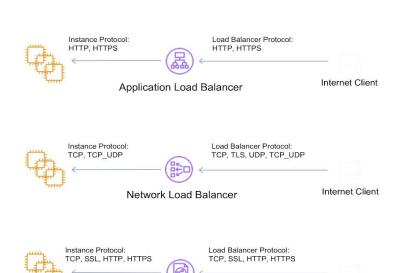
1.Differences between ELB, ALB, and NLB. Where will you use which one?



Classic Load Balancer

Application Load Balancer

- · Operates at the request level
- Routes based on the content of the request (layer 7)
- Supports path-based routing, host-based routing, query string parameter-based routing, and source IP address-based routing
- Supports IP addresses, Lambda Functions and containers as targets

Network Load Balancer

- · Operates at the connection level
- Routes connections based on IP protocol data (layer 4)
- Offers ultra high performance, low latency and TLS offloading at scale
- · Can have static IP / Elastic IP
- · Supports UDP and static IP addresses as targets

Classic Load Balancer

- · Old generation; not recommended for new applications
- Performs routing at Layer 4 and Layer 7
- · Use for existing applications running in EC2-Classic

2.Differences between step scaling and target scaling.

(SIMPLE SCALING) You pick ANY Cloud Watch metric For this and other examples in THIS POST I am choosing CPU Utilization You specify, a SINGLE THRESHOLD beyond which you want to scale and specify your response EXAMPLE: how many EC2 instances do you want to add or take away when the CPU UTILIZATION breaches the threshold. The scaling policy then acts. THRESHOLD - add 1 instance when CPU Utilization is between 40% and 50% NOTE: This is the ONLY Threshold

Internet Client

(STEP SCALING) You specify MULTIPLE thresholds Along with different responses. Threshold A - add 1 instance when CPU Utilization is between 40% and 50% Threshold B - add 2 instances when CPU Utilization is between 50% and 70% Threshold C - add 3 instances when CPU Utilization is between 70% and 90% And so on and so on Note: There are multiple thresholds

(TARGET TRACKING SCALING) You don't want to have to make so many decisions Makes the experience simple as compared to the previous 2 scaling options It's automatic All you do is pick CPU Utilization(Your metric and example for this post) Set the value and that's it Auto scaling does the rest adding and removing the capacity in order to keep your metric(CPU utilization) as close as possible to the target value

3.Differences between Launch configuration and launch template.

Launch templates allow control of the T2 unlimited (credits) feature, at least that is the one feature I needed, so thad to use launch templates.

However, it seems that a launch template specifies exactly one subnet, rather than a list (like launch configurations).

They're quite difference and CloudFormation and it has sucked up several hours of trial and error on my part to get them working.

4.Differences between EC2 health-check and load balancer health check

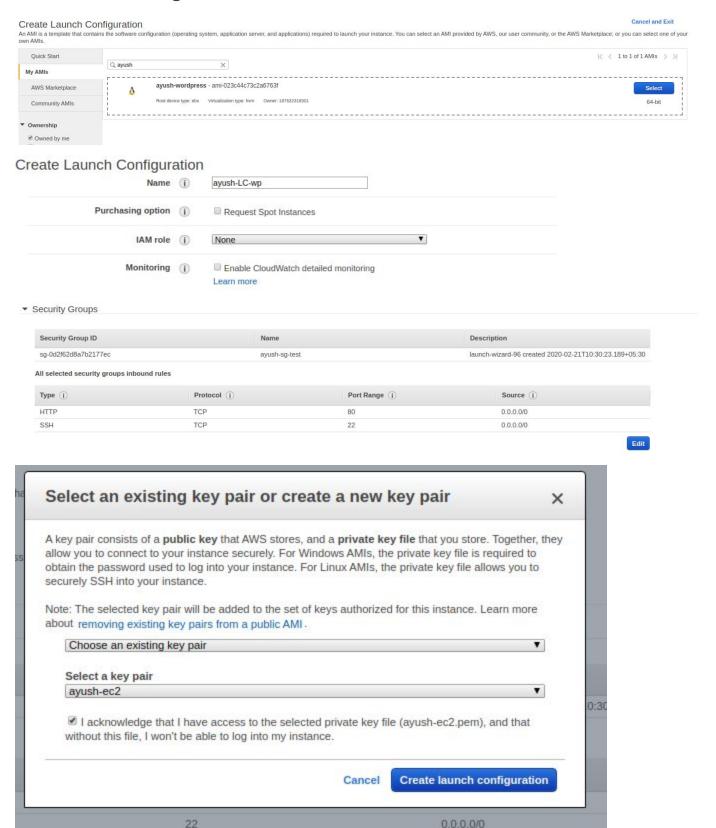
EC2 health check watches for instance availability from hypervisor and networking point of view. For example, in case of a hardware problem, the check will fail. Also, if an instance was misconfigured and doesn't respond to network requests, it will be marked as faulty.

