-1e	subnet-01d3cea107de0cdf4	172.31.48.0/20	0	No (Availability Zone contains no healthy targets)	Remove from Load Balancer
us-east-1d	subnet-0e40cf59fbb32cddb	172.31.16.0/20	0	No (Availability Zone contains no healthy targets)	Remove from Load Balancer
us-east-1c	subnet-09436460fb3ecea4	172.31.80.0/20	3	No (Availability Zone contains no healthy targets)	Remove from Load Balancer
us-east-1b	subnet-060af38694e37fae9	172.31.0.0/20	0	No (Availability Zone contains no healthy targets)	Remove from Load Balancer
us-east-1a	subnet-06e773d674ee5fd8a	172.31.32.0/20	0	No (Availability Zone contains no healthy targets)	Remove from Load Balancer

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Name	DNS name	State	VPC ID	Availability Zones	Type	Created At	Monitoring
module-1-assignment-1-clas…	module-1-assignment-1-clas…		vpc-05a4f109d9ab4c43c	us-east-1f, us-east-1e, …	classic	November 28, 2021 at 10:29…	

Load balancer: module-1-assignment-1-classicelb

Description | Instances | Health check | Listeners | Monitoring | Tags | Migration

Migrate this Classic Load Balancer to a next generation load balancer. See Comparison of Elastic Load Balancing Products.

Launch ALB Migration Wizard

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Tell us what you think

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Events
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Create Load Balancer | Actions

Filter by tags and attributes or search by keyword

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Name	DNS name	State	VPC ID	Availability Zones	Type	Created At	Monitoring
module-1-assignment-1-clas…	module-1-assignment-1-clas…		vpc-05a4f109d9ab4c43c	us-east-1f, us-east-1e, …	classic	November 28, 2021 at 10:29…	
module-1-assignment-1-clas…	module-1-assignment-1-clas…	Provisioning	vpc-05a4f109d9ab4c43c	us-east-1e, us-east-1f, …	application	November 28, 2021 at 10:47…	

Load balancer: module-1-assignment-1-classicelb

Description | Instances | Health check | Listeners | Monitoring | Tags | **Migration**

Migrate this Classic Load Balancer to a next generation load balancer. See Comparison of Elastic Load Balancing Products.

Launch ALB Migration Wizard