Create a Launch Configuration

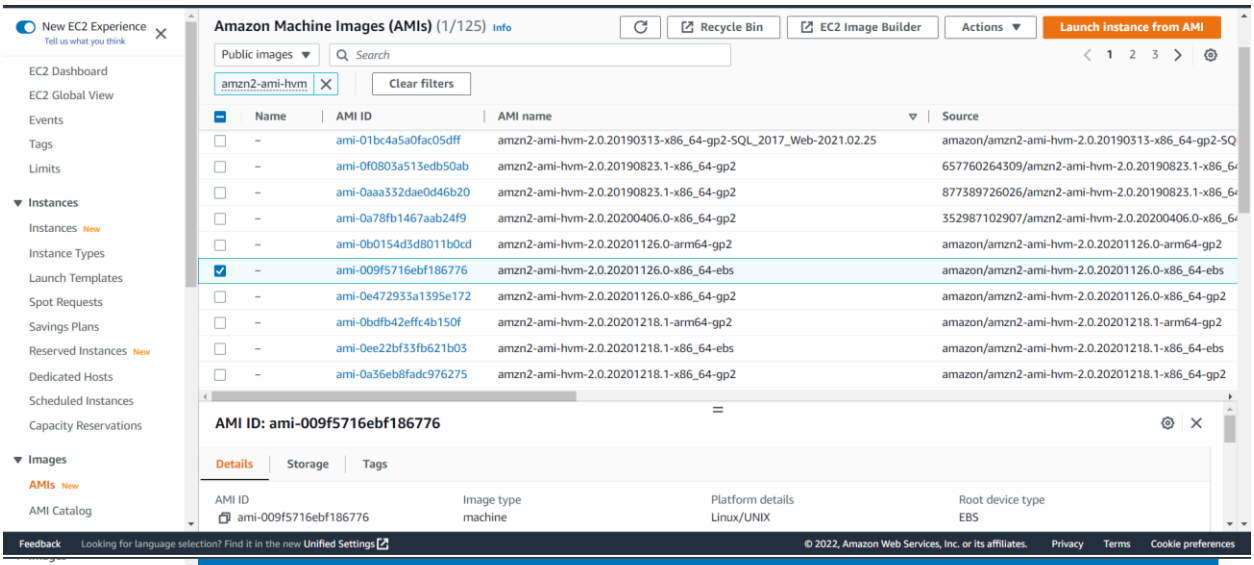
Your company is going to be utilizing Load Balancers and Auto Scaling Groups in AWS to start moving into a more automated and elastic environment. You will have to set up a proof of concept for them to validate the move.

1. Click on the **Open AWS console** button to the right of this text, then use the credentials provided to log in to AWS.
2. Use the search bar at the top of the page to navigate to the **EC2** service.
3. Choose **AMIs** from the menu on the left.
4. Filter for **Public images** with an **AMI Name** of `amzn2-ami-hvm` and an **Owner alias** of `amazon`. Copy the image's **AMI ID** and store it for later use.

   Note: *The result you're looking for should be near the top. It'll have an **AMI Name** similar to **amzn2-ami-hvm-2.0.20201111.0-x86_64-ebs**.*
5. On the left side of the screen under **Auto Scaling**, click **Launch Configurations**.
6. Click **Create launch configuration**.
7. Name the launch configuration `TestLC`.
8. Paste the AMI ID you copied earlier into **AMI** drop-down, and select the result.

   Note: *It'll be similar to **amzn2-ami-hvm-2.0.20201111.0-x86_64-ebs**.*
9. For **Instance type**, click **Choose instance type**, then select **t2.micro** and click **Choose**.
10. Scroll to the bottom of the page, and in the **Key pair options** dropdown, select **Proceed without a key pair**, then check the **I acknowledge** box, and click **Create launch configuration**.

You'll be sent to the main **Launch configurations** page which will list the **TestLC** launch configuration you just created.


New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
Amazon Machine Images (AMIs) (1/125) Info
Recycle Bin
EC2 Image Builder
Actions
Launch instance from AMI
Public images
Search
amzn2-ami-hvm
Clear filters
Name
AMI ID
AMI name
Source
ami-01bc4a5a0fac05dff amzn2-ami-hvm-2.0.20190313-x86_64-gp2-SQL_2017_Web-2021.02.25 amazon/amzn2-ami-hvm-2.0.20190313-x86_64-gp2-SQ
ami-0f0803a513edb50ab amzn2-ami-hvm-2.0.20190823.1-x86_64-gp2 657760264309/amzn2-ami-hvm-2.0.20190823.1-x86_64
ami-0aaa332dae0d46b20 amzn2-ami-hvm-2.0.20190823.1-x86_64-gp2 877389726026/amzn2-ami-hvm-2.0.20190823.1-x86_64
ami-0a78fb1467aab24f9 amzn2-ami-hvm-2.0.20200406.0-x86_64-gp2 352987102907/amzn2-ami-hvm-2.0.20200406.0-x86_64
ami-0b0154d3d8011b0cd amzn2-ami-hvm-2.0.20201126.0-arm64-gp2 amazon/amzn2-ami-hvm-2.0.20201126.0-arm64-gp2
ami-009f5716ebf186776 amzn2-ami-hvm-2.0.20201126.0-x86_64-ebs amazon/amzn2-ami-hvm-2.0.20201126.0-x86_64-ebs
ami-0e472933a1395e172 amzn2-ami-hvm-2.0.20201126.0-x86_64-gp2 amazon/amzn2-ami-hvm-2.0.20201126.0-x86_64-gp2
ami-0bdfb42effc4b150f amzn2-ami-hvm-2.0.20201218.1-arm64-gp2 amazon/amzn2-ami-hvm-2.0.20201218.1-arm64-gp2
ami-0ee22bf33fb621b03 amzn2-ami-hvm-2.0.20201218.1-x86_64-ebs amazon/amzn2-ami-hvm-2.0.20201218.1-x86_64-ebs
ami-0a36eb8fadc976275 amzn2-ami-hvm-2.0.20201218.1-x86_64-gp2 amazon/amzn2-ami-hvm-2.0.20201218.1-x86_64-gp2
AMI ID: ami-009f5716ebf186776
Details
Storage
Tags
AMI ID
ami-009f5716ebf186776
Image type
machine
Platform details
Linux/UNIX
Root device type
EBS
Feedback
Looking for language selection? Find it in the new Unified Settings
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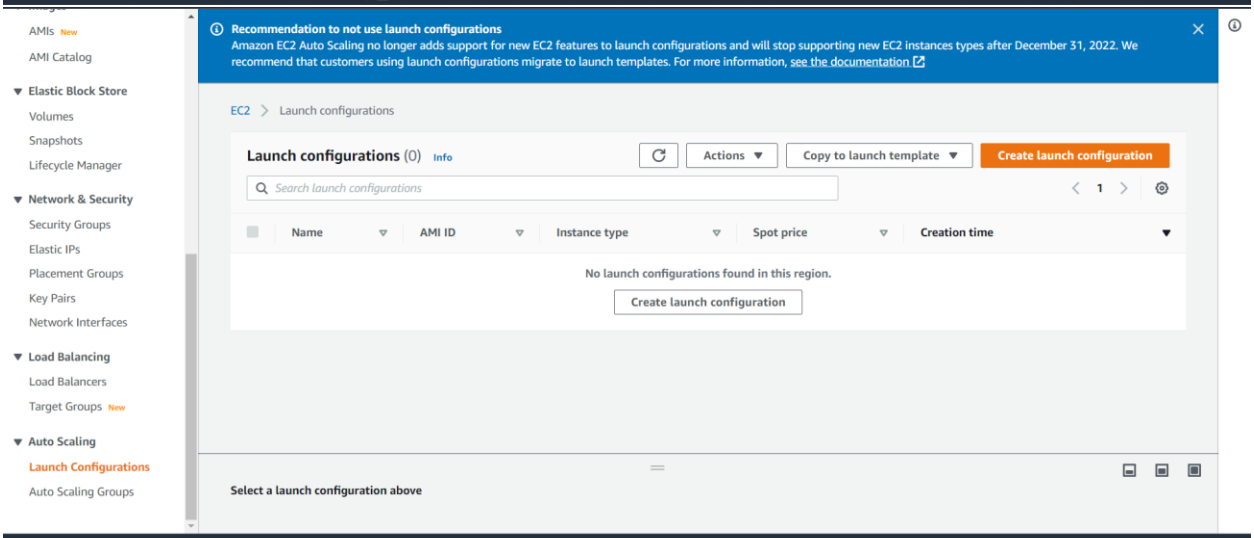
AMIs New
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups New
Auto Scaling
Launch Configurations
Auto Scaling Groups
Recommendation to not use launch configurations
Amazon EC2 Auto Scaling no longer adds support for new EC2 features to launch configurations and will stop supporting new EC2 instances types after December 31, 2022. We recommend that customers using launch configurations migrate to launch templates. For more information, see the documentation
EC2 > Launch configurations
Launch configurations (0) Info
Actions
Copy to launch template
Create launch configuration
Search launch configurations
Name
AMI ID
Instance type
Spot price
Creation time
No launch configurations found in this region.
Create launch configuration
Select a launch configuration above
Feedback
Looking for language selection? Find it in the new Unified Settings
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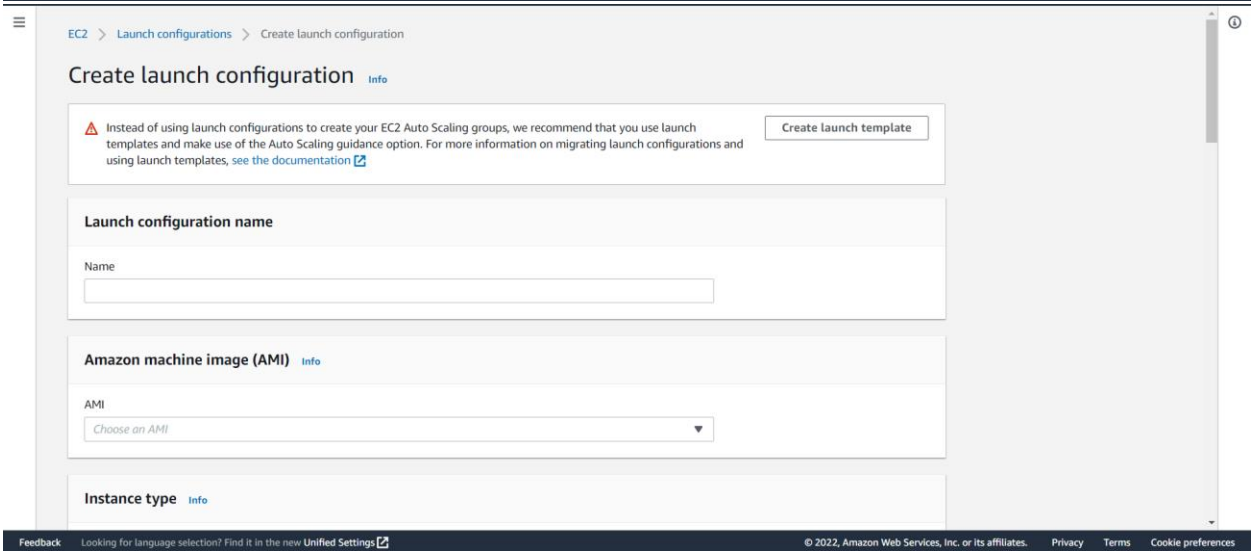
EC2 > Launch configurations > Create launch configuration
Create launch configuration Info
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Create launch template
Launch configuration name
Name
Amazon machine image (AMI) Info
AMI
Choose an AMI
Instance type Info
Feedback
Looking for language selection? Find it in the new Unified Settings
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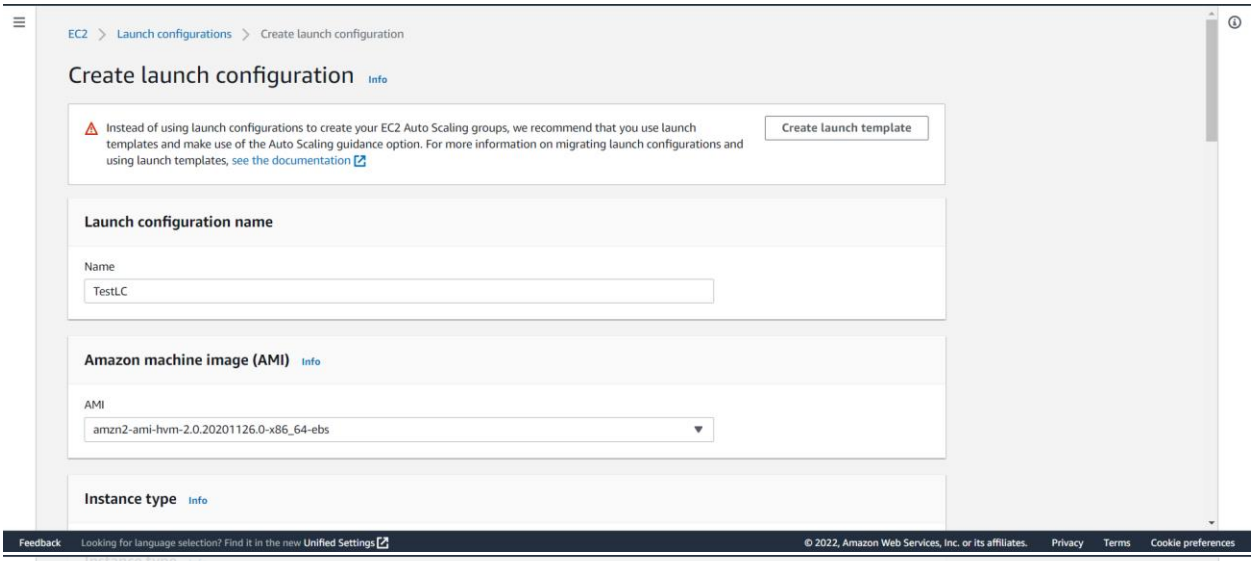
EC2 > Launch configurations > Create launch configuration
Create launch configuration Info
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Create launch template
Launch configuration name
Name
TestLC
Amazon machine image (AMI) Info
AMI
amzn2-ami-hvm-2.0.20201126.0-x86_64-ebs
Instance type Info
Feedback
Looking for language selection? Find it in the new Unified Settings
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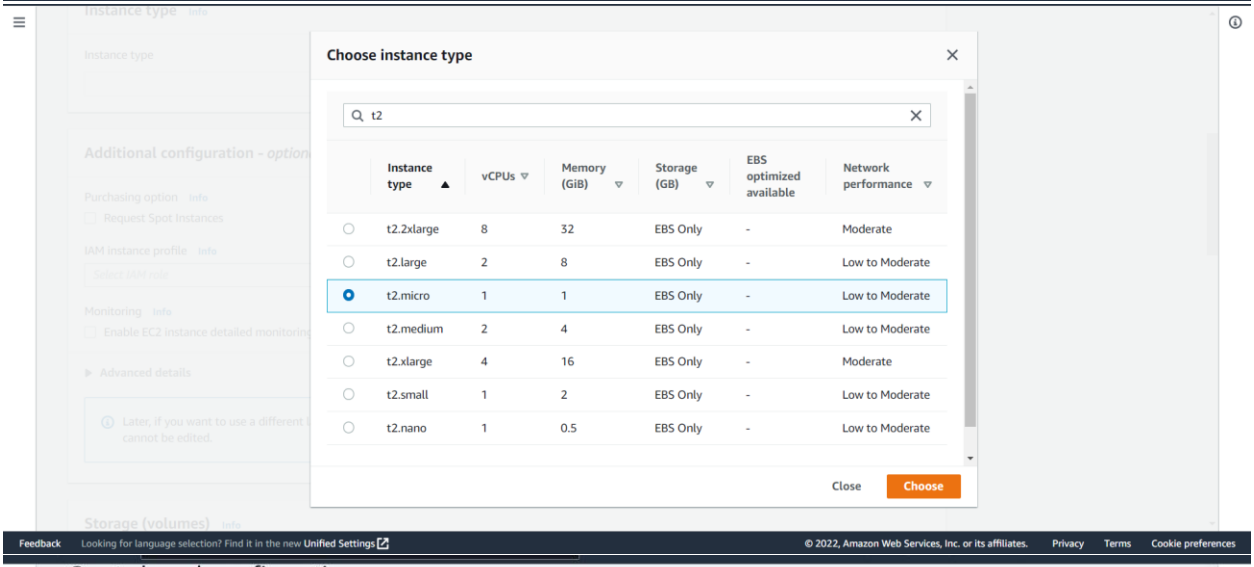
Choose instance type
t2
Instance type
vCPUs
Memory (GiB)
Storage (GB)
EBS optimized available
Network performance
t2.2xlarge 8 32 EBS Only - Moderate
t2.large 2 8 EBS Only - Low to Moderate
t2.micro 1 1 EBS Only - Low to Moderate
t2.medium 2 4 EBS Only - Low to Moderate
t2.xlarge 4 16 EBS Only - Moderate
t2.small 1 2 EBS Only - Low to Moderate
t2.nano 1 0.5 EBS Only - Low to Moderate
Close
Choose
Feedback
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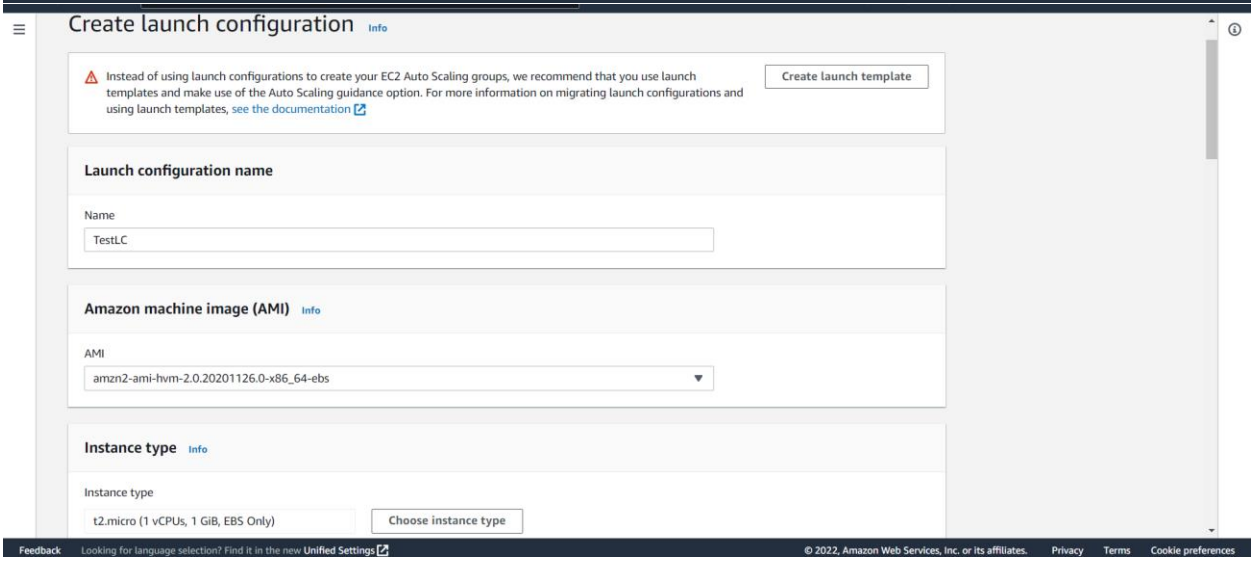
Create launch configuration Info
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Create launch template
Launch configuration name
Name
TestLC
Amazon machine image (AMI) Info
AMI
amzn2-ami-hvm-2.0.20201126.0-x86_64-ebs
Instance type Info
Instance type
t2.micro (1 vCPUs, 1 GiB, EBS Only)
Choose instance type
Feedback
Looking for language selection? Find it in the new Unified Settings
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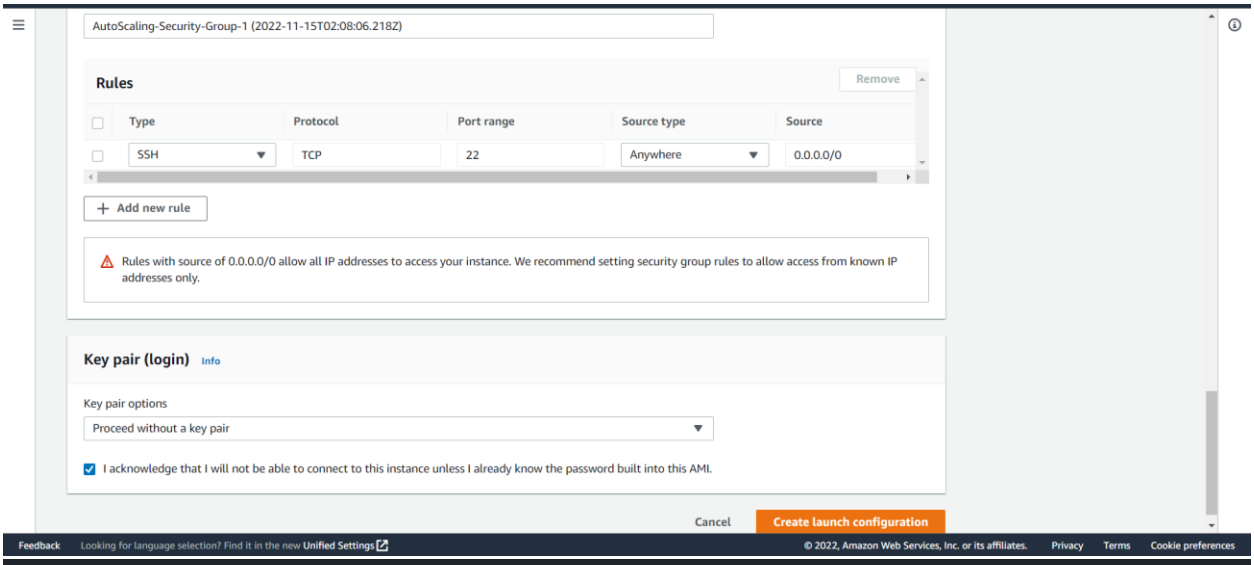