ELB health check verifies that a specified TCP port on an instance is accepting connections OR a specified web page returns 2xx code. Thus ELB health checks are a little bit smarter and verify that actual app works instead of verifying that just an instance works.

That being said there is a third check type: custom health check. If your application can't be checked by simple HTTP request and requires advanced test logic, you can implement a custom check in your code and set instance health though API: Health Checks for Auto Scaling Instances

5. Create 2 auto-scaling groups with

• launch configuration and



• launch template

Create launch template

Creating a launch template allows you to create a saved instance configuration that can be reused, shared and launched at a later time. Templates can have multiple versions.

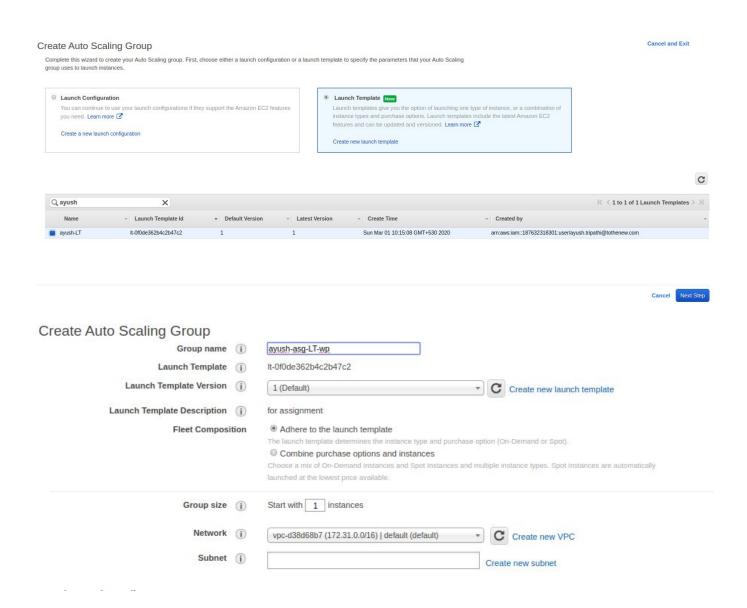
Launch template name - required	
ayush-LT	
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '**, '@'.	
Template version description	
for assignment	
Max 255 chars	
Auto scaling guidance Info Select this if you intend to use this template with auto scaling	
Provide guidance to help me set up a template that I can use with auto scaling	
▶ Template tags	

Launch template contents

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template.

Specify the details of your launch template below. Leaving a field blank will result in the field not being included in the launch template. Amazon machine image (AMI) Info AMI ayush-wordpress ami-023c44c73c2a6763f Catalog: My AMIs architecture: 64-bit (x86) virtualization: hvm Instance type Info Instance type t2.micro Family: General purpose 1 vCPU 1 GiB Memory On-Demand Linux pricing: 0.0116 USD per Hour On-Demand Windows pricing: 0.0162 USD per Hour Key pair (login) Info Key pair name C ayush-ec2 EC2 > Launch templates > Create launch template Success Successfully created ayush-LT (lt-0f0de362b4c2b47c2)

6.Setup autoscaling Wordpress application with the Application load balancer. Auto-scaling should be triggered based on CPU usage of EC2 instances.



Create Alarm You can use CloudWatch alarms to be notified automatically whenever metric data reaches a level you define. To edit an alarm, first choose whom to notify and then define when the notification should be sent. Send a notification to: ayush-asg-wp cancel **CPU Utilization** Percent With these recipients: ayush.tripathi@tothenew.com 0.75 Whenever: Average ▼ of CPU Utilization 0.5 ls: >= ▼ 60 Percent 0.25 For at least: 1 consecutive period(s) of 5 Minutes ▼ 3/1 3/1 00:00 02:00 04:00 ayush-asg-LT-wp Name of alarm: awsec2-ayush-asg-LT-wp-CPU-Utilization Cancel Create Alarm Create Alarm You can use CloudWatch alarms to be notified automatically whenever metric data reaches a level you define. To edit an alarm, first choose whom to notify and then define when the notification should be sent. ✓ Send a notification to: ayush-asg-wp (ayush.tripathi@tothenew. **CPU Utilization** Percent Whenever: Average ▼ of CPU Utilization 30 Is: < ▼ 40 Percent 20 10 For at least: 1 consecutive period(s) of 5 Minutes ▼ 0 3/1 3/1 3/1 Name of alarm: awsec2-ayush-asg-LT-wp-High-CPU-Utilization 00:00 04:00 02:00 ayush-asg-LT-wp

Cancel

Create Alarm

Create Auto Scaling Group

Name:	Increase Group Size
Execute policy when:	awsec2-ayush-asg-LT-wp-CPU-Utilization Edit Remove breaches the alarm threshold: CPUUtilization >= 60 for 300 seconds
	for the metric dimensions AutoScalingGroupName = ayush-asg-LT-wp
Take the action:	Add ▼ 1 capacity units ▼
	300 seconds before allowing another scaling activity
And then wait:	
And then wait: Create a scaling policy wi	
Create a scaling policy wi	th steps (i)
	th steps (i)
Create a scaling policy wi	th steps (i)
Create a scaling policy wi	th steps (i) Size
Decrease Group	Decrease Group Size awsec2-ayush-asg-LT-wp-High-CPU-Utilization Edit Remove breaches the alarm threshold: CPUUtilization < 40 for 300 seconds
Decrease Group	Decrease Group Size awsec2-ayush-asg-LT-wp-High-CPU-Utilization Edit Remove
Decrease Group	Decrease Group Size awsec2-ayush-asg-LT-wp-High-CPU-Utilization Edit Remove breaches the alarm threshold: CPUUtilization < 40 for 300 seconds

Create Auto Scaling Group
Configure your Auto Scaling group to send notifications to a specified endpoint, such as an email address, whenever a specified event takes

If you created a new topic, check your email for a confirmation message and click the included link to confirm your subscription. Notifications

Send a notification to:	ayush-asg-wp (ayush.tripathi@tothenew.(▼	create topic
Whenever instances:	✓ launch	
	✓ terminate	
	fail to launch	
	✓ fail to terminate	
Add notification		

Create Auto Scaling Group

Please review your Auto Scaling group details. You can go back to edit changes for each section. Click Create Auto Scaling group to complete the creation of an Auto Sci

▼ Auto Scaling Group Details

Group name ayush-asg-LT-wp

Launch Template It-0f0de362b4c2b47c2

Launch Template Version 1

Launch Template Description for assignment

Group size 1

Minimum Group Size 1 Maximum Group Size 1

Subnet(s) subnet-06680a5b651f104dc

Health Check Grace Period 300 Detailed Monitoring No Instance Protection None

Service-Linked Role AWSServiceRoleForAutoScaling

▼ Scaling Policies

Increase Group Size With alarm = awsec2-ayush-asg-LT-wp-CPU-Utilization; Add 1 capacity units and 300 seconds between activities

Decrease Group Size With alarm = awsec2-ayush-asg-LT-wp-High-CPU-Utilization; Remove 1 capacity units

Notifications

ayush-asg-wp (ayush.tripathi@tothenew.com)

launch, terminate, fail to launch, fail to terminate

▼ Tags

Name ASG-WP-ayush tag new instances Owner smich tan neur inctan

Auto Scaling group creation status



Successfully created Auto Scaling group

View creation log

▼ View

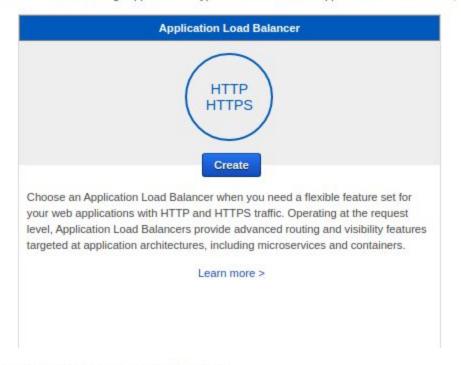
View your Auto Scaling groups

View your launch configurations

Here are some helpful resources to get you started

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, N



Step 1: Configure Load Balancer

Listeners

A listener is a process that checks for connection requests, using the protocol and port that you configured.



Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify only one subnet the availability of your load balancer.



Step 5: Register Targets

Register targets with your target group. If you register a target in an enabled Availability Zone, the load balancer starts routing requests to the targets as soon as the registration process completes and the target passes the initial health checks.

Registered targets

To deregister instances, select one or more registered instances and then click Remove.



Instances

To register additional instances, select one or more running instances, specify a port, and then click Add. The default port is the port specified for the target group. If the instance is already registered on the specified port, you must specify a different port.



Load Balancer Creation Status



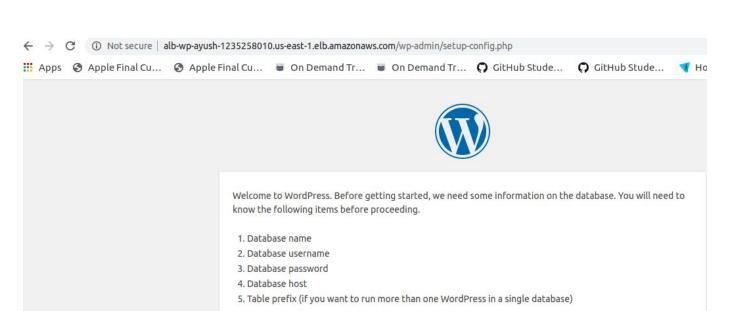
Successfully created load balancer

Load balancer ALB-WP-Ayush was successfully created.

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic, and for the targets to complete the registration process and pass the initial health checks.

Suggested next steps

- . Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within ALB-WP-Ayush
- Consider using AWS Global Accelerator to further improve the availability and performance of your applications. AWS Global Accelerator console



We're going to use this information to create a wp-config.php file. If for any reason this automatic file creation doesn't work, don't worry. All this does is fill in the database information to a configuration file. You may also simply open wp-config-sample.php in a text editor, fill in your information, and save it as wp-config.php. Need more help? We got it.

In all likelihood, these items were supplied to you by your Web Host. If you don't have this information, then you will need to contact them before you can continue. If you're all ready...

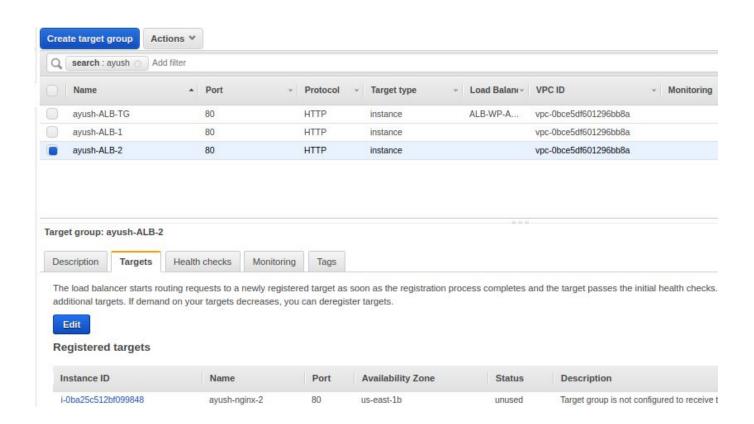
Let's go!

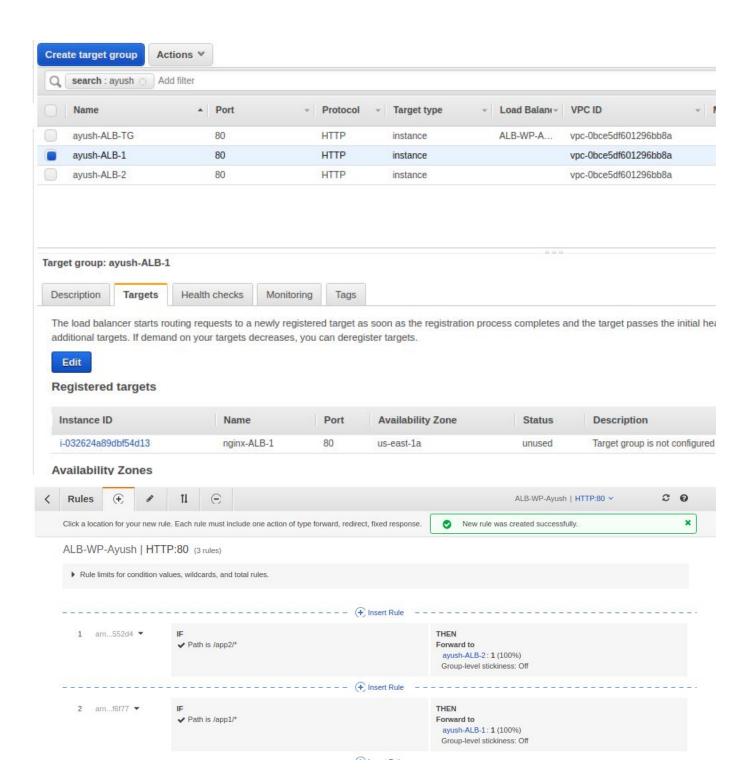
7.Create another Wordpress website and use the ALB created above to send traffic to this website based on the hostname(PATH based routing)

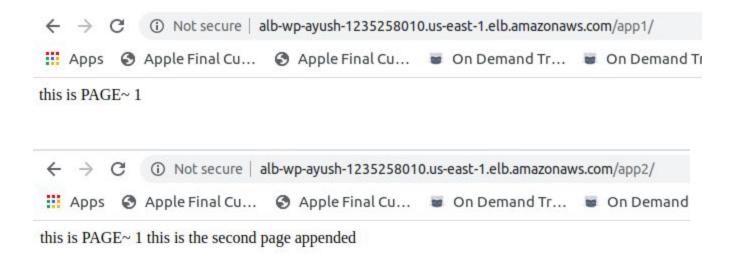
Create two instance and attach those instance to two target groups



this is PAGE~ 1 this is the second page appended



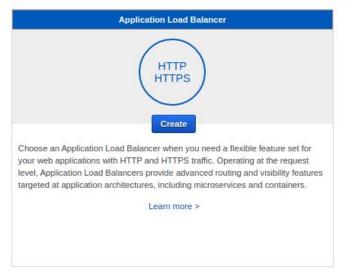


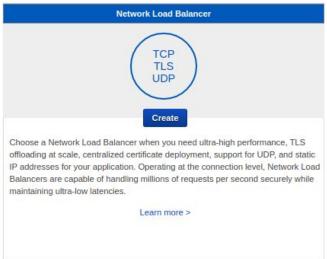


8.Use NLB that replaces the ALB in the above setup.

Select load balancer type

Elastic Load Balancing supports three types of load balancers: Application Load Balancers, Network Load Balancers (new), and Classic Load Balancers. Choose the load balancer t





Step 1: Configure Load Balancer **Basic Configuration**

To configure your load balancer, provide a name, select a scheme, specify one or more listeners, and select a network. The default configuration is an Internet-facing load balancer



Listeners

A listener is a process that checks for connection requests, using the protocol and port that you configured.



Availability Zones

Specify the Availability Zones to enable for your load balancer. The load balancer routes traffic to the targets in these Availability Zones only. You can specify only one subnet | specific addresses for your load balancer.

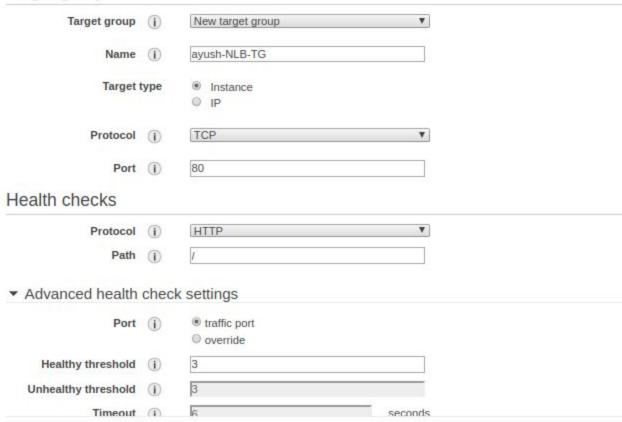
Create and manage Elastic IPs in the VPC console [7]



Step 3: Configure Routing

Your load balancer routes requests to the targets in this target group using the protocol and port that you specify, and perform

Target group



Step 4: Register Targets



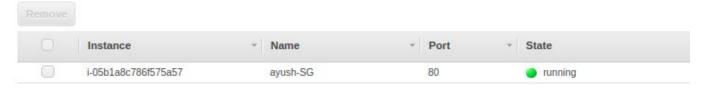
Configure Security Groups

The security groups for your instances must allow traffic from the VPC CIDR on the health check port.

Register targets with your target group. If you register a target in an enabled Availability Zone, the load balancer starts routing requests to the ta

Registered targets

To deregister instances, select one or more registered instances and then click Remove.



Load Balancer Creation Status



Successfully created load balancer

Load balancer NLB-WP-ayush was successfully created.

Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic, and for the targets to c

Suggested next steps

- . Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within NLB-WF
- · Consider using AWS Global Accelerator to further improve the availability and performance of your applications. AWS G





Welcome to WordPress. Before getting started, we need some information on the database. You will need to know the following items before proceeding.

- Database name
- 2. Database username
- 3. Database password
- 4. Database host
- 5. Table prefix (if you want to run more than one WordPress in a single database)

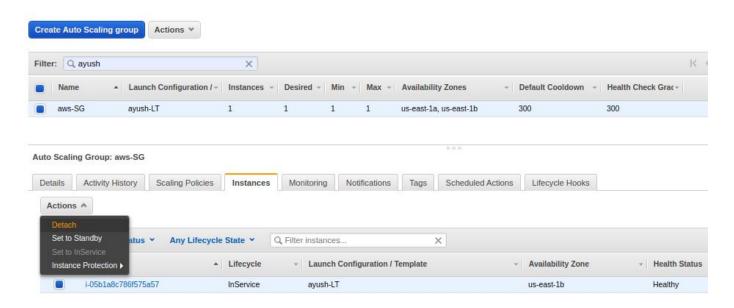
We're going to use this information to create a wp-config. php file. If for any reason this automatic file creation doesn't work, don't worry. All this does is fill in the database information to a configuration file. You may also simply open wp-config-sample.php in a text editor, fill in your information, and save it as wp-config.php. Need more help? We got it.

In all likelihood, these items were supplied to you by your Web Host. If you don't have this information, then you will need to contact them before you can continue. If you're all ready...

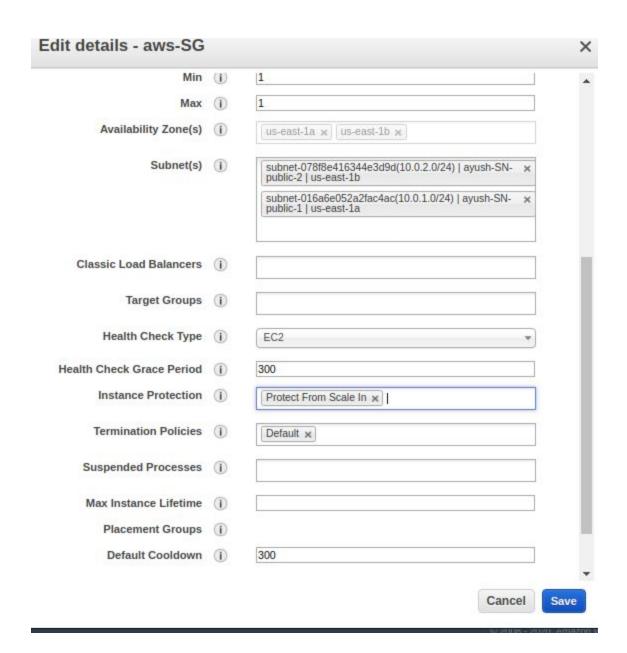
Let's go!

9. Take an instance out of the ASG.

We can detach instance from AGS



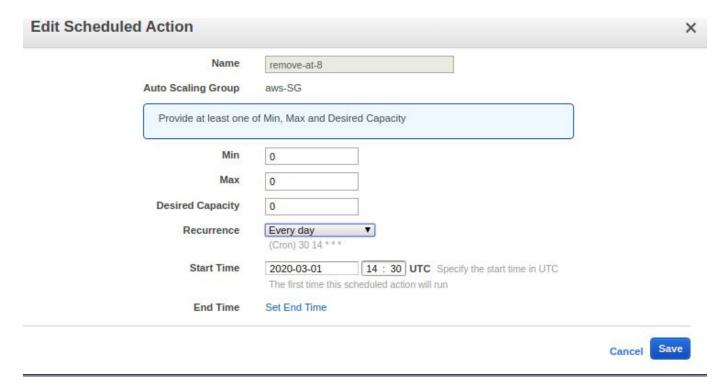
10.Put scale-in protection on an instance in the ASG.



11.Put Schedules in ASG to:

• Remove all instances of the ASG at 8 PM

14:30 UTC is 20:00 in GMT



• Launch a minimum of 2 instances at 10 AM

16:30 UTC is 22:00 in GMT

Name	add-at-10		
Auto Scaling Group	aws-SG		
Provide at least one	of Min, Max and Des	ired Capacity	
Min	2		
Max	2		
Desired Capacity	2		
Recurrence	Every day (Cron) 30 16 ***	•	
Start Time	2020-03-01		cify the start time in UT
	The first time this	scheduled action will run	any the start time in 01
End Time	Set End Time		

Cancel Create