

Course-end Project

Deployment of Multi-cloud App

Project:

Deploy a multi-cloud app architecture using two load balancer setups in Amazon Web Services (AWS) and Azure platform through Route53. The goal will be to create a static app on an AWS EC2 instance with the creation an elastic load balancer (ELB) and target group, along with a static app on Azure VM and Load Balancer. These will be connected through Route53 on AWS a domain name system (DNS) and hosted zone with weighted routing policy.

You must use the following:

Azure with Virtual Machine, Load Balancer, and Public IP

AWS with EC2 Instance, Load Balancer, Target Group, Domain (DNS), and Record Groups

To follow the steps carefully, we will do this project in three parts: AWS, Azure, and Route 53.

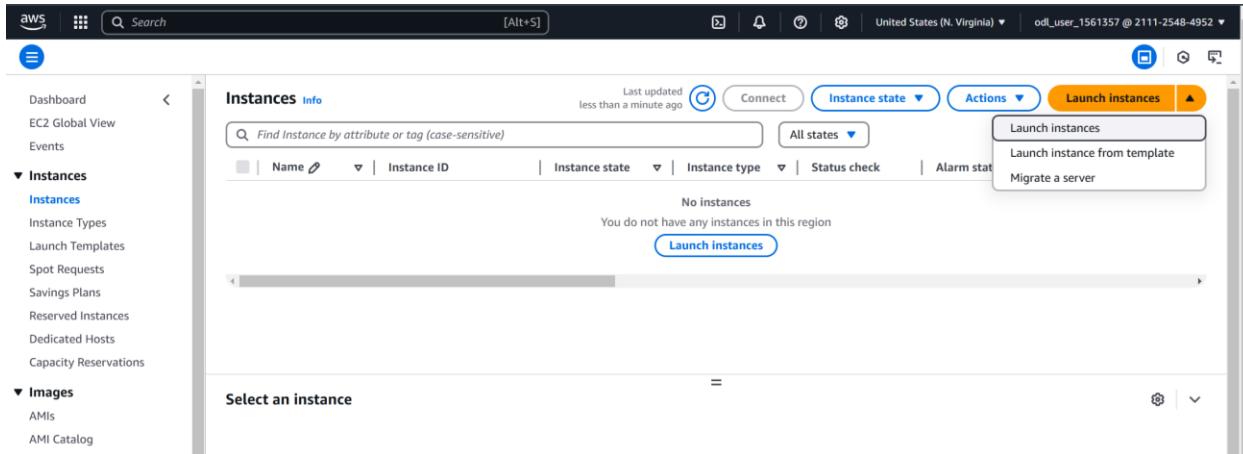
Part 1. Create AWS Infrastructure

1.1 Create EC2 Instance

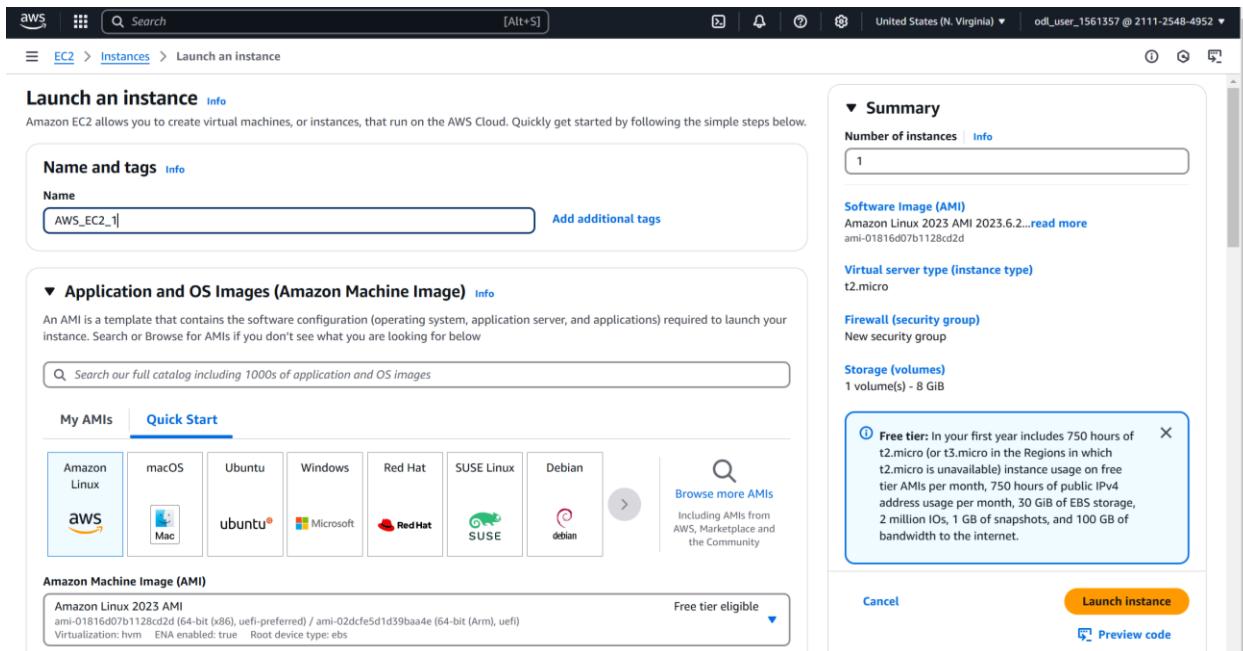
Login into AWS and go to EC2.

The screenshot shows the AWS EC2 Dashboard. On the left, there's a navigation sidebar with sections like Dashboard, Instances, Images, Elastic Block Store, Network & Security, and more. The main area has several cards: 'Resources' (listing 0 instances, 0 auto-scaling groups, etc.), 'Launch instance' (with a prominent orange 'Launch instance' button), 'Service health' (showing 'This service is operating normally.'), 'Zones' (listing us-east-1a, us-east-1b, us-east-1c with Zone ID use1-az4, use1-az6, use1-az1 respectively), and 'Account attributes' (listing Default VPC, Settings, and various links). At the bottom, there's a footer with links to © 2025, Amazon Web Services, Inc. or its affiliates., Privacy, Terms, and Cookie preferences.

On the left menu, Click on Instances.



Go to Launch Instances and click on it to create your EC2 instance.



The first step is to create a name for your EC2 instance. In this case, we will call it "AWS_EC2_1".

Select your Amazon Machine Image (AMI). For this project, we will use Amazon Linux 2023 AMI.

Description
Amazon Linux 2023 is a modern, general purpose Linux-based OS that comes with 5 years of long term support. It is optimized for AWS and designed to provide a secure, stable and high-performance execution environment to develop and run your cloud applications.

Amazon Linux 2023 AMI 2023.6.20241212.0 x86_64 HVM kernel-6.1

Architecture	Boot mode	AMI ID	Username
64-bit (x86)	uefi-preferred	ami-01816d07b1128cd2	ec2-user

Verified provider

Instance type [Info](#) | [Get advice](#)

t2.micro Family-t2 1 vCPU 1 GiB Memory Current generation: true Free tier eligible

On-Demand Windows base pricing: 0.0162 USD per Hour
On-Demand Ubuntu Pro base pricing: 0.0134 USD per Hour
On-Demand SUSE base pricing: 0.0116 USD per Hour
On-Demand RHEL base pricing: 0.0266 USD per Hour On-Demand Linux base pricing: 0.0116 USD per Hour

All generations [Compare instance types](#)

Additional costs apply for AMIs with pre-installed software

Software Image (AMI) Amazon Linux 2023 AMI 2023.6.2... [read more](#)

Virtual server type (instance type) t2.micro

Firewall (security group) New 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, 750 hours of public IPv4 address usage per month, 30 GiB of EBS storage, 2 million API calls per month, and 100 GB of data transfer.

For instance type, select t2.micro.

Now create a key pair for your instance.

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 - required

Select [Create new key pair](#)

Click on “Create new key pair.”

Create key pair

Key pair name
Key pairs allow you to connect to your instance securely.

The name can include up to 255 ASCII characters. It can't include leading or trailing spaces.

Key pair type

RSA RSA encrypted private and public key pair
 ED25519 ED25519 encrypted private and public key pair

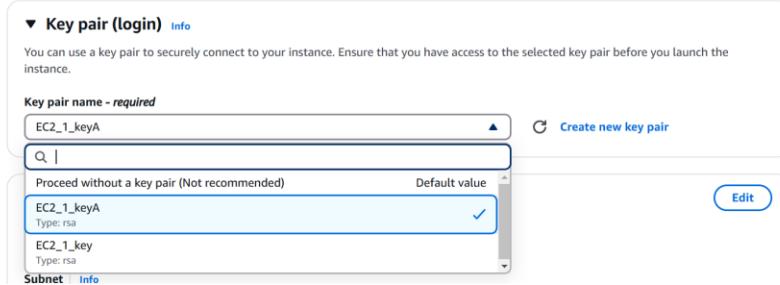
Private key file format

.pem For use with OpenSSH
 .ppk For use with PuTTY

When prompted, store the private key in a secure and accessible location on your computer. You will need it later to connect to your instance. [Learn more](#)

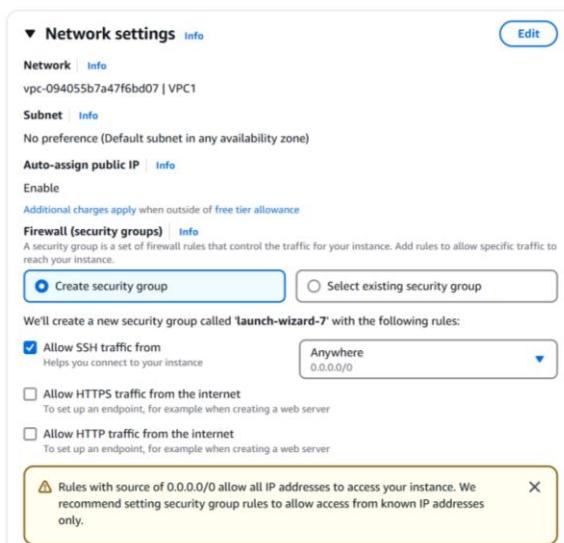
[Cancel](#) [Create key pair](#)

A pop-up window will appear. Create a name for your key pair, we will call it “EC2_1_keyA”. For the Linux AMI, we will be using PuTTY to log-in so have file format in “.ppk”. Click on ‘Create key pair’.



Select your key.

NOTE: This is optional as you will see there are multiple ways to connect to your instance through SSH or AWS Connect.



Under Network Settings, we will have default settings to create a VPC for us. As it will create our own VPC. Be sure that Auto-assign public IP is “Enable”.

Click on Edit.

For security groups, select “Create security group” and AWS will create one for you. While AWS does assign a name automatically, we will call it “SecurityGroup1”.

▼ Network settings [Info](#)

VPC - required [Info](#)

vpc-094055b7a47f6bd07 (VPC1) (default) [Edit](#)

Subnet [Info](#)

No preference [Edit](#) [Create new subnet](#)

Auto-assign public IP [Info](#)

Enable [Edit](#)

Additional charges apply when outside of [free tier allowance](#)

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.

Create security group Select existing security group

Security group name - required

SecurityGroup1

This security group will be added to all network interfaces. The name can't be edited after the security group is created. Max length is 255 characters. Valid characters: a-z, A-Z, 0-9, spaces, and _~-/!@#\$%^&_!\$^*

Description - required [Info](#)

SecurityGroup1 created 2025-01-23T21:01:52.974Z

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove](#)

Be sure to allow SSH and have the source type set to My IP or Anywhere.

If you have it set to My IP, then you have to use an SSH such as PuTTY in order to access it.

If you have it set to Anywhere, then you can access it with either SSH or Amazon instance connect.

If our case, we will use Anywhere.

While allowing HTTPS and HTTP traffic to connect to the Internet by having the source type set to Anywhere. Be sure ssh is set to port 22 and http is set to port 80.

Inbound Security Group Rules

▼ Security group rule 1 (TCP, 22, 0.0.0.0/0) [Remove](#)

Type Info	Protocol Info	Port range Info
ssh	TCP	22
Source type Info	Source Info	Description - optional Info
Anywhere	Add CIDR, prefix list or security group	e.g. SSH for admin desktop
0.0.0.0/0 X		

▼ Security group rule 2 (TCP, 443, 0.0.0.0/0) [Remove](#)

Type Info	Protocol Info	Port range Info
HTTPS	TCP	443
Source type Info	Source Info	Description - optional Info
Anywhere	Add CIDR, prefix list or security group	e.g. SSH for admin desktop
0.0.0.0/0 X		

▼ Security group rule 3 (TCP, 80, 0.0.0.0/0) [Remove](#)

Type Info	Protocol Info	Port range Info
HTTP	TCP	80
Source type Info	Source Info	Description - optional Info
Anywhere	Add CIDR, prefix list or security group	e.g. SSH for admin desktop
0.0.0.0/0 X		

⚠ Rules with source of 0.0.0.0/0 allow all IP addresses to access your instance. We recommend setting security group rules to allow access from known IP addresses only.

[Add security group rule](#)

NOTE: You can do this without clicking “Edit”. In this case, it allows us to check the ports and can be used to change any or assign your own VPC if you wish.

Configure storage

- Root volume: 3000 IOPS (Not encrypted)
- Free tier eligible customers can get up to 30 GB of EBS General Purpose (SSD) or Magnetic storage.
- Add new volume
- Click refresh to view backup information.
- File systems: 0

Advanced details

Leave all default settings. Click on “Launch instance” to create.

Success
Successfully initiated launch of instance (i-06a62e2404a3610f9)

Launch log

Next Steps
What would you like to do next with this instance, for example "create alarm" or "create backup"

Your EC2 Instance is created.

Instances (1) Info

Name	Instance ID	Instance state	Instance type	Status check	Alarm status	Availability Zone	Public
AWS_EC2_1	i-06a62e2404a3610f9	Running	t2.micro	2/2 checks passed	View alarms +	us-east-1d	ec2-44

Go back to Instances page and click on the refresh button. Be sure Instance State is set to Running and Status Check passes with “2/2 checks passed.” Your EC2 is ready to go.

1.2 Setup Web Installer

On your EC2 instance, install a web server using Apache.

You have two options to connect to your EC2. Either through an SSH client or through AWS Connect.

Option 1: SSH Client PuTTY

Select your instance and click on it to open it.

As stated before, if you chose your inbound security group for ssh be source type My IP, then you have to use an ssh client like PuTTY.

The screenshot shows the AWS Management Console with the EC2 service selected. In the left navigation pane, under the 'Instances' section, 'Instances' is selected. The main content area displays a table of instances with one row selected: 'AWS_EC2_1' (Instance ID: i-06a62e2404a3610f9, State: Running, Type: t2.micro). Below this, a detailed view of the selected instance (i-06a62e2404a3610f9) is shown, including its public IP (44.202.248.68), private IP (ip-172-31-85-85.ec2.internal), VPC ID (vpc-0d28b865b9097f3a3), and other configuration details like IAM Role and Subnet ID.

Open the PuTTY app.

Instance summary for i-06a62e2404a3610f9 (AWS_EC2_1) [Info](#)

Updated 1 minute ago

Instance ID [i-06a62e2404a3610f9](#)

IPv6 address -

Hostname type IP name: ip-172-31-85-85.ec2.internal

Answer private resource DNS name IPv4 (A)

Auto-assigned IP address [44.202.248.68 \[Public IP\]](#)

IAM Role -

IMDSv2 Required

Operator -

Public IPv4 address [44.202.248.68 | open address](#)

Private IPv4 addresses 172.31.85.85

Public IPv4 DNS [ec2-44-202-248-68.compute-1.amazonaws.com | open address](#)

Private IP DNS name (IPv4 only) ip-172-31-85-85.ec2.internal

Instance type t2.micro

VPC ID [vpc-0d28b865b9097f3a3](#)

Subnet ID [subnet-08b80b93cdc1e1839](#)

Instance ARN arn:aws:ec2:us-east-1:211125484952:62e2404a3610f9

Putty Configuration

Category: Session

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address): 44.202.248.68

Port: 22

Connection type: SSH

Load, save or delete a stored session

Saved Sessions

Default Settings

About Help Open Cancel

Be sure your instance is Running. Copy your public IP and paste in PuTTY in Host Name

EC2 > Instances > i-06a62e2404a3610f9

Dashboard

EC2 Global View

Events

Instances

- Instances
- Instance Types
- Launch Templates
- Spot Requests
- Savings Plans
- Reserved Instances
- Dedicated Hosts
- Capacity Reservations

Images

- AMIs
- AMI Catalog

Elastic Block Store

- Volumes
- Snapshots
- Lifecycle Manager

Network & Security

- Security Groups
- Elastic IPs
- Placement Groups

Details **Status and alarms** **Monitoring** **Security** **Networking** **Storage** **Tags**

Instance summary for i-06a62e2404a3610f9 (AWS_EC2_1) [Info](#)

Updated 5 minutes ago

Instance ID [i-06a62e2404a3610f9](#)

IPv6 address -

Hostname type IP name: ip-172-31-85-85.ec2.internal

Answer private resource DNS name IPv4 (A)

Auto-assigned IP address [44.202.248.68 \[Public IP\]](#)

IAM Role -

IMDSv2 Required

Operator -

Public IPv4 address [44.202.248.68 | open address](#)

Private IPv4 addresses 172.31.85.85

Public IPv4 DNS [ec2-44-202-248-68.compute-1.amazonaws.com | open address](#)

Private IP DNS name (IPv4 only) ip-172-31-85-85.ec2.internal

Instance type t2.micro

VPC ID [vpc-0d28b865b9097f3a3](#)

Subnet ID [subnet-08b80b93cdc1e1839](#)

Instance ARN arn:aws:ec2:us-east-1:211125484952:62e2404a3610f9

Putty Configuration

Category: Session

Basic options for your PuTTY session

Specify the destination you want to connect to

Host Name (or IP address): 44.202.248.68

Port: 22

Connection type: SSH

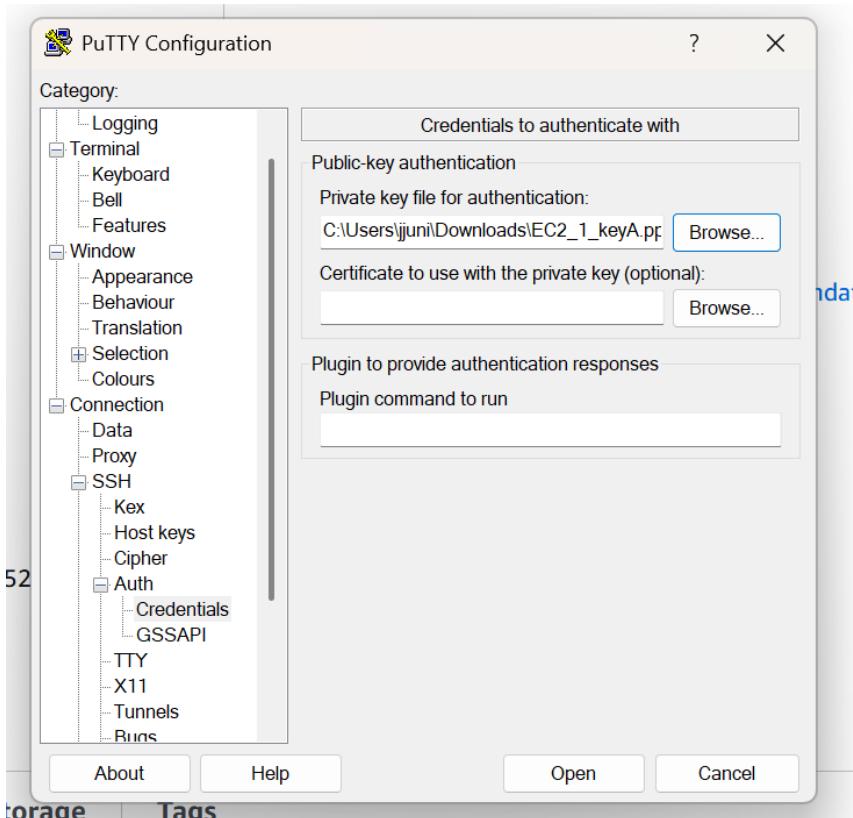
Load, save or delete a stored session

Saved Sessions

Default Settings

About Help Open Cancel

Be sure your instance is Running. Copy your public IP and paste in PuTTY in Host Name. Have it at Port 22 and Select SSH.



Storage Tags

Under Connection in the left menu, select SSH > Auth > Credentials. Browse for your private key (ppk) for Linux and install it. Then click open.

The screenshot shows a terminal window titled 'ec2-user@ip-172-31-85-85:~'. The session starts with a login prompt: 'login as: ec2-user'. It then displays a public key authentication message: 'Authenticating with public key "EC2_1_keyA"'. Following this, the Amazon Linux 2023 logo and URL 'https://aws.amazon.com/linux/amazon-linux-2023' are shown. The terminal ends with a prompt '[ec2-user@ip-172-31-85-85 ~]\$'.

The right side of the screen shows the AWS CloudWatch Metrics interface for an EC2 instance. It displays various metrics and details about the instance, such as its private IP address (172.31.85.85), public DNS name (ec2-44-202-248-68.compute-1.amazonaws.com), and subnet information.

Once terminal is up, login as : ec2-user

You are now login to your EC2 terminal

Option 2: AWS Connect

In Instances, click on Connect.

The screenshots show the AWS EC2 Instances page. The top one shows the instance summary for i-06a62e2404a3610f9 (AWS_EC2_1). It displays the Public IPv4 address (44.202.248.68), Instance state (Running), and Private IPv4 addresses (172.31.85.85). The bottom screenshot shows the 'Connect to instance' dialog for the same instance. It offers three connection methods: EC2 Instance Connect, Session Manager, SSH client, and EC2 serial console. The 'EC2 Instance Connect' tab is selected. Under 'Connection Type', 'Public IPv4 address' (44.202.248.68) is selected. A note at the bottom states: 'Note: In most cases, the default username, ec2-user, is correct. However, read your AMI usage instructions to check if the AMI owner has changed the default AMI username.' A 'Connect' button is visible at the bottom right.

Select “EC2 Instance Connect”. Be sure the following are set as your settings. Provide a username. Then click on Connect.

AWS CloudShell terminal window showing a login session to an Amazon Linux 2023 instance. The terminal displays a stylized tree logo, the distribution name, a URL, and the last login information.

```
Amazon Linux 2023
https://aws.amazon.com/linux/amazon-linux-2023
Last login: Thu Jan  9 22:17:52 2025 from 54.177.142.93
[ec2-user@ip-172-31-85-05 ~]$
```

You should receive terminal (like the first option) appear as a new tab in your browser.

In either case, you can choose which method you wish to connect to your EC2.

For install Web

In the terminal, first update the instance's package manager by typing in: sudo yum update -y

Install Apache web server: sudo yum install httpd -y

```
[ec2-user@ip-172-31-85-85 ~]$ sudo yum install httpd -y
Last metadata expiration check: 0:40:57 ago on Thu Jan  9 21:51:18 2025.
Dependencies resolved.
=====
== Package                           Architecture        Version           Repository      Size
e
=====
Installing:
httpd                            x86_64            2.4.62-1.amzn2023   amazonlinux    48
k
Installing dependencies:
apr                             x86_64            1.7.5-1.amzn2023.0.2  amazonlinux    130
k
apr-util                         x86_64            1.6.3-1.amzn2023.0.1  amazonlinux    98
k
generic-logos-httdp              noarch            18.0.0-12.amzn2023.0.3  amazonlinux    19
k
httpd-core                       x86_64            2.4.62-1.amzn2023       amazonlinux    1.4
M
httpd-filesystem                  noarch            2.4.62-1.amzn2023       amazonlinux    14
k
httpd-tools                       x86_64            2.4.62-1.amzn2023       amazonlinux    81
k
libbrotli                        x86_64            1.0.9-4.amzn2023.0.2  amazonlinux    315
k
mailcap                           noarch            2.1.49-3.amzn2023.0.3  amazonlinux    33
k
Installing weak dependencies:
apr-util-openssl                 x86_64            1.6.3-1.amzn2023.0.1  amazonlinux    17
k

2 Verifying      : mod_http2-2.0.27-1.amzn2023.0.3.x86_64          11/1
2 Verifying      : mod_lua-2.4.62-1.amzn2023.x86_64          12/1
2

=====
WARNING:
A newer release of "Amazon Linux" is available.

Available Versions:
Version 2023.6.20250107:
Run the following command to upgrade to 2023.6.20250107:
dnf upgrade --releasever=2023.6.20250107

Release notes:
https://docs.aws.amazon.com/linux/al2023/release-notes/relnotes-2023.6.20250107.html

=====
Installed:
apr-1.7.5-1.amzn2023.0.2.x86_64          apr-util-1.6.3-1.amzn2023.0.1.x86_64          apr-util-openssl-1.6.3-1.amzn2023.0.1.x86_64
generic-logos-httdp-18.0.0-12.amzn2023.0.3.noarch  httpd-2.4.62-1.amzn2023.x86_64          httpd-core-2.4.62-1.amzn2023.x86_64
httpd-filesystem-2.4.62-1.amzn2023.noarch      httpd-tools-2.4.62-1.amzn2023.x86_64          libbrotli-1.0.9-4.amzn2023.0.2.x86_64
mailcap-2.1.49-3.amzn2023.0.3.noarch         mod_http2-2.0.27-1.amzn2023.0.3.x86_64          mod_lua-2.4.62-1.amzn2023.x86_64

Complete!
[ec2-user@ip-172-31-85-85 ~]$
```

After installing Apache, you need to start the web server, enter:

`sudo systemctl start httpd`

Then to ensure that Apache starts automatically when the EC2 instance is rebooted, enter:

`sudo systemctl enable httpd`

```
[ec2-user@ip-172-31-21-206 ~]$ sudo systemctl start httpd
[ec2-user@ip-172-31-21-206 ~]$ sudo systemctl enable
Too few arguments.
[ec2-user@ip-172-31-21-206 ~]$ sudo systemctl enable httpd
Created symlink /etc/systemd/system/multi-user.target.wants/httpd.service → /usr/lib/systemd/system/httpd.service.
[ec2-user@ip-172-31-21-206 ~]$
```

To check server is working, open your EC2 by copying IPv4 Public IP on your browser and open it:

`http://<EC2_Public_IP>`



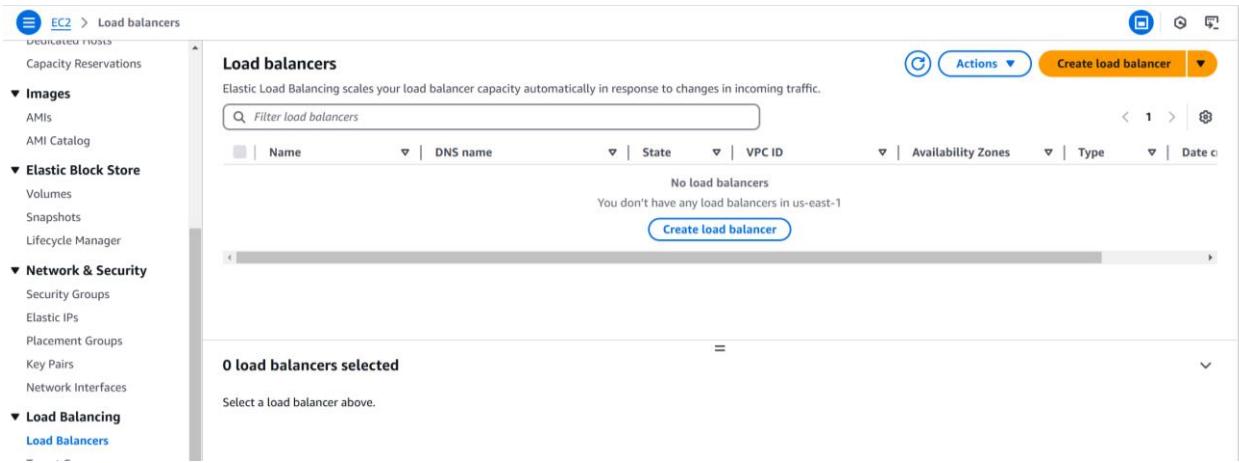
It works!

^Outcome should be this. ^

1.3 Create Load Balancer



In Instances, go to the left menu and click on “Load Balancers.”



Click on Create load balancer.

EC2 > Load balancers > Compare and select load balancer type

Compare and 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 <p>Choose an Application Load Balancer when you need a flexible feature set for your applications with HTTP and HTTPS traffic. Operating at the request level, Application Load Balancers provide advanced routing and visibility features targeted at application architectures, including microservices and containers.</p> <p>Create</p>	Network Load Balancer Info <p>Choose a Network Load Balancer when you need ultra-high performance, TLS offloading at scale, centralized certificate deployment, support for UDP, and static IP addresses for your application. Operating at the connection level, Network Load Balancers are capable of handling millions of requests per second securely while maintaining ultra-low latencies.</p> <p>Create</p>	Gateway Load Balancer Info <p>Choose a Gateway Load Balancer when you need to deploy and manage a fleet of third-party virtual appliances that support GENEVE. These appliances enable you to improve security, compliance, and policy controls.</p> <p>Create</p>
<p>► Classic Load Balancer - previous generation</p>		

[Close](#)

You are given different options of types of load balancers.

As our goal is to create a multi-cloud app using two load balancer setups in AWS and Azure platform, we will use the Application Load Balancer.

EC2 > Load balancers

Load balancers											
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic. <input type="text" value="Filter load balancers"/> <table border="1"> <thead> <tr> <th>Name</th> <th>DNS name</th> <th>State</th> <th>VPC ID</th> <th>Availability Zone</th> </tr> </thead> <tbody> <tr> <td colspan="5">No load balancers You don't have any load balancers in us-east-1</td> </tr> </tbody> </table> <p>Create load balancer</p>		Name	DNS name	State	VPC ID	Availability Zone	No load balancers You don't have any load balancers in us-east-1				
Name	DNS name	State	VPC ID	Availability Zone							
No load balancers You don't have any load balancers in us-east-1											
<p>Actions ▾ Create load balancer</p> <ul style="list-style-type: none"> Compare load balancer types Create Application Load Balancer Create Network Load Balancer Create Gateway Load Balancer Create Classic Load Balancer 											

You can also select by clicking on the drop menu.

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 Application Load Balancers work

Basic configuration

Load balancer name

Name must be unique within your AWS account and can't 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 can't be changed after the load balancer is created.

Internet-facing

- Serves internet-facing traffic.
- Has public IP addresses.
- DNS name is publicly resolvable.
- Requires a public subnet.

Internal

- Serves internal traffic.
- Has private IP addresses.
- DNS name is publicly resolvable.
- Compatible with the IPv4 and Dualstack IP address types.

Load balancer IP address type Info

Select the front-end IP address type to assign to the load balancer. The VPC and subnets mapped to this load balancer must include the selected IP address types. Public IPv4 addresses have an additional cost.

IPv4

Includes only IPv4 addresses.

Dualstack

Includes IPv4 and IPv6 addresses.

Dualstack without public IPv4

Includes a public IPv6 address, and private IPv4 and IPv6 addresses. Compatible with internet-facing load balancers only.

Provide a name for your load balancer, “AWS-LB-A”. Have it set to Internet-facing and be sure load balancer IP address type is IPv4.

Network mapping Info

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

VPC Info

Subnet: [Create a new VPC](#) [Create a new subnet](#)

Subnet ID: [vpc-0000000000000000](#) | CIDR: 172.31.1.0/24 | AZ: us-east-1a

Mapping Info

Subnet: 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.

Availability Zones

[subnet-a \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.1.0/24

IPv4 address

Assigned by AWS

[subnet-b \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.0.0/24

IPv6 address

Assigned by AWS

[subnet-c \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.0.0/24

IPv4 address

Assigned by AWS

[subnet-d \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.0.0/24

IPv6 address

Assigned by AWS

[subnet-e \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.0.0/24

IPv4 address

Assigned by AWS

[subnet-f \(us-east-1a\)](#)

Subnet: [subnet-0000000000000000](#) | CIDR: 172.31.0.0/24

IPv6 address

Assigned by AWS

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



- default sg-05734d1c18cadcd3c VPC: vpc-0e923183673f57c16
- SecurityGroup1 sg-09af2f50159e22b0e VPC: vpc-0e923183673f57c16



For Security groups, be sure to select default and the security group from your EC2.

In Network Mapping, be sure your default VPC from EC2 is selected and select ALL Availability Zones (AZ).

The screenshot shows the 'Listeners and routing' section of the AWS CloudFront configuration. A single listener is defined for protocol 'HTTP' on port 80, with a default action of 'Forward to' a target group named '1-65535'. There are options to add tags and another listener.

In listeners and routing, have your protocol set to HTTP or HTTPS and port 80.

Click on “Create target group” to create a target group.

The screenshot shows the 'Specify group details' step in the AWS Target Groups creation wizard. It's Step 1 of 2. The 'Basic configuration' section is shown, with the 'Choose a target type' dropdown set to 'Instances'. Other options like 'IP addresses', 'Lambda function', and 'Application Load Balancer' are also listed. A 'Target group name' input field is at the bottom.

Target group name
targetgroupA
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
Only targets with the indicated IP address type can be registered to this target group.

IPv4
Each instance has a default network interface (eth0) that is assigned the primary private IPv4 address. The instance's primary private IPv4 address is the one that will be applied to the target.

IPv6
Each instance you register must have an assigned primary IPv6 address. This is configured on the instance's default network interface (eth0). [Learn more](#)

VPC
Select the VPC with the instances that you want to include in the target group. Only VPCs that support the IP address type selected above are available in this list.

vpc-0d28b865b9097f3a3
IPv4 VPC CIDR: 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.

Create a name for your target group. Be sure it's set to target type Instances, protocol at HTTP and port 80. IP address is IPv4. Set to your default VPC.

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

Health check path
Use the default path of "/" to perform health checks on 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](#)

Leave all default settings and click on Next.

The screenshot shows the AWS Lambda console with the following details:

- Function name:** HelloWorld
- Runtime:** Node.js 14.x
- Description:** A simple Lambda@Edge function that prints the request URL to the CloudWatch Logs.
- Code** tab is selected, showing the Lambda@Edge code for the function.
- Test** tab is visible at the bottom.

Select your instance and then click on “Create target group.”

The screenshot shows the AWS Lambda console with the following details:

- Function name:** HelloWorld
- Runtime:** Node.js 14.x
- Description:** A simple Lambda@Edge function that prints the request URL to the CloudWatch Logs.
- Code** tab is selected, showing the Lambda@Edge code for the function.
- Test** tab is visible at the bottom.

Your target group is created. Go back to your load balancer.

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

Protocol **Port**

HTTP : 80
1-65535

Default action [Info](#)

Forward to **targetgroupA** Target type: Instance, IPv4

[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](#)

You can add up to 50 more tags.

[Add listener](#)

Click the refresh button and select your target group for default action.

Ignore all other optional settings.

Summary
Review and confirm your configurations. [Estimate cost](#)

Basic configuration [Edit](#)

AWS_LB_A

- Internet-facing
- IPv4

Security groups [Edit](#)

- default [sg-04a1929a55cca6401](#)
- launch-wizard-1 [sg-0f2cc40fbff2715d2](#)

Network mapping [Edit](#)

VPC [vpc-0d28b86590907f3a](#)

- us-east-1a [subnet-0ad5b15d539a0c3](#)
- us-east-1b [subnet-0514ca2bef799e8bb](#)
- us-east-1c [subnet-0df5fdff1e410a16d](#)
- us-east-1d [subnet-08bb0b953cde1e1839](#)
- us-east-1f [subnet-05bf127e7700a78b](#)
- us-east-1g [subnet-06c0bc37b5791a97f](#)

Listeners and routing [Edit](#)

- HTTP:80 defaults to [targetgroupA](#)

Service integrations [Edit](#)

Amazon CloudFront + AWS Web Application Firewall (WAF): None
AWS WAF: None
AWS Global Accelerator: None

Attributes

Certain default attributes will be applied to your load balancer. You can view and edit them after creating the load balancer.

Creation workflow and status

Server-side tasks and status
After completing and submitting the above steps, all server-side tasks and their statuses become available for monitoring.

[Cancel](#) [Create load balancer](#)

Go over your summary, then click on “Create load balancer.”

AWS-LB-A

Details

Load balancer type Application	Status Provisioning	VPC vpc-0d28b865b9097f5a3	Load balancer IP address type IPv4
Scheme Internet-facing	Hosted zone Z35SXDXTRQ7X7K	Availability Zones	Date created January 9, 2025, 15:23 (UTC-08:00)
		subnet-08b80b93cdc1e1839 us-east-1d (use1-az2) subnet-08dfb127e7700a789 us-east-1e (use1-az3) subnet-0514ca2be799e8b8 us-east-1b (use1-az6) subnet-0bf5fdf1e410a016d us-east-1c (use1-az1) subnet-0ad5b315da539a0c3 us-east-1a (use1-az4) subnet-06c08c37b5791a97f us-east-1f (use1-az5)	
Load balancer ARN arn:aws:elasticloadbalancing:us-east-1:211125484952:loadbalancer/app/AWS-LB-A/efce42833187ae50		DNS name Info AWS-LB-A-184688965.us-east-1.elb.amazonaws.com (A Record)	

Your load balancer is made.

Remember the DNS name from load balancer for later use in Route 53.

QUICK NOTE: Be Sure Target Group and Instance is Healthy

While the connection is established with your target group as registered targets, you might get an unhealthy status.

Instance ID	Name	Port	Zone	Health status	Health status details	Admini...	Ov...
i-007c789493343f287	AWS_EC2_1	80	us-east-1c (use...	Unhealthy	Health checks failed wi...	No override.	No

To fix this go to your terminal and enter this code: echo "Healthy" | sudo tee /var/www/html/health.html

```
[ec2-user@ip-172-31-19-8 ~]$ echo "Healthy" | sudo tee /var/www/html/health.html
Healthy
[ec2-user@ip-172-31-19-8 ~]$
```

By doing so, enter on your browser http://<Public_IP_EC2>/health.html

Healthy

In Target Group, under the Health checks tab, click Edit.

☰ EC2 > Target groups > targetgroupB > Edit health check settings

Edit health check settings

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

Health check path
Use the default path of "/" to perform health checks on the root, or specify a custom path if preferred.
/health.html
Up to 1024 characters allowed.

► Advanced health check settings

[Cancel](#) [Save changes](#)

In the Health check path field, change the path to /health.html. Then click Save.

In doing so, your connection should be healthy which will be useful in the final steps in creating records for your DNS in Route 53.

The screenshot shows the AWS Lambda Targets page. On the left, there's a sidebar with navigation links: Key Pairs