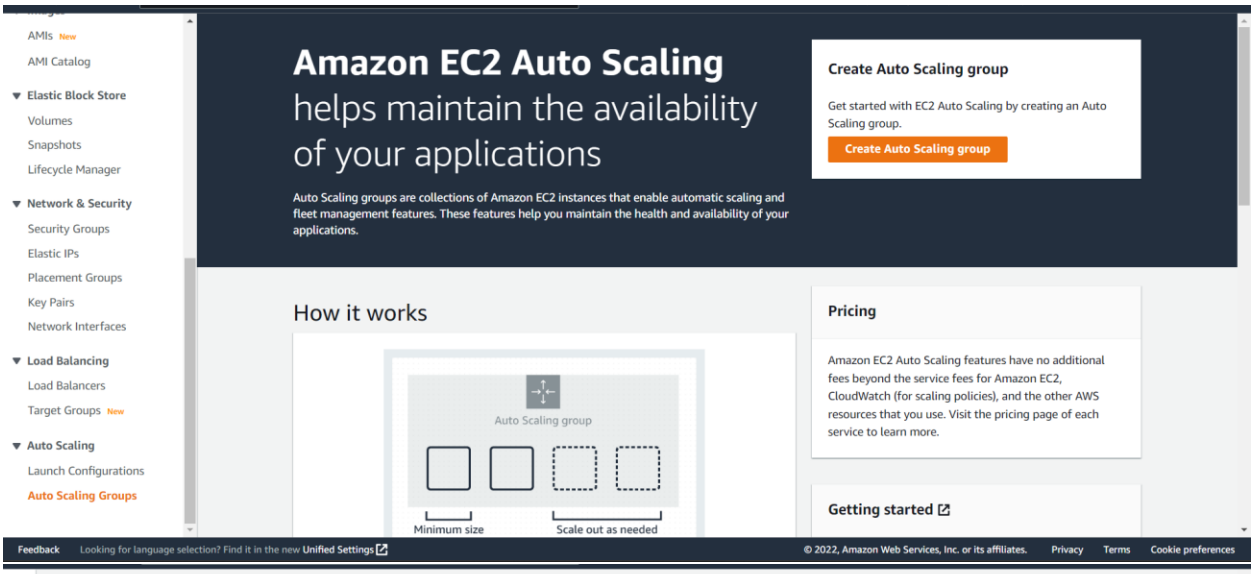
Create an Auto Scaling Group with a Launch Configuration

With a Launch configuration created, you can now work on a proof of concept for the most simple form of auto scaling groups.

1. From the left-hand menu, click on **Auto Scaling Groups**.
2. Click **Create Auto Scaling group**.
3. For the **Auto Scaling group name** enter `TestASG`.
4. In the **Launch template** section, click **Switch to launch configuration**.
5. In the **Launch configuration** dropdown, select **TestLC** then click **Next**.
6. As the **Subnets**, select **us-west-2a** and **us-west-2b .**
7. Click **Skip to review**.
8. Click **Create Auto Scaling group**.

There should now be an Auto Scaling Group called **TestASG**, and its **Launch template/configuration** will be **TestLC**.

Note: *You can could also, as another check, use the left-hand menu to go to the **EC2 Dashboard**, then click **Running instances** which will list a **t2.micro** instance that has been spun up from the Auto Scaling group.*


AMIs New
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 New
Auto Scaling
Launch Configurations
Auto Scaling Groups
Amazon EC2 Auto Scaling
helps maintain the availability of your applications
Auto Scaling groups are collections of Amazon EC2 instances that enable automatic scaling and fleet management features. These features help you maintain the health and availability of your applications.
Create Auto Scaling group
Get started with EC2 Auto Scaling by creating an Auto Scaling group.
Create Auto Scaling group
How it works
Auto Scaling group
Minimum size
Scale out as needed
Pricing
Amazon EC2 Auto Scaling features have no additional fees beyond the service fees for Amazon EC2, CloudWatch (for scaling policies), and the other AWS resources that you use. Visit the pricing page of each service to learn more.
Getting started
Feedback
Looking for language selection? Find it in the new Unified Settings
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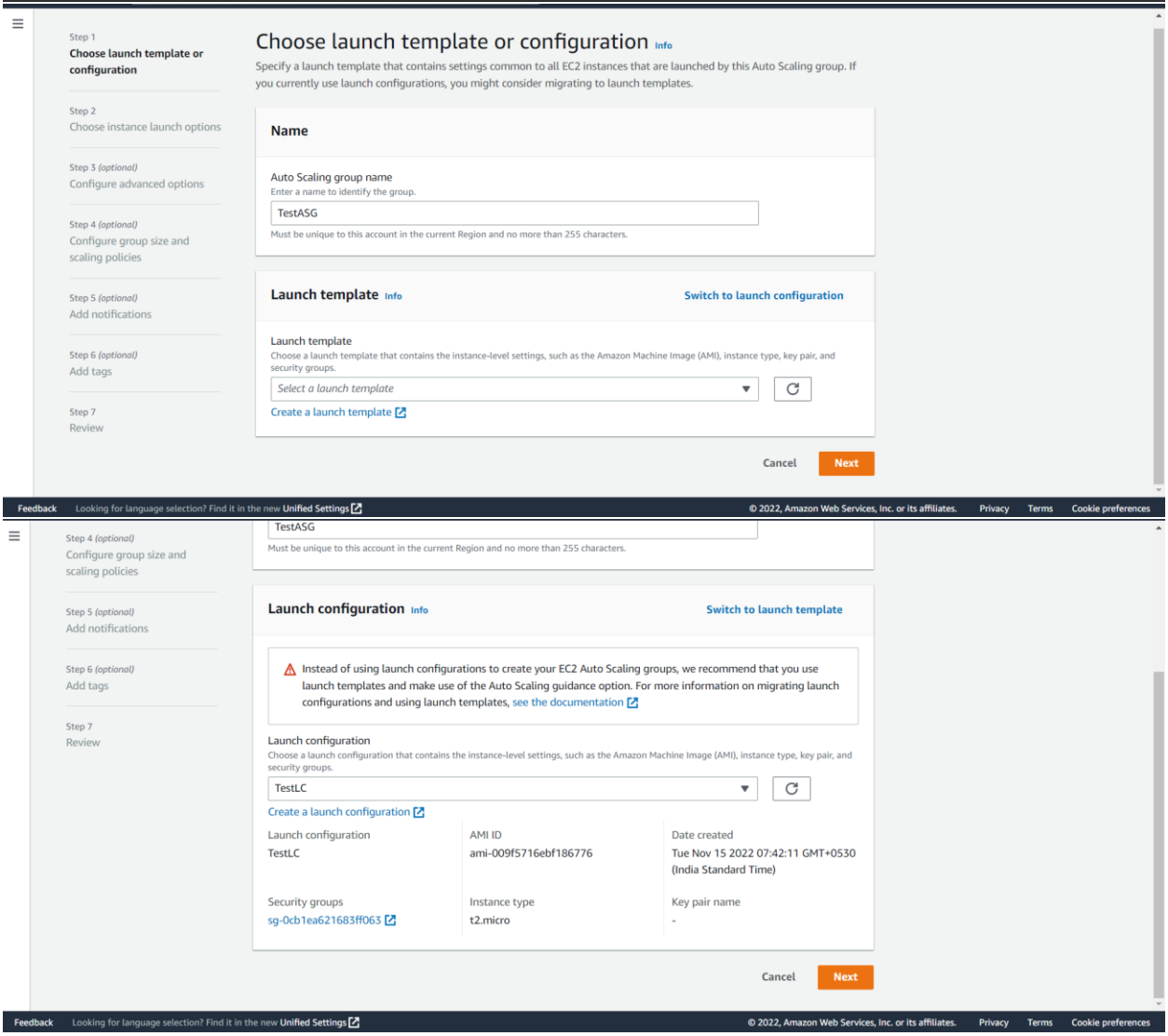
Step 1
Choose launch template or configuration
Step 2
Choose instance launch options
Step 3 (optional)
Configure advanced options
Step 4 (optional)
Configure group size and scaling policies
Step 5 (optional)
Add notifications
Step 6 (optional)
Add tags
Step 7
Review
Choose launch template or configuration Info
Specify a launch template that contains settings common to all EC2 instances that are launched by this Auto Scaling group. If you currently use launch configurations, you might consider migrating to launch templates.
Name
Auto Scaling group name
Enter a name to identify the group.
TestASG
Must be unique to this account in the current Region and no more than 255 characters.
Launch template Info
Switch to launch configuration
Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
Select a launch template
Create a launch template
Cancel
Next
Feedback
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Step 4 (optional)
Configure group size and scaling policies
Step 5 (optional)
Add notifications
Step 6 (optional)
Add tags
Step 7
Review
TestASG
Must be unique to this account in the current Region and no more than 255 characters.
Launch configuration Info
Switch to launch template
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Launch configuration
Choose a launch configuration that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
TestLC
Create a launch configuration
Launch configuration
TestLC
AMI ID
ami-009f5716ebf186776
Date created
Tue Nov 15 2022 07:42:11 GMT+0530 (India Standard Time)
Security groups
sg-0cb1ea621683ff063
Instance type
t2.micro
Key pair name
-
Cancel
Next
Feedback
Looking for language selection? Find it in the new Unified Settings
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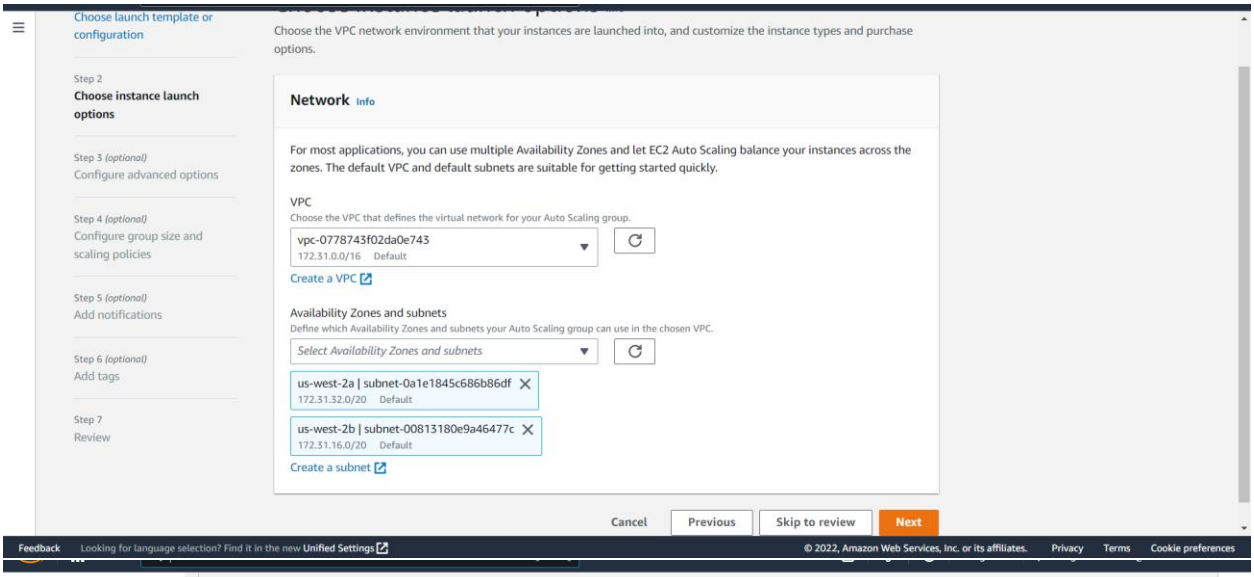
Choose launch template or configuration
Choose the VPC network environment that your instances are launched into, and customize the instance types and purchase options.
Step 2
Choose instance launch options
Step 3 (optional)
Configure advanced options
Step 4 (optional)
Configure group size and scaling policies
Step 5 (optional)
Add notifications
Step 6 (optional)
Add tags
Step 7
Review
Network Info
For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.
VPC
Choose the VPC that defines the virtual network for your Auto Scaling group.
vpc-0778743f02da0e743
172.31.0.0/16 Default
Create a VPC
Availability Zones and subnets
Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.
Select Availability Zones and subnets
us-west-2a | subnet-0a1e1845c686b86df
172.31.32.0/20 Default
us-west-2b | subnet-00813180e9a46477c
172.31.16.0/20 Default
Create a subnet
Cancel
Previous
Skip to review
Next
Feedback
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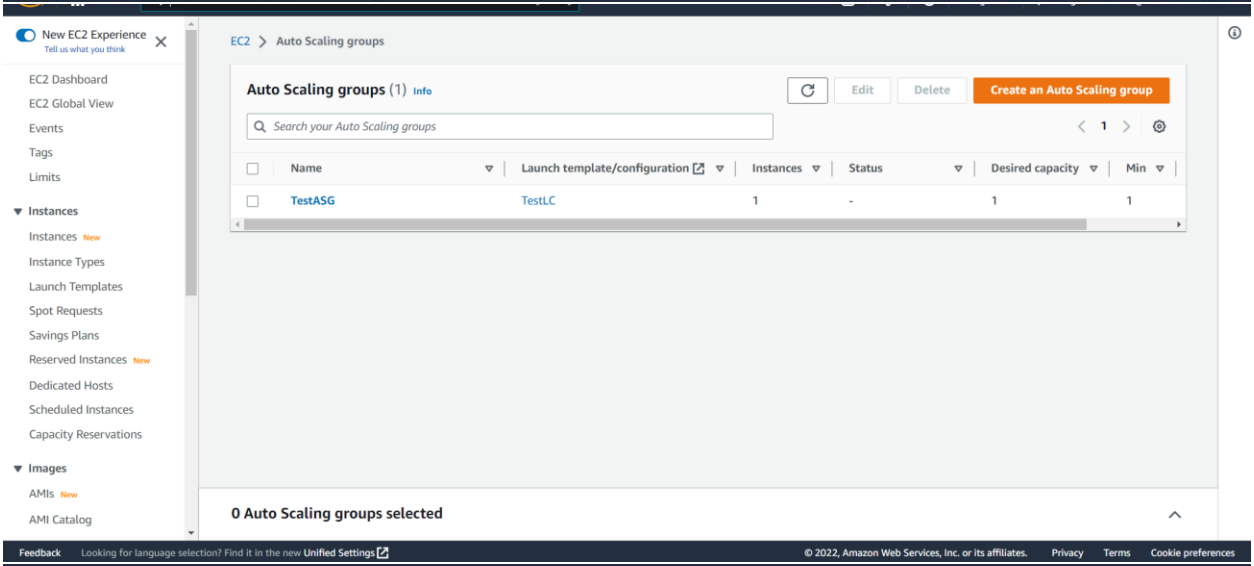
New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
EC2 > Auto Scaling groups
Auto Scaling groups (1) Info
Edit
Delete
Create an Auto Scaling group
Search your Auto Scaling groups
Name
Launch template/configuration
Instances
Status
Desired capacity
Min
TestASG
TestLC
1
-
1
1
0 Auto Scaling groups selected
Feedback
Looking for language selection? Find it in the new Unified Settings
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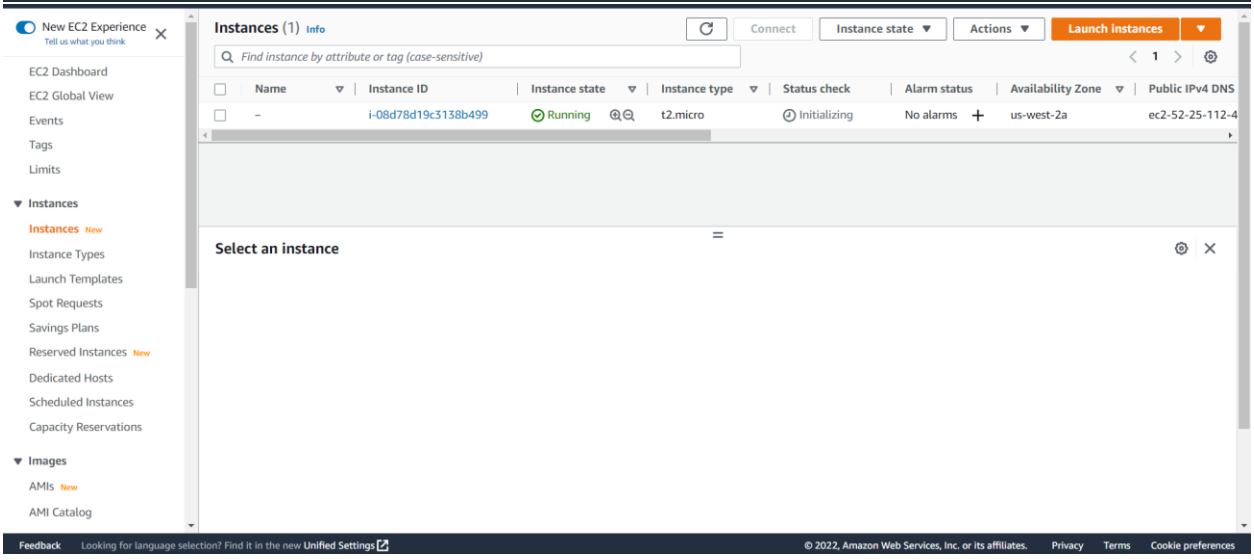
New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
Instances (1) Info
Connect
Instance state
Actions
Launch instances
Find instance by attribute or tag (case-sensitive)
Name
Instance ID
Instance state
Instance type
Status check
Alarm status
Availability Zone
Public IPv4 DNS
-
i-08d78d19c3138b499
Running
t2.micro
Initializing
No alarms
us-west-2a
ec2-52-25-112-4
Select an instance
Feedback
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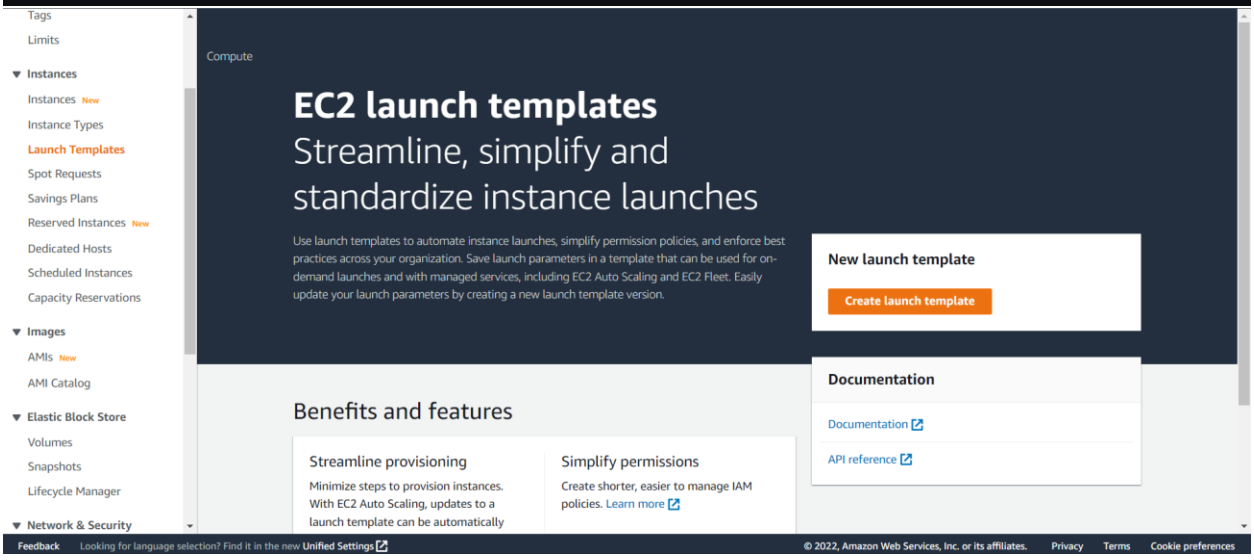
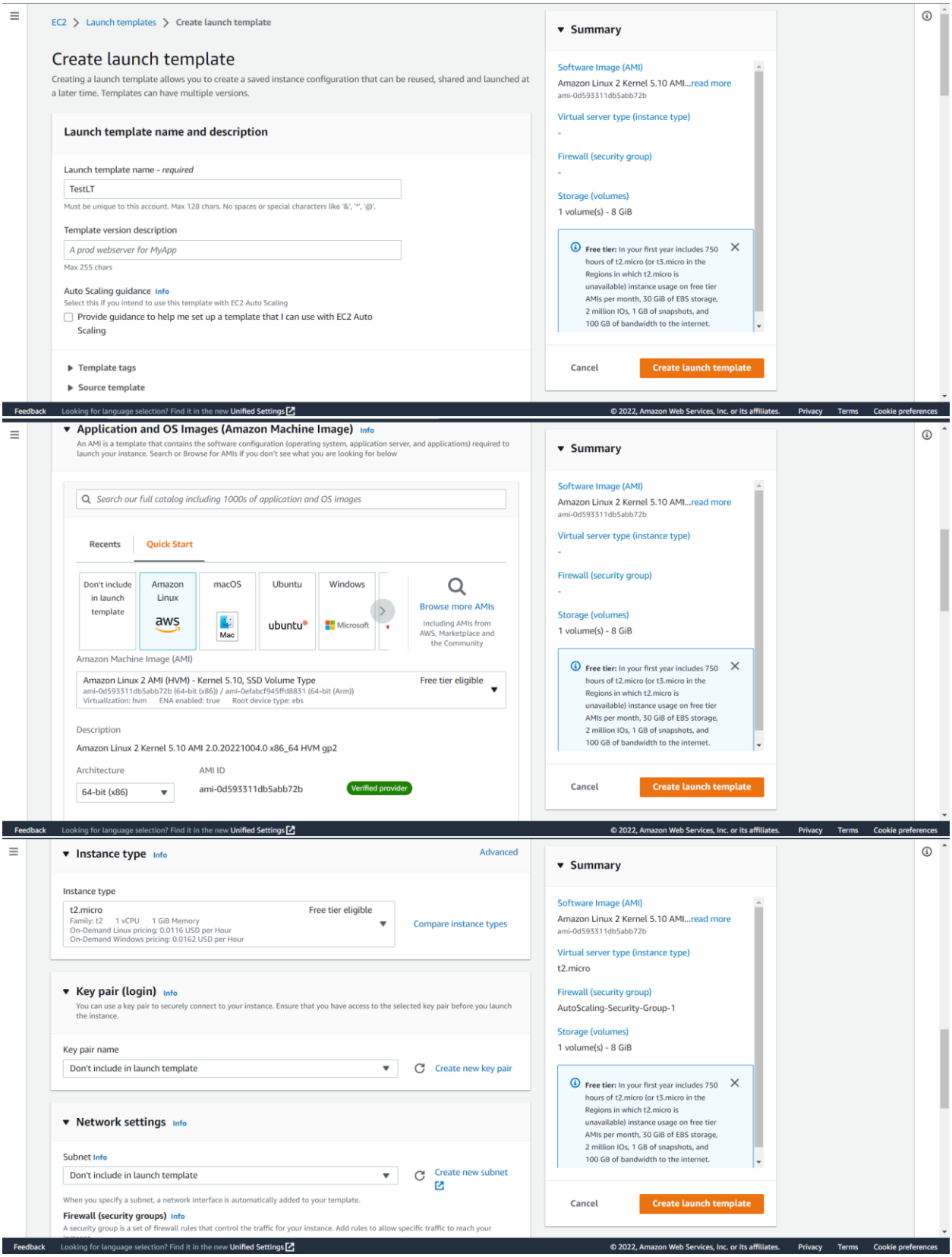
Create a Launch Template

Using launch configurations is not a scalable solution for a true production environment, so you will now build a launch template to simulate a production-like environment.

1. From the left-hand menu under **Instances**, click on **Launch Templates**.
2. Click **Create launch template**.
3. Enter a **Launch template name** of `TestLT`.
4. In the **Amazon machine image (AMI)** section, expand the **AMI** drop-down and choose the first listing for **Amazon Linux 2 AMI (HVM), SSD Volume Type**.
5. For **Instance type**, choose **t2.micro**.
6. In the **Network settings** section, under **Security groups**, choose **AutoScaling-Security-Group-1**.
7. Click **Create launch template**.
8. Click **View launch templates**

On the main **Launch templates** page, there should now be a launch template named **TestLT** in the list.




EC2 > Launch templates > Create 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 and description
Launch template name - required
TestLT
Must be unique to this account. Max 128 chars. No spaces or special characters like '&', '*', '@'.
Template version description
A prod webserver for MyApp
Max 255 chars
Auto Scaling guidance Info
Select this if you intend to use this template with EC2 Auto Scaling
Provide guidance to help me set up a template that I can use with EC2 Auto Scaling
Template tags
Source template
Summary
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0d593311db5abb72b
Virtual server type (instance type)
-
Firewall (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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template
Feedback
Looking for language selection? Find it in the new Unified Settings
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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
Search our full catalog including 1000s of application and OS images
Recents
Quick Start
Don't include in launch template
Amazon Linux
macOS
Ubuntu
Windows
Browse more AMIs
Including AMIs from AWS, Marketplace and the Community
Amazon Machine Image (AMI)
Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
Free tier eligible
ami-0d593311db5abb72b (64-bit (x86)) / ami-0efabcf945ffd8831 (64-bit (Arm))
Virtualization: hvm ENA enabled: true Root device type: ebs
Description
Amazon Linux 2 Kernel 5.10 AMI 2.0.20221004.0 x86_64 HVM gp2
Architecture
AMI ID
64-bit (x86)
ami-0d593311db5abb72b
Verified provider
Summary
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0d593311db5abb72b
Virtual server type (instance type)
-
Firewall (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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template
Feedback
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Instance type Info
Advanced
Instance type
t2.micro
Free tier eligible
Family: t2 1 vCPU 1 GiB Memory
On-Demand Linux pricing: 0.0116 USD per Hour
On-Demand Windows pricing: 0.0162 USD per Hour
Compare instance types
Key pair (login) Info
You can use a key pair to securely connect to your instance. Ensure that you have access to the selected key pair before you launch the instance.
Key pair name
Don't include in launch template
Create new key pair
Network settings Info
Subnet Info
Don't include in launch template
Create new subnet
When you specify a subnet, a network interface is automatically added to your template.
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
Summary
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0d593311db5abb72b
Virtual server type (instance type)
t2.micro
Firewall (security group)
AutoScaling-Security-Group-1
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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template
Feedback
Looking for language selection? Find it in the new Unified Settings
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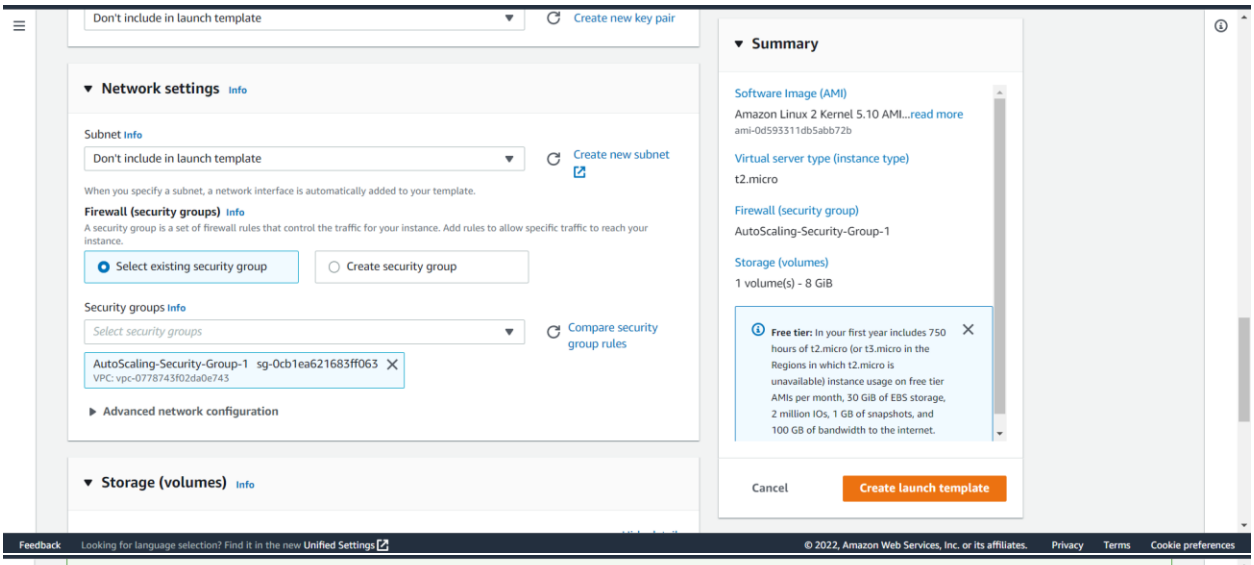
Don't include in launch template
Create new key pair
Network settings Info
Subnet Info
Don't include in launch template
Create new subnet
When you specify a subnet, a network interface is automatically added to your template.
Firewall (security groups) Info
A security group is a set of firewall rules that control the traffic for your instance. Add rules to allow specific traffic to reach your instance.
Select existing security group
Create security group
Security groups Info
Select security groups
Compare security group rules
AutoScaling-Security-Group-1 sg-0cb1ea621683ff063
VPC: vpc-0778743f02da0e743
Advanced network configuration
Storage (volumes) Info
Summary
Software Image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...read more
ami-0d593311db5abb72b
Virtual server type (instance type)
t2.micro
Firewall (security group)
AutoScaling-Security-Group-1
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, 30 GiB of EBS storage, 2 million IOs, 1 GB of snapshots, and 100 GB of bandwidth to the internet.
Cancel
Create launch template
Feedback
Looking for language selection? Find it in the new Unified Settings
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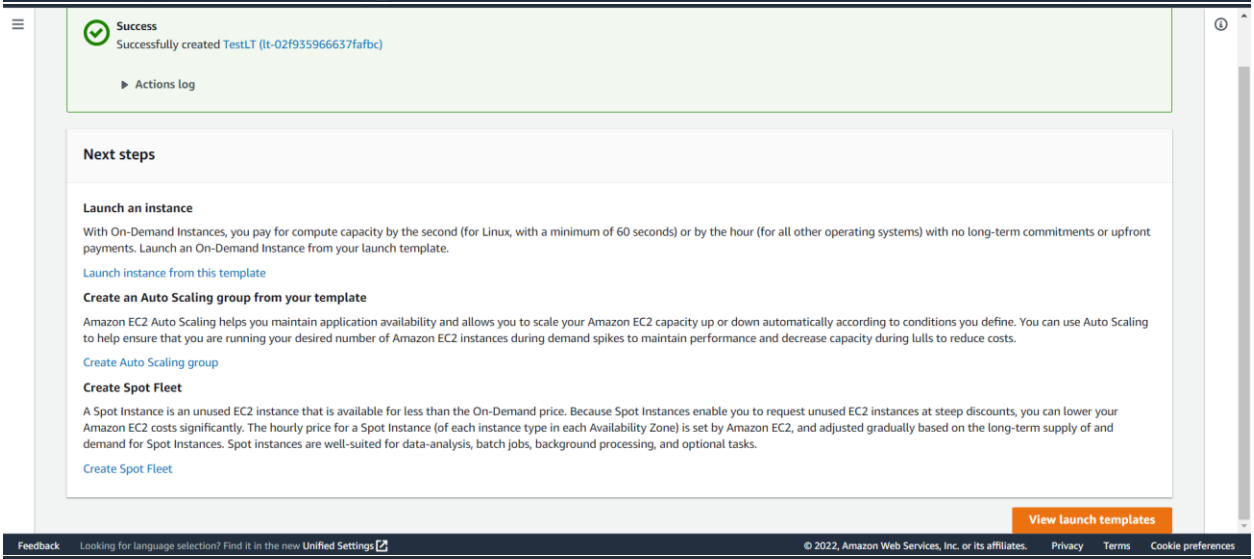
Success
Successfully created TestLT (lt-02f935966637fafbc)
Actions log
Next steps
Launch an instance
With On-Demand Instances, you pay for compute capacity by the second (for Linux, with a minimum of 60 seconds) or by the hour (for all other operating systems) with no long-term commitments or upfront payments. Launch an On-Demand Instance from your launch template.
Launch instance from this template
Create an Auto Scaling group from your template
Amazon EC2 Auto Scaling helps you maintain application availability and allows you to scale your Amazon EC2 capacity up or down automatically according to conditions you define. You can use Auto Scaling to help ensure that you are running your desired number of Amazon EC2 instances during demand spikes to maintain performance and decrease capacity during lulls to reduce costs.
Create Auto Scaling group
Create Spot Fleet
A Spot Instance is an unused EC2 instance that is available for less than the On-Demand price. Because Spot Instances enable you to request unused EC2 instances at steep discounts, you can lower your Amazon EC2 costs significantly. The hourly price for a Spot Instance (of each instance type in each Availability Zone) is set by Amazon EC2, and adjusted gradually based on the long-term supply of and demand for Spot Instances. Spot instances are well-suited for data-analysis, batch jobs, background processing, and optional tasks.
Create Spot Fleet
View launch templates
Feedback
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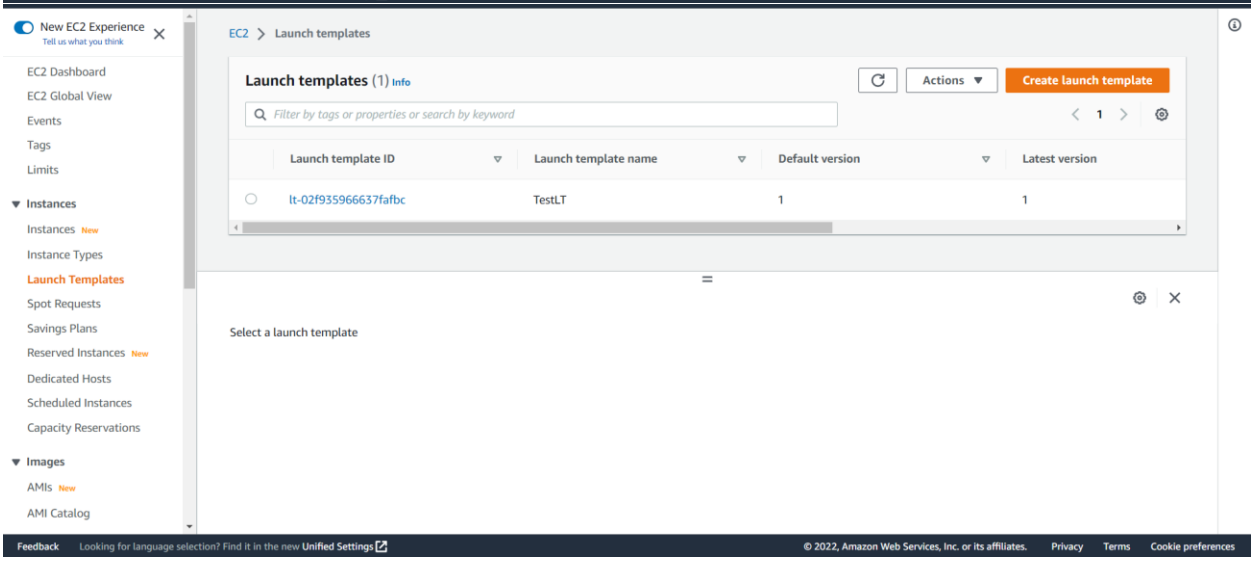
New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
EC2 > Launch templates
Launch templates (1) Info
Actions
Create launch template
Filter by tags or properties or search by keyword
Launch template ID
Launch template name
Default version
Latest version
lt-02f935966637fafbc
TestLT
1
1
Select a launch template
Feedback
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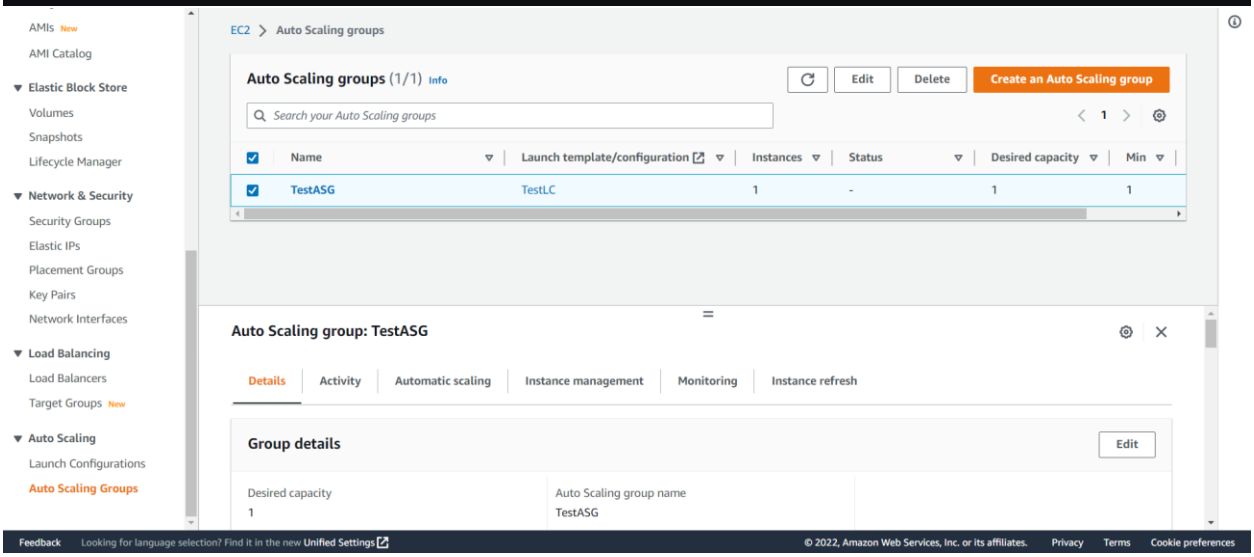
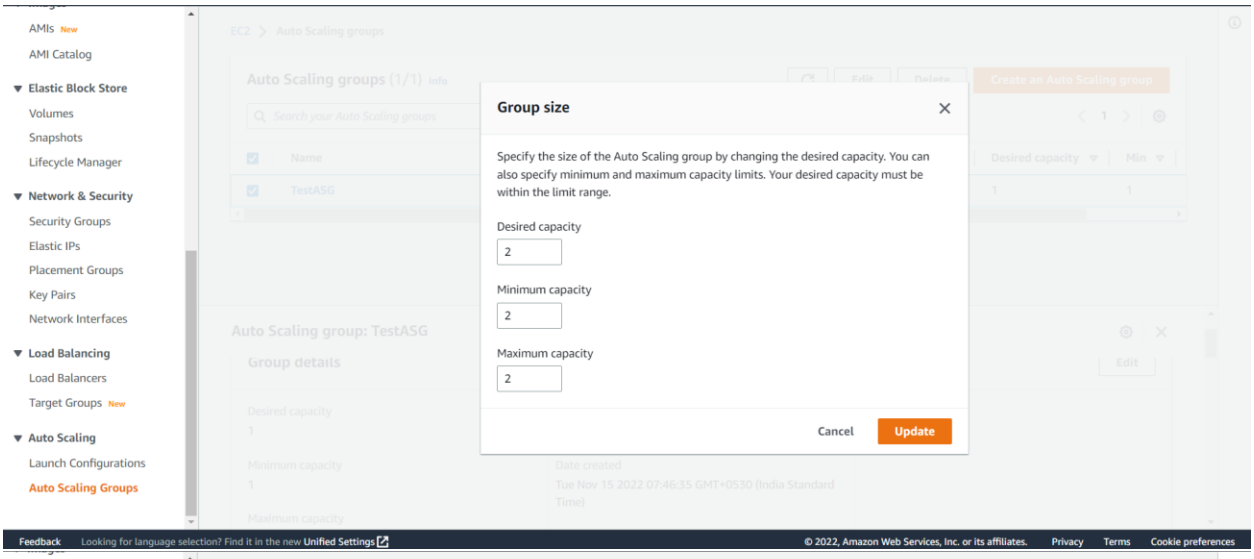
Edit an Auto Scaling Group to Use a Launch Template

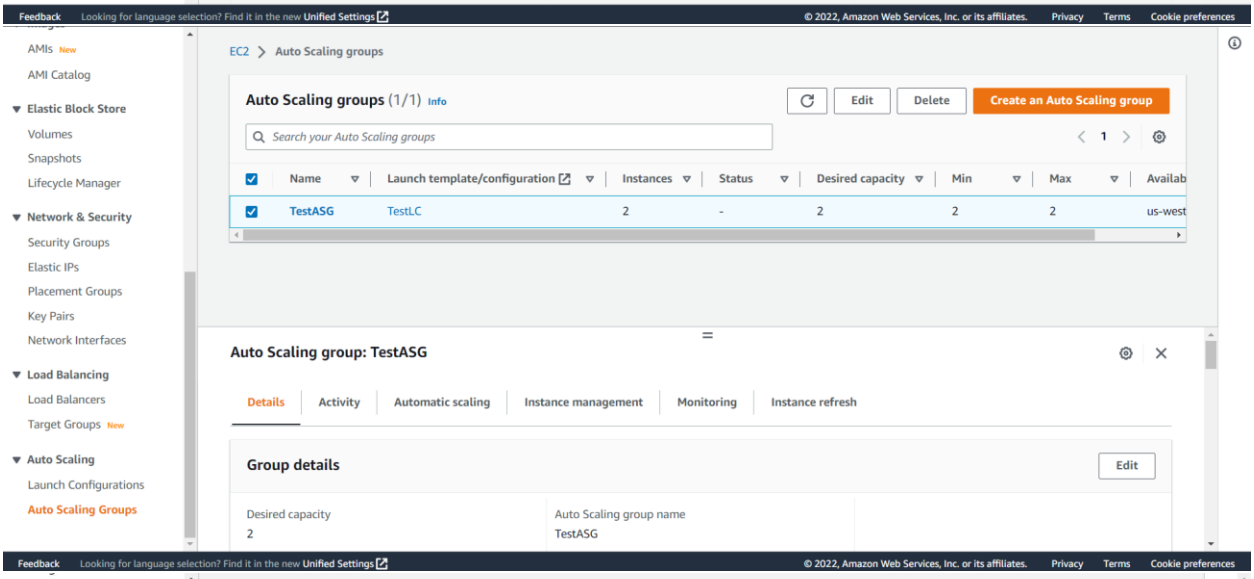
Auto scaling is the main goal of this proof of concept. Utilizing the newly-created launch template, you will now adjust the auto scaling to support the launch template and manually scale out.

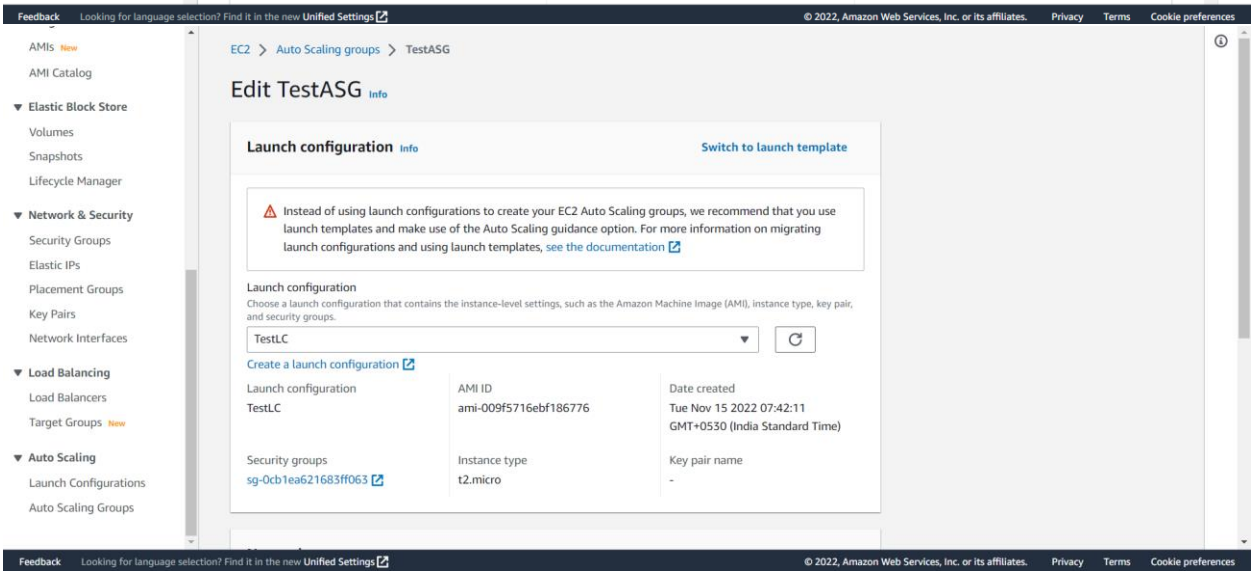
1. Go back to the **Auto Scaling Groups** page.
2. Select the existing Auto Scaling group named **TestASG**, then click **Edit** in the **Group details** section.
3. In the **Group size** section, set all values to `2` and click **Update.**
4. Click **Edit** in the **Launch configuration** section, then click **Switch to launch template** and choose the **TestLT** launch template you created earlier.
5. Scroll to the bottom and click **Update**.

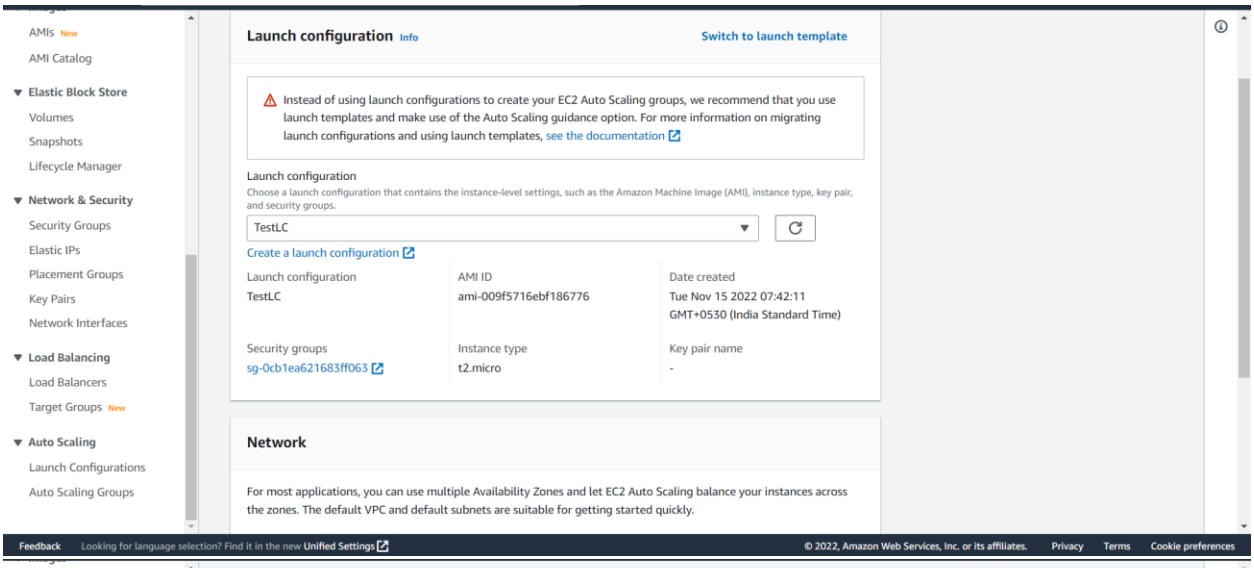
After being redirected to the **Auto Scaling groups page**, click the refresh icon and you will be able to see the instances go from **1** to **2**.




Group size
Specify the size of the Auto Scaling group by changing the desired capacity. You can also specify minimum and maximum capacity limits. Your desired capacity must be within the limit range.
Desired capacity
2
Minimum capacity
2
Maximum capacity
2
Cancel
Update


EC2 > Auto Scaling groups
Auto Scaling groups (1/1) Info
Edit
Delete
Create an Auto Scaling group
Search your Auto Scaling groups
Name
Launch template/configuration
Instances
Status
Desired capacity
Min
Max
TestASG
TestLC
2
-
2
2
2
us-west
Auto Scaling group: TestASG
Details
Activity
Automatic scaling
Instance management
Monitoring
Instance refresh
Group details
Edit
Desired capacity
2
Auto Scaling group name
TestASG


EC2 > Auto Scaling groups > TestASG
Edit TestASG Info
Launch configuration Info
Switch to launch template
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Launch configuration
Choose a launch configuration that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
TestLC
Create a launch configuration
Launch configuration
TestLC
AMI ID
ami-009f5716ebf186776
Date created
Tue Nov 15 2022 07:42:11 GMT+0530 (India Standard Time)
Security groups
sg-0cb1ea621683ff063
Instance type
t2.micro
Key pair name
-


AMIs New
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 New
Auto Scaling
Launch Configurations
Auto Scaling Groups
Launch configuration Info
Switch to launch template
Instead of using launch configurations to create your EC2 Auto Scaling groups, we recommend that you use launch templates and make use of the Auto Scaling guidance option. For more information on migrating launch configurations and using launch templates, see the documentation
Launch configuration
Choose a launch configuration that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
TestLC
Create a launch configuration
Launch configuration
TestLC
AMI ID
ami-009f5716ebf186776
Date created
Tue Nov 15 2022 07:42:11 GMT+0530 (India Standard Time)
Security groups
sg-0cb1ea621683ff063
Instance type
t2.micro
Key pair name
-
Network
For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.
Feedback
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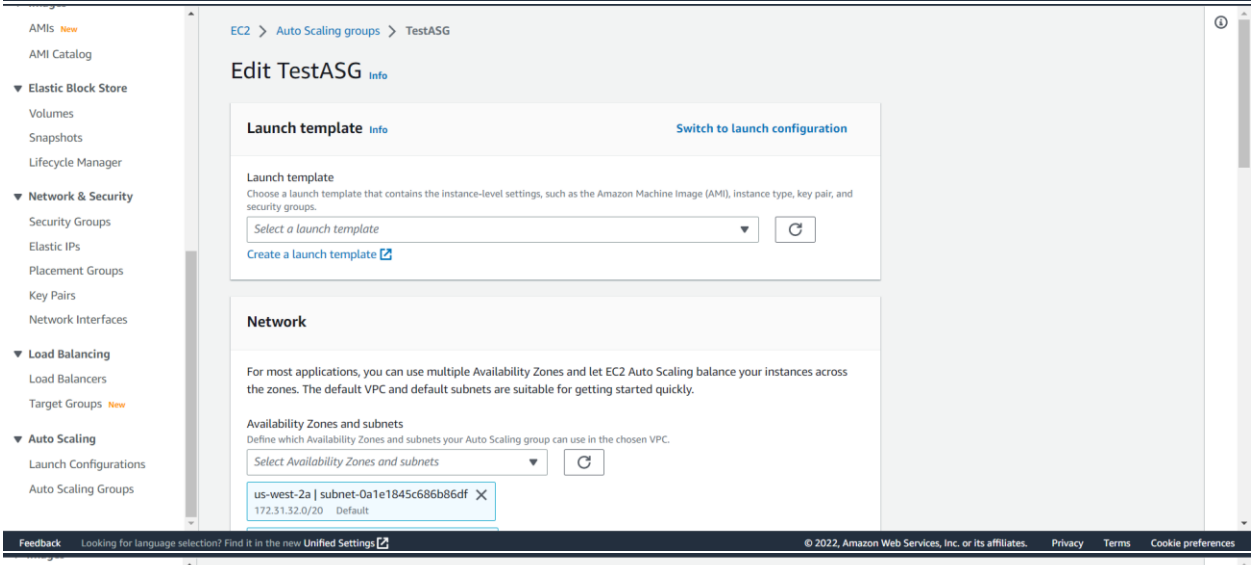
AMIs New
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups New
Auto Scaling
Launch Configurations
Auto Scaling Groups
EC2 > Auto Scaling groups > TestASG
Edit TestASG Info
Launch template Info
Switch to launch configuration
Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
Select a launch template
Create a launch template
Network
For most applications, you can use multiple Availability Zones and let EC2 Auto Scaling balance your instances across the zones. The default VPC and default subnets are suitable for getting started quickly.
Availability Zones and subnets
Define which Availability Zones and subnets your Auto Scaling group can use in the chosen VPC.
Select Availability Zones and subnets
us-west-2a | subnet-0a1e1845c686b86df
172.31.32.0/20 Default
Feedback
Looking for language selection? Find it in the new Unified Settings
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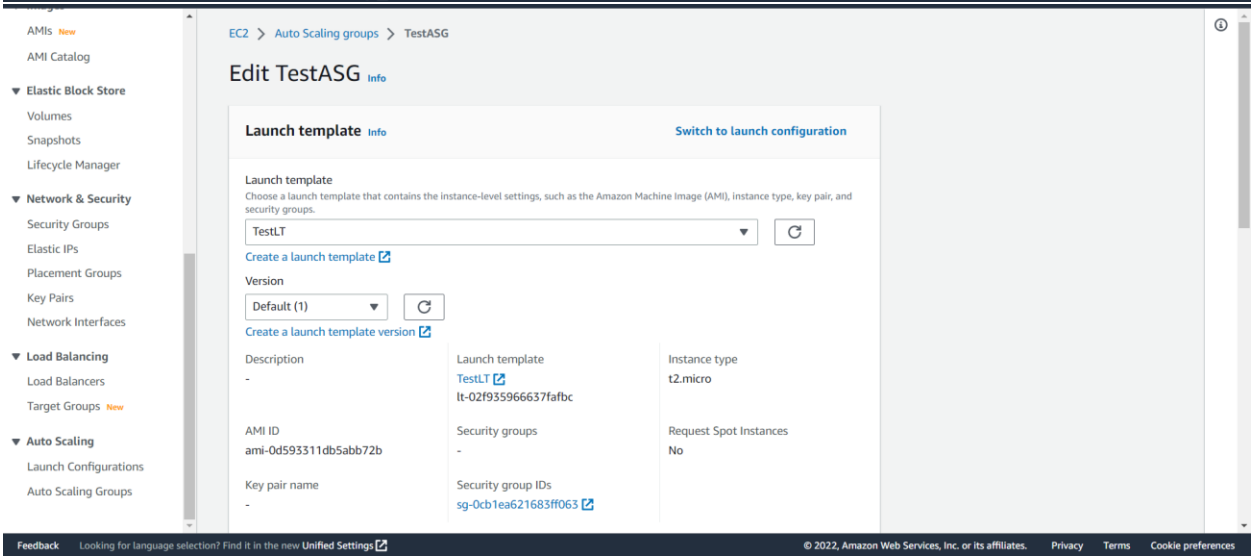
AMIs New
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups New
Auto Scaling
Launch Configurations
Auto Scaling Groups
EC2 > Auto Scaling groups > TestASG
Edit TestASG Info
Launch template Info
Switch to launch configuration
Launch template
Choose a launch template that contains the instance-level settings, such as the Amazon Machine Image (AMI), instance type, key pair, and security groups.
TestLT
Create a launch template
Version
Default (1)
Create a launch template version
Description
-
Launch template
TestLT
lt-02f935966637fafbc
Instance type
t2.micro
AMI ID
ami-0d593311db5abb72b
Security groups
-
Request Spot Instances
No
Key pair name
-
Security group IDs
sg-0cb1ea621683ff063
Feedback
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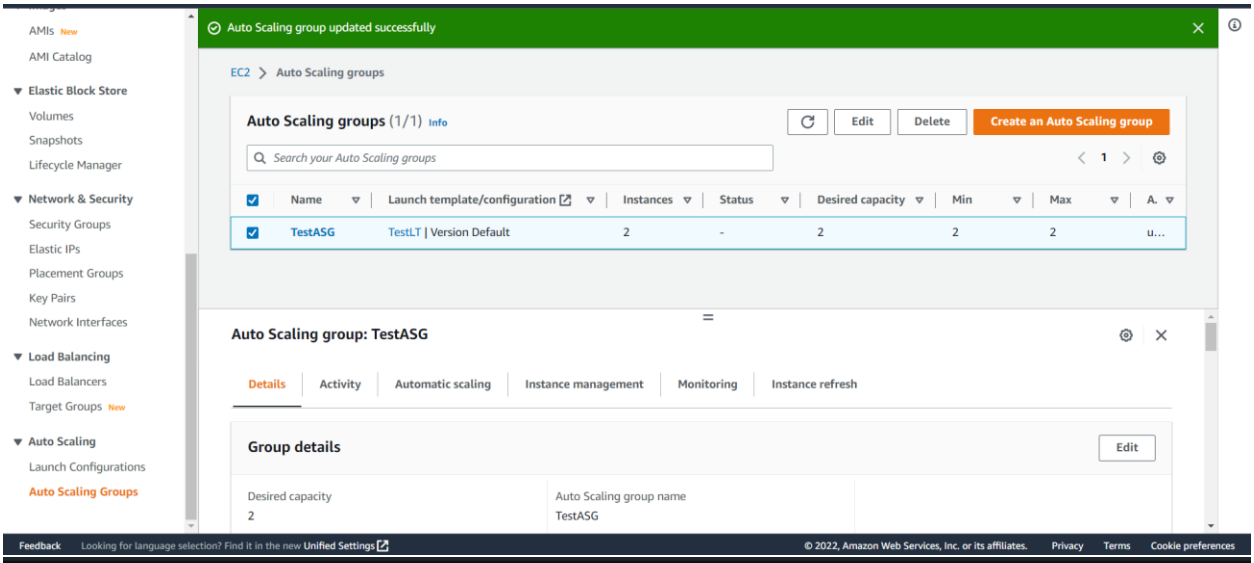


Configure a Load Balancer Using an Auto Scaling Group

An auto scaling group proof of concept cannot be complete without a load balancer to logically control traffic evenly across the auto scaling group. Creating this load balancer is the final step for this proof of concept.

1. In the left-hand menu, click on **Load Balancers**.
2. Click **Create Load Balancer**.
3. Under **Application Load Balancer**, click **Create**.
4. Enter a **Load balancer name** of `TestLB`.
5. In the **Network mapping** section, check the boxes for **us-west-2a** and **us-west-2b**.
6. Click in the **Security groups** section, select the **AutoScaling-Security-Group-1**, if needed deselect the **default** group.
7. In the **Listeners and routing** section, under the **Default action** bar, click the **Create target group** link. This will open a new tab.
8. For **Target group name** enter `TestTG` then click **Next** at the bottom.
9. Select both instances, click **Include as pending below**, and then click **Create target group**.

9. Select both instances, click **Include as pending below**, and then click **Create target group**.

10. A new page will open listing Target groups, click on **TestTG**. On the next page click on check boxes next to the instance ID and then click **Register targets**.

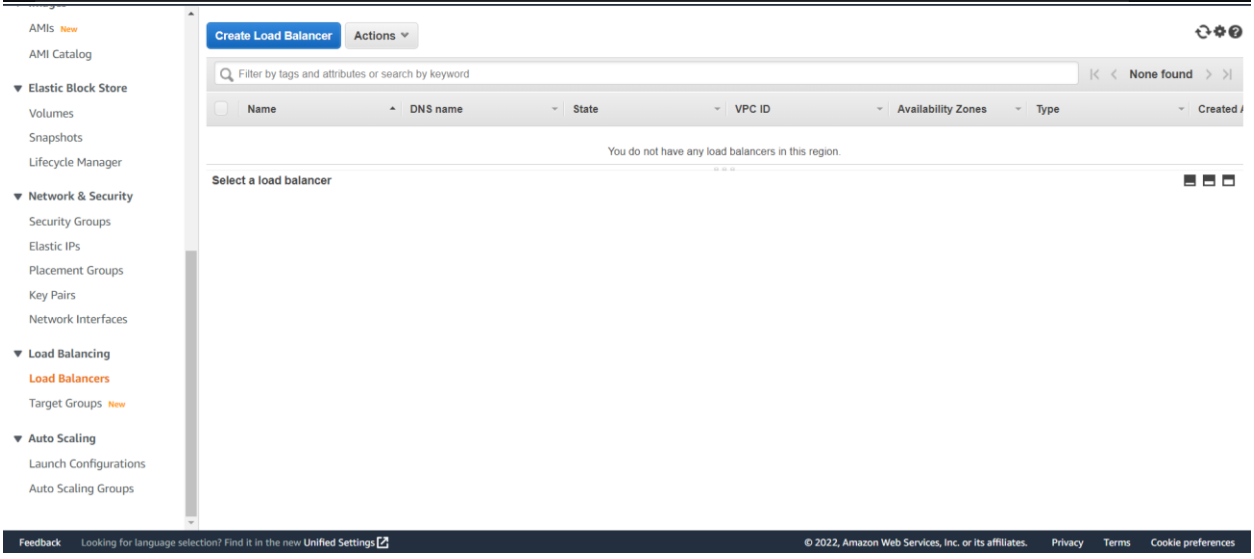
11. In the previous tab, within **Listeners and routing**, click the **refresh** icon by the **Default action** bar, then click the dropdown and select **TestTG**.

12. Scroll to the bottom and click **Create load balancer** and on the next page click **View load balancers**.

You should now see a Load Balancer in the list. If you via the left-hand menu click **Target Groups**, click on the **TestTG** link, then click the **Targets** tab, you can also verify that the two instances that were spun up prior are now associated with that target group.

Note: Their status will be **unhealthy**, and to fix that, you must have a service enabled on the instances that can respond to http health checks. This is beyond the scope of this lab, though.

At this point, you should now be able to create multiple launch types, an auto scaling group to manually scale out as needed, and a load balancer to divide traffic among the instances in the auto scaling group.



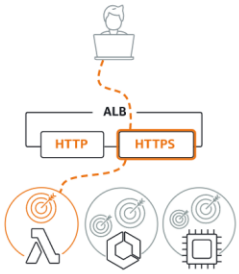
EC2 > Load balancers > Select load balancer type

Select load balancer type

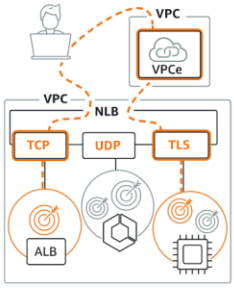
A complete feature-by-feature comparison along with detailed highlights is also available. Learn more

Load balancer types

Application Load Balancer Info



Network Load Balancer Info



Gateway Load Balancer Info

EC2 > Load balancers > Create Application Load Balancer

Create Application Load Balancer Info

The Application Load Balancer distributes incoming HTTP and HTTPS traffic across multiple targets such as Amazon EC2 instances, microservices, and containers, based on request attributes. When the load balancer receives a connection request, it evaluates the listener rules in priority order to determine which rule to apply, and if applicable, it selects a target from the target group for the rule action.

▸ **How Elastic Load balancing works**

Basic configuration

Load balancer name
Name must be unique within your AWS account and cannot be changed after the load balancer is created.

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

Scheme Info
Scheme cannot be changed after the load balancer is created.

- (•) Internet-facing
  An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. Learn more
- ( ) Internal
  An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type Info

Load balancer name
Name must be unique within your AWS account and cannot be changed after the load balancer is created.

TestLB

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

Scheme Info
Scheme cannot be changed after the load balancer is created.

- (•) Internet-facing
  An internet-facing load balancer routes requests from clients over the internet to targets. Requires a public subnet. Learn more
- ( ) Internal
  An internal load balancer routes requests from clients to targets using private IP addresses.

IP address type Info
Select the type of IP addresses that your subnets use.

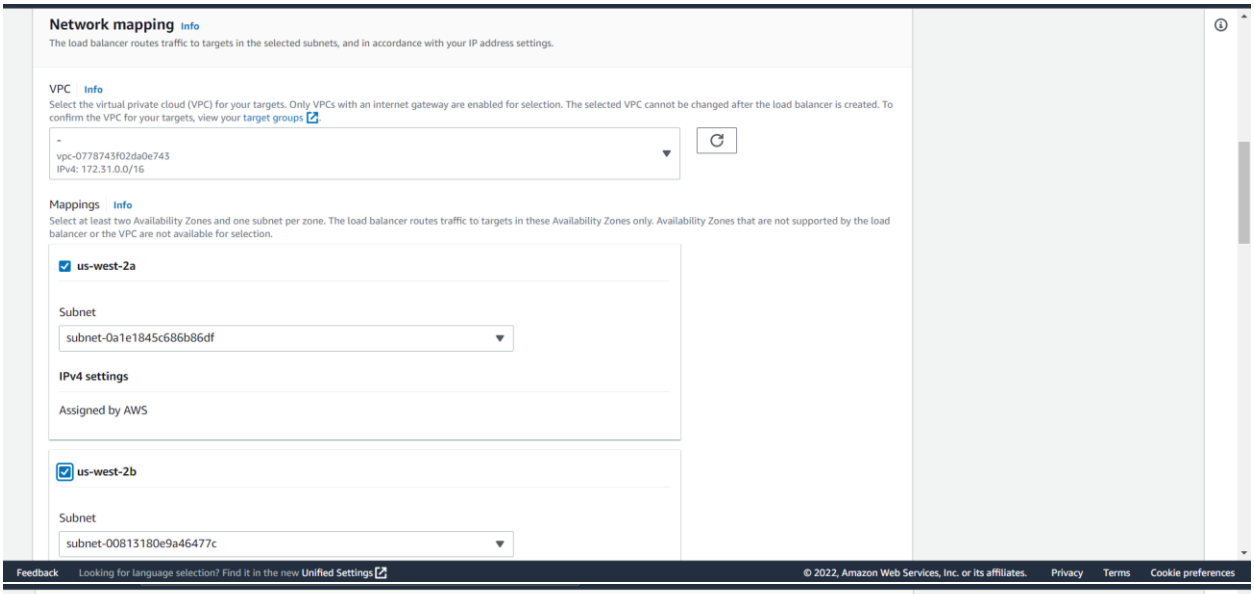
- (•) IPv4
  Recommended for internal load balancers.
- ( ) Dualstack
  Includes IPv4 and IPv6 addresses.

Network mapping Info

The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.

VPC Info
Select the virtual private cloud (VPC) for your targets. Only VPCs with an internet gateway are enabled for selection. The selected VPC cannot be changed after the load balancer is created. To confirm the VPC for your targets, view your target groups.

-
vpc-0778743f02da0e743
IPv4: 172.31.0.0/16


Network mapping Info
The load balancer routes traffic to targets in the selected subnets, and in accordance with your IP address settings.
VPC Info
Select the virtual private cloud (VPC) for your targets. Only VPCs with an internet gateway are enabled for selection. The selected VPC cannot be changed after the load balancer is created. To confirm the VPC for your targets, view your target groups.
-
vpc-0778743f02da0e743
IPv4: 172.31.0.0/16
Mappings Info
Select at least two Availability Zones and one subnet per zone. The load balancer routes traffic to targets in these Availability Zones only. Availability Zones that are not supported by the load balancer or the VPC are not available for selection.
us-west-2a
Subnet
subnet-0a1e1845c686b86df
IPv4 settings
Assigned by AWS
us-west-2b
Subnet
subnet-00813180e9a46477c
Feedback
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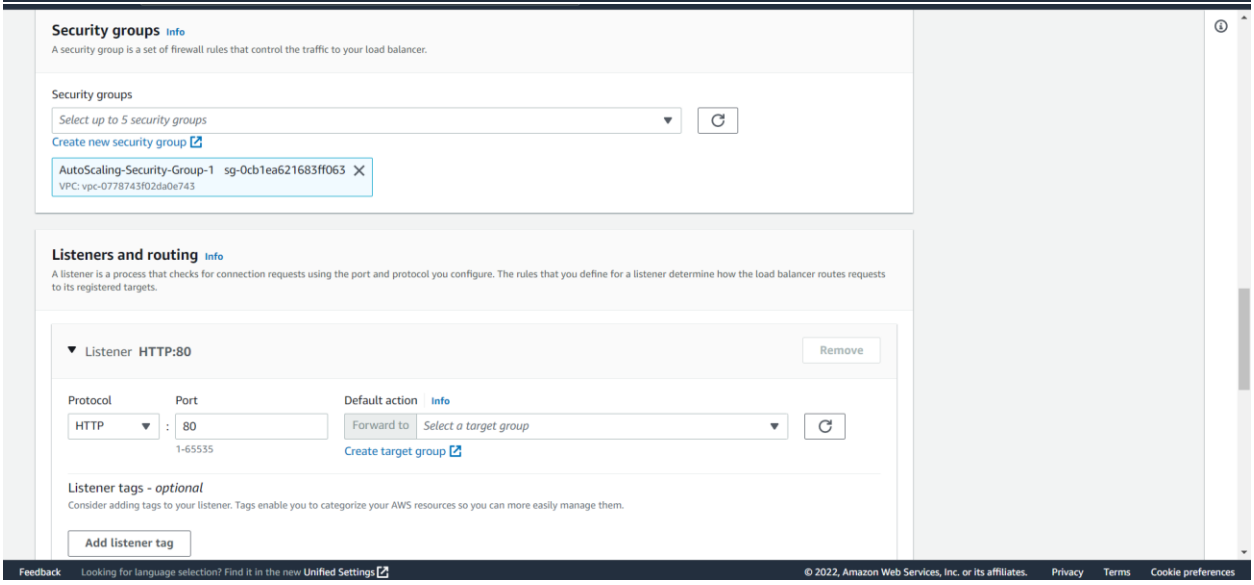
Security groups Info
A security group is a set of firewall rules that control the traffic to your load balancer.
Security groups
Select up to 5 security groups
Create new security group
AutoScaling-Security-Group-1 sg-0cb1ea621683ff063
VPC: vpc-0778743f02da0e743
Listeners and routing Info
A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.
Listener HTTP:80
Remove
Protocol
Port
Default action Info
HTTP
80
1-65535
Forward to
Select a target group
Create target group
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
Feedback
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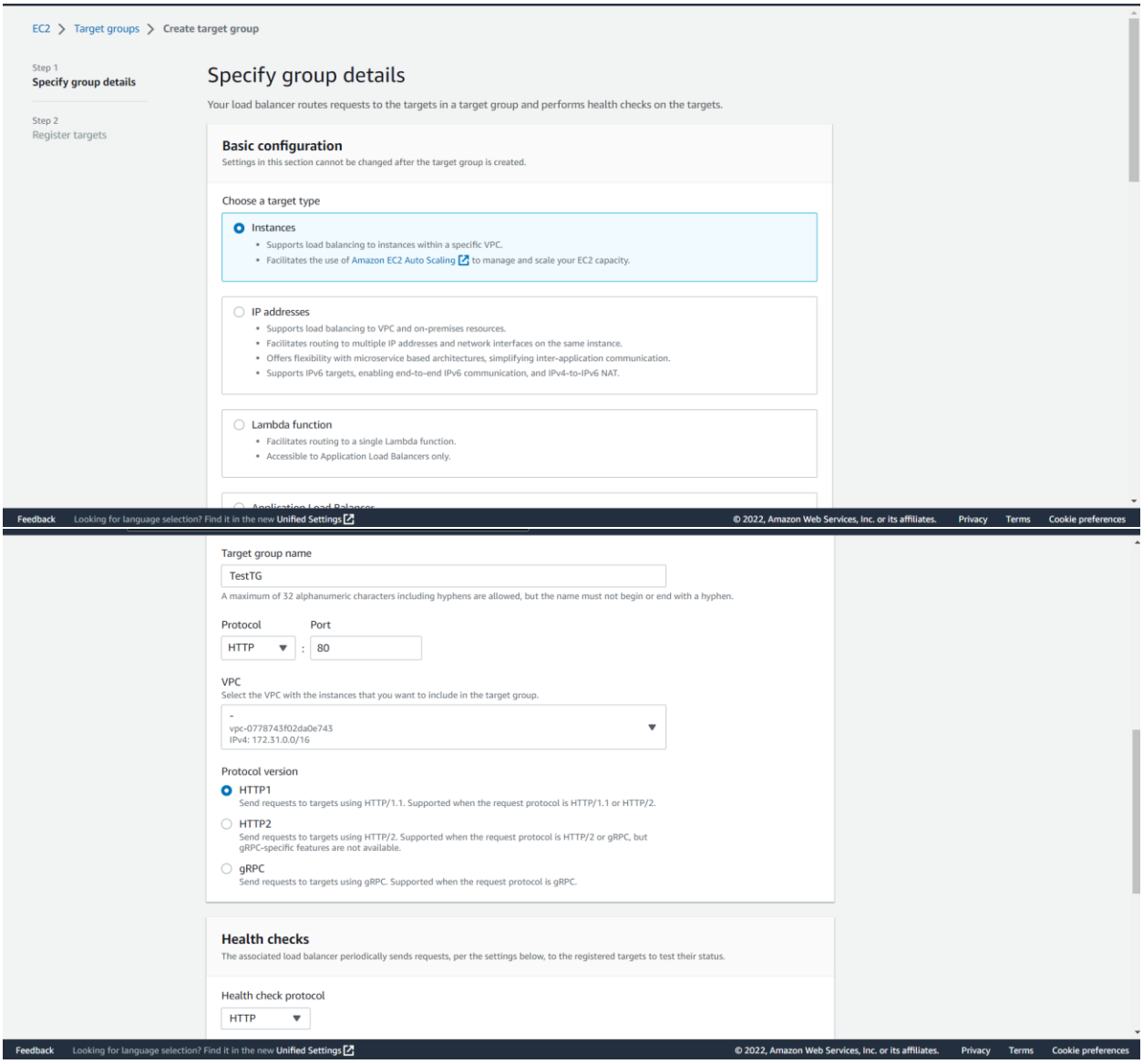
EC2 > Target groups > Create target group
Step 1
Specify group details
Step 2
Register targets
Specify group details
Your load balancer routes requests to the targets in a target group and performs health checks on the targets.
Basic configuration
Settings in this section cannot be changed after the target group is created.
Choose a target type
Instances
Supports load balancing to instances within a specific VPC.
Facilitates the use of Amazon EC2 Auto Scaling to manage and scale your EC2 capacity.
IP addresses
Supports load balancing to VPC and on-premises resources.
Facilitates routing to multiple IP addresses and network interfaces on the same instance.
Offers flexibility with microservice based architectures, simplifying inter-application communication.
Supports IPv6 targets, enabling end-to-end IPv6 communication, and IPv4-to-IPv6 NAT.
Lambda function
Facilitates routing to a single Lambda function.
Accessible to Application Load Balancers only.
Feedback
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Target group name
TestTG
A maximum of 32 alphanumeric characters including hyphens are allowed, but the name must not begin or end with a hyphen.
Protocol
Port
HTTP
80
VPC
Select the VPC with the instances that you want to include in the target group.
-
vpc-0778743f02da0e743
IPv4: 172.31.0.0/16
Protocol version
HTTP1
Send requests to targets using HTTP/1.1. Supported when the request protocol is HTTP/1.1 or HTTP/2.
HTTP2
Send requests to targets using HTTP/2. Supported when the request protocol is HTTP/2 or gRPC, but gRPC-specific features are not available.
gRPC
Send requests to targets using gRPC. Supported when the request protocol is gRPC.
Health checks
The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.
Health check protocol
HTTP
Feedback
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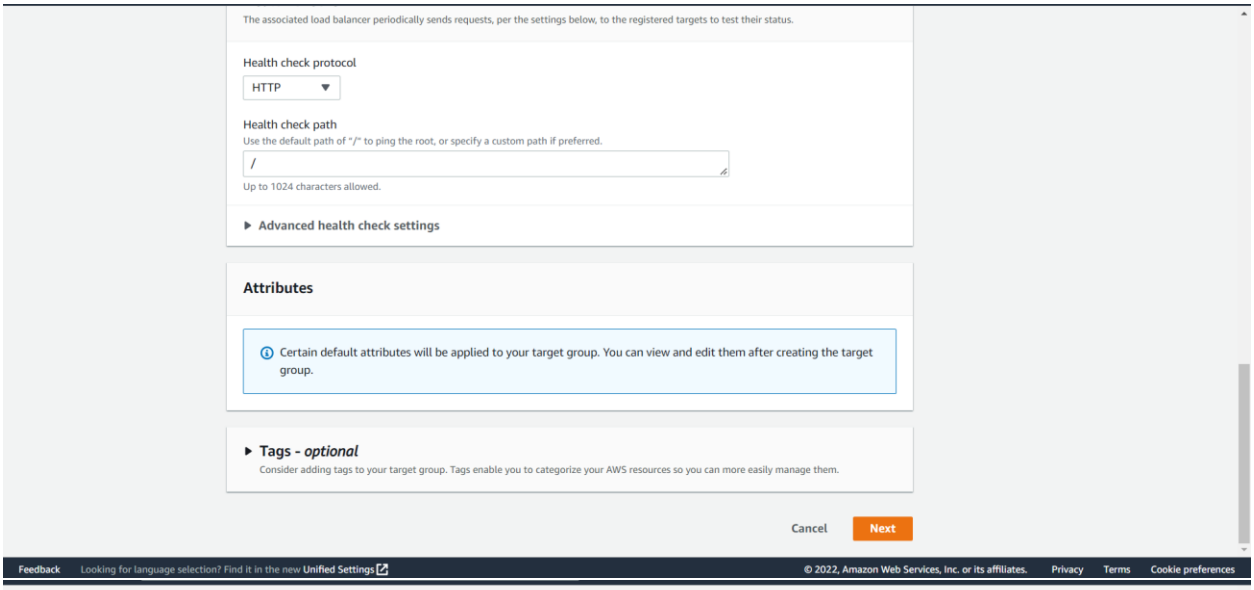
The associated load balancer periodically sends requests, per the settings below, to the registered targets to test their status.
Health check protocol
HTTP
Health check path
Use the default path of "/" to ping the root, or specify a custom path if preferred.
/
Up to 1024 characters allowed.
Advanced health check settings
Attributes
Certain default attributes will be applied to your target group. You can view and edit them after creating the target group.
Tags - optional
Consider adding tags to your target group. Tags enable you to categorize your AWS resources so you can more easily manage them.
Cancel
Next
Feedback
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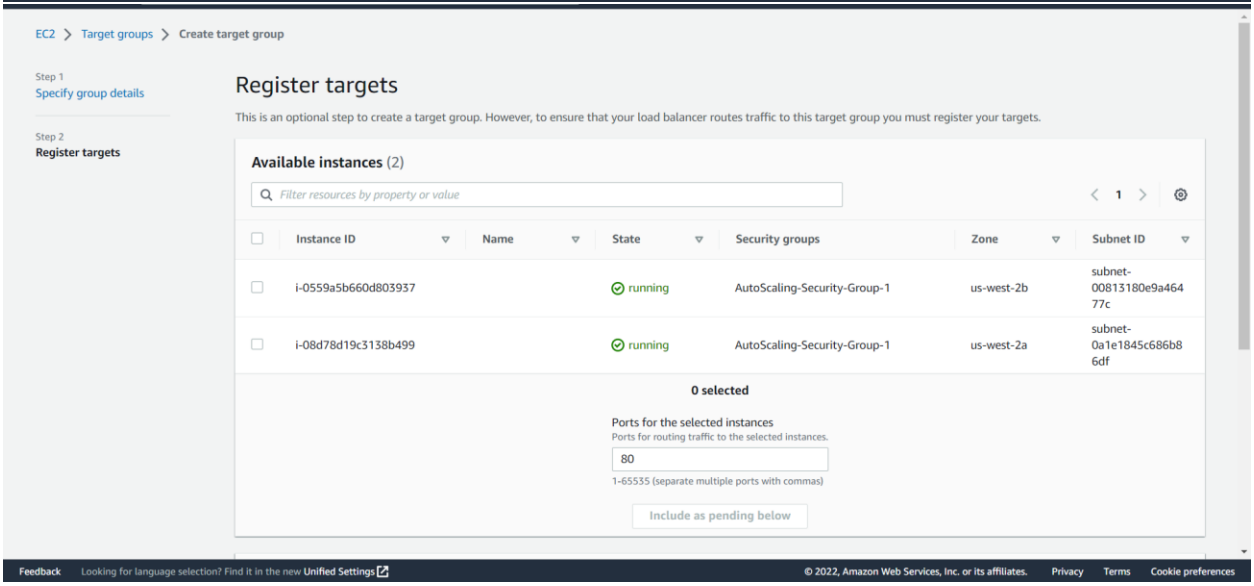
EC2
Target groups
Create target group
Step 1
Specify group details
Step 2
Register targets
Register targets
This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.
Available instances (2)
Filter resources by property or value
1
Instance ID
Name
State
Security groups
Zone
Subnet ID
i-0559a5b660d803937
running
AutoScaling-Security-Group-1
us-west-2b
subnet-00813180e9a46477c
i-08d78d19c3138b499
running
AutoScaling-Security-Group-1
us-west-2a
subnet-0a1e1845c686b86df
0 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.
80
1-65535 (separate multiple ports with commas)
Include as pending below
Feedback
Looking for language selection? Find it in the new Unified Settings
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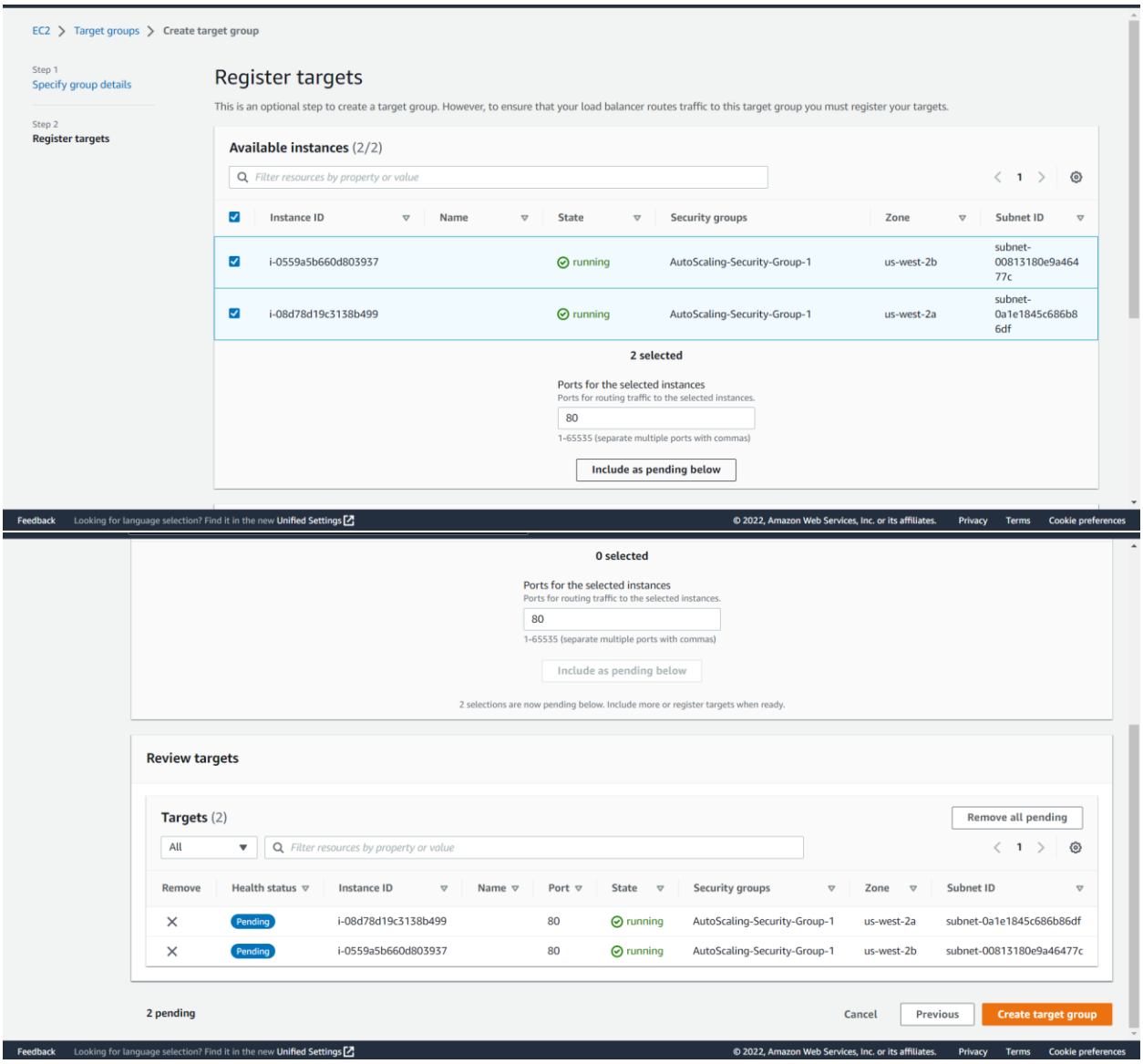
EC2 > Target groups > Create target group
Step 1
Specify group details
Step 2
Register targets
Register targets
This is an optional step to create a target group. However, to ensure that your load balancer routes traffic to this target group you must register your targets.
Available instances (2/2)
Filter resources by property or value
1
Instance ID
Name
State
Security groups
Zone
Subnet ID
i-0559a5b660d803937
running
AutoScaling-Security-Group-1
us-west-2b
subnet-00813180e9a46477c
i-08d78d19c3138b499
running
AutoScaling-Security-Group-1
us-west-2a
subnet-0a1e1845c686b86df
2 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.
80
1-65535 (separate multiple ports with commas)
Include as pending below
Feedback
Looking for language selection? Find it in the new Unified Settings
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0 selected
Ports for the selected instances
Ports for routing traffic to the selected instances.
80
1-65535 (separate multiple ports with commas)
Include as pending below
2 selections are now pending below. Include more or register targets when ready.
Review targets
Targets (2)
Remove all pending
All
Filter resources by property or value
1
Remove
Health status
Instance ID
Name
Port
State
Security groups
Zone
Subnet ID
Pending
i-08d78d19c3138b499
80
running
AutoScaling-Security-Group-1
us-west-2a
subnet-0a1e1845c686b86df
Pending
i-0559a5b660d803937
80
running
AutoScaling-Security-Group-1
us-west-2b
subnet-00813180e9a46477c
2 pending
Cancel
Previous
Create target group
Feedback
Looking for language selection? Find it in the new Unified Settings
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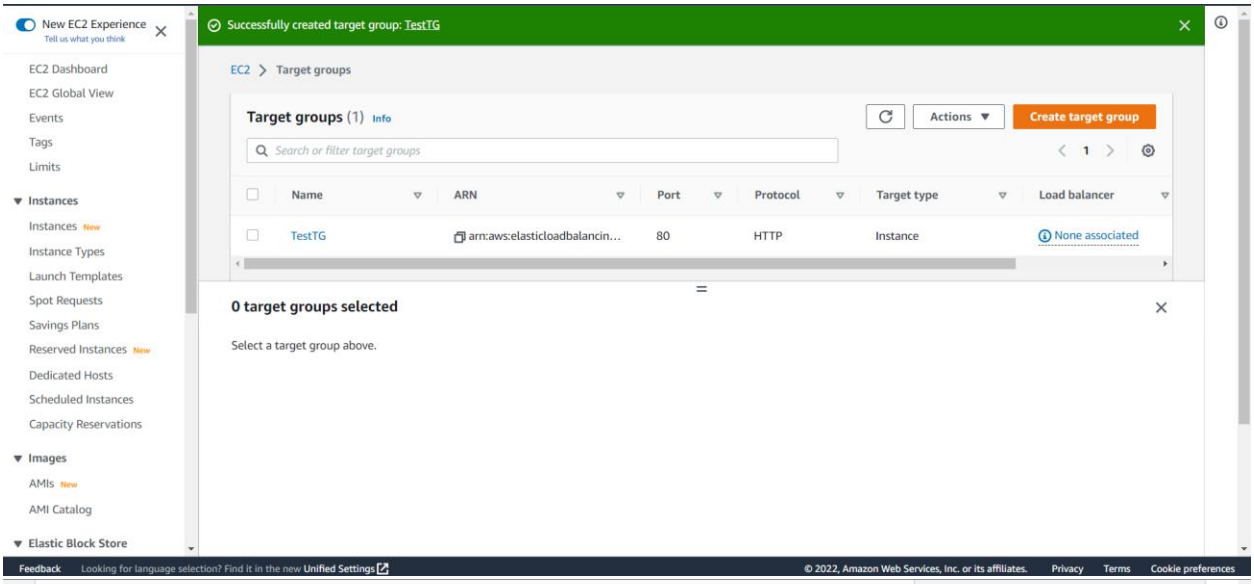
New EC2 Experience
Tell us what you think
EC2 Dashboard
EC2 Global View
Events
Tags
Limits
Instances
Instances New
Instance Types
Launch Templates
Spot Requests
Savings Plans
Reserved Instances New
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
Elastic Block Store
Successfully created target group: TestTG
EC2 > Target groups
Target groups (1) Info
Actions
Create target group
Search or filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
TestTG
arn:aws:elasticloadbalancin...
80
HTTP
Instance
None associated
0 target groups selected
Select a target group above.
Feedback
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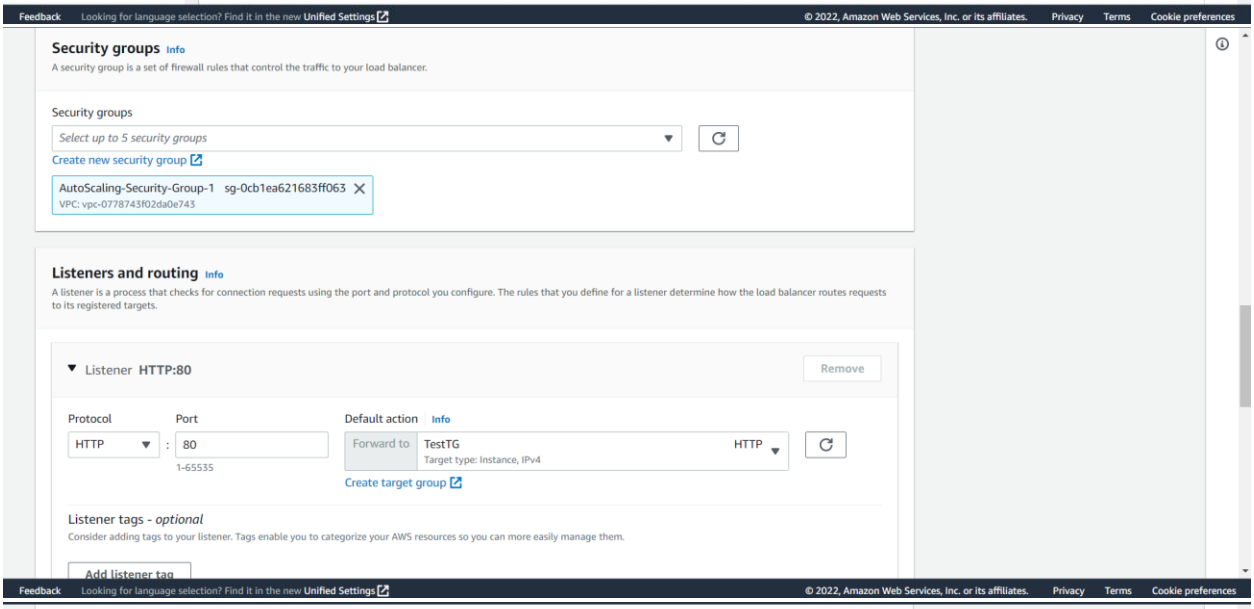
Security groups Info
A security group is a set of firewall rules that control the traffic to your load balancer.
Security groups
Select up to 5 security groups
Create new security group
AutoScaling-Security-Group-1 sg-0cb1ea621683ff063
VPC: vpc-0778743f02da0e743
Listeners and routing Info
A listener is a process that checks for connection requests using the port and protocol you configure. The rules that you define for a listener determine how the load balancer routes requests to its registered targets.
Listener HTTP:80
Remove
Protocol
Port
HTTP
80
1-65535
Default action Info
Forward to
TestTG
Target type: Instance, IPv4
HTTP
Create target group
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
Feedback
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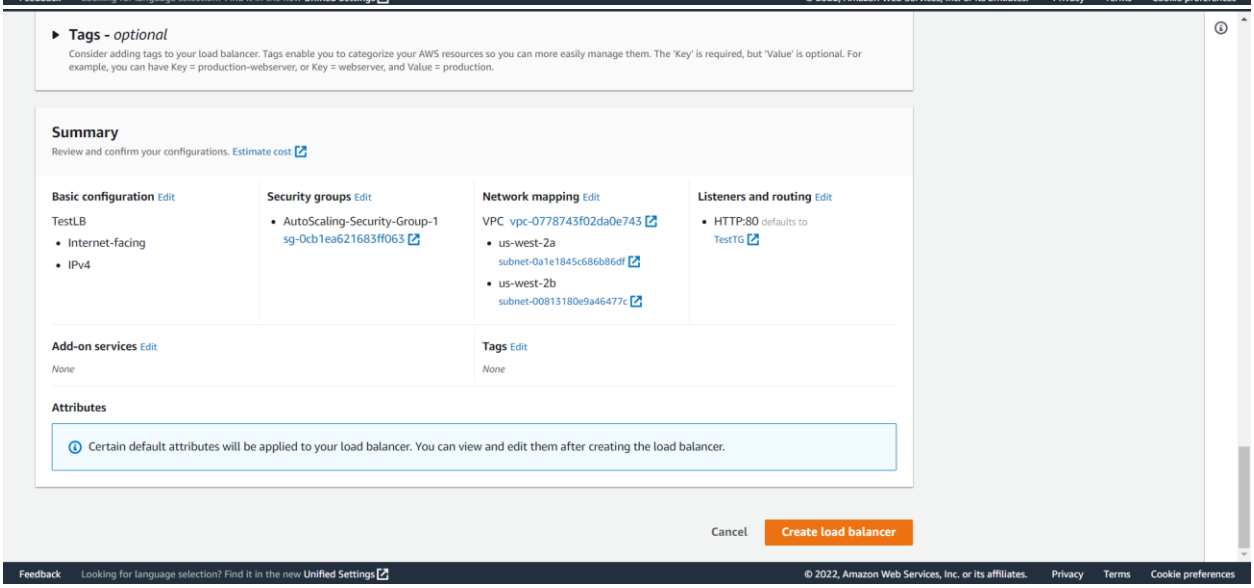
Tags - optional
Consider adding tags to your load balancer. Tags enable you to categorize your AWS resources so you can more easily manage them. The 'Key' is required, but 'Value' is optional. For example, you can have Key = production-webserver, or Key = webserver, and Value = production.
Summary
Review and confirm your configurations. Estimate cost
Basic configuration Edit
TestLB
Internet-facing
IPv4
Security groups Edit
AutoScaling-Security-Group-1
sg-0cb1ea621683ff063
Network mapping Edit
VPC vpc-0778743f02da0e743
us-west-2a
subnet-0a1e1845c686b86df
us-west-2b
subnet-00813180e9a46477c
Listeners and routing Edit
HTTP:80 defaults to
TestTG
Add-on services Edit
None
Tags Edit
None
Attributes
Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.
Cancel
Create load balancer
Feedback
Looking for language selection? Find it in the new Unified Settings
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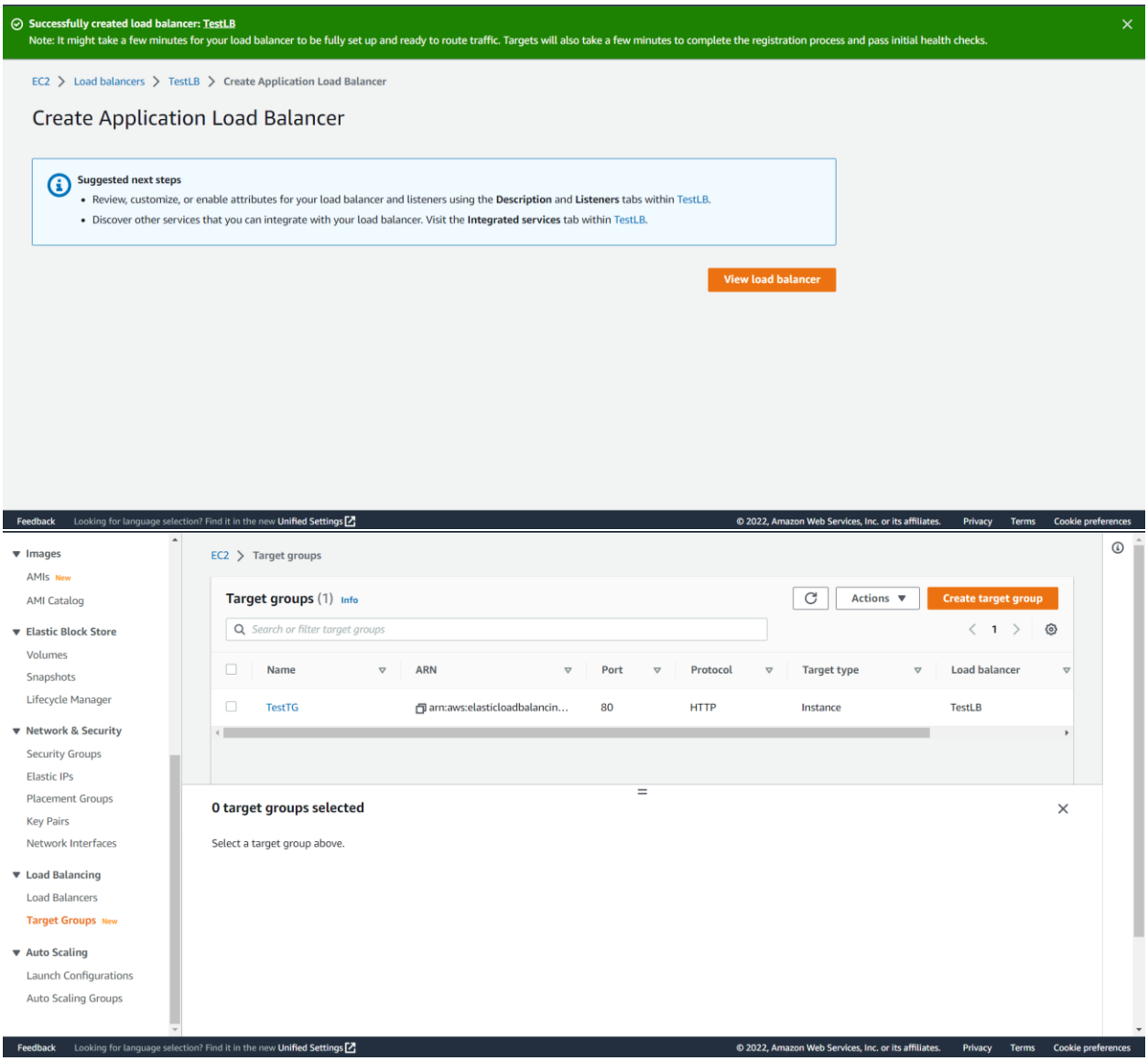
Successfully created load balancer: TestLB
Note: It might take a few minutes for your load balancer to be fully set up and ready to route traffic. Targets will also take a few minutes to complete the registration process and pass initial health checks.
EC2 > Load balancers > TestLB > Create Application Load Balancer
Create Application Load Balancer
Suggested next steps
Review, customize, or enable attributes for your load balancer and listeners using the Description and Listeners tabs within TestLB.
Discover other services that you can integrate with your load balancer. Visit the Integrated services tab within TestLB.
View load balancer
Feedback
Looking for language selection? Find it in the new Unified Settings
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Privacy
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Images
AMIs New
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 New
Auto Scaling
Launch Configurations
Auto Scaling Groups
EC2 > Target groups
Target groups (1) Info
Actions
Create target group
Search or filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
TestTG
arn:aws:elasticloadbalancin...
80
HTTP
Instance
TestLB
0 target groups selected
Select a target group above.
Feedback
Looking for language selection? Find it in the new Unified Settings
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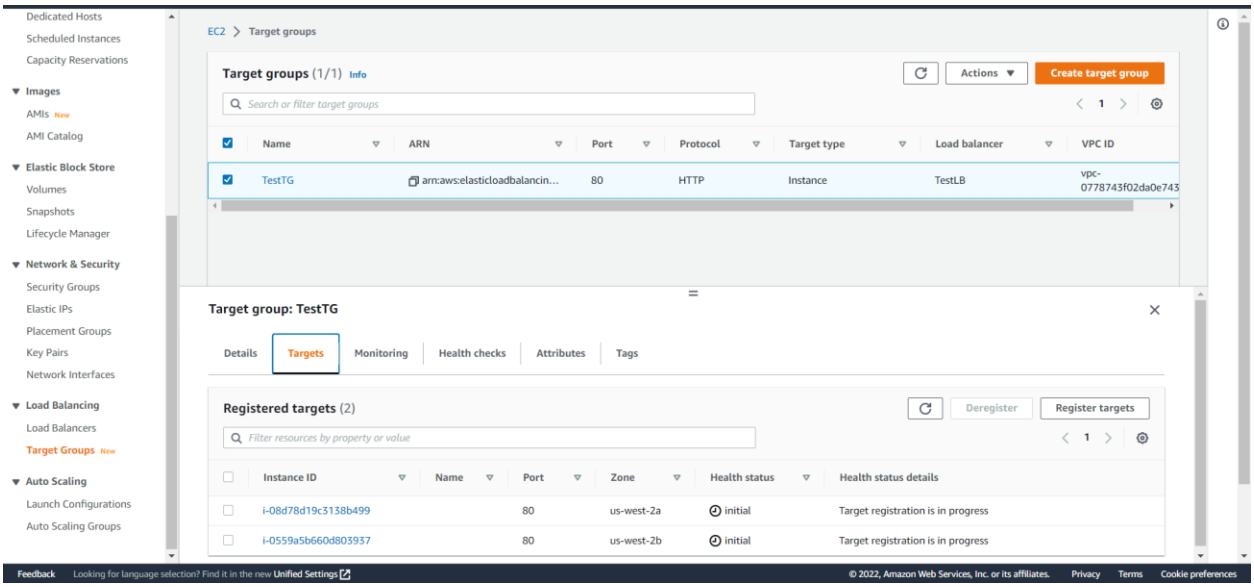
Dedicated Hosts
Scheduled Instances
Capacity Reservations
Images
AMIs New
AMI Catalog
Elastic Block Store
Volumes
Snapshots
Lifecycle Manager
Network & Security
Security Groups
Elastic IPs
Placement Groups
Key Pairs
Network Interfaces
Load Balancing
Load Balancers
Target Groups New
Auto Scaling
Launch Configurations
Auto Scaling Groups
EC2 > Target groups
Target groups (1/1) Info
Actions
Create target group
Search or filter target groups
Name
ARN
Port
Protocol
Target type
Load balancer
VPC ID
TestTG
arn:aws:elasticloadbalancin...
80
HTTP
Instance
TestLB
vpc-0778743f02da0e743
Target group: TestTG
Details
Targets
Monitoring
Health checks
Attributes
Tags
Registered targets (2)
Deregister
Register targets
Filter resources by property or value
Instance ID
Name
Port
Zone
Health status
Health status details
i-08d78d19c3138b499
80
us-west-2a
initial
Target registration is in progress
i-0559a5b660d803937
80
us-west-2b
initial
Target registration is in progress
Feedback
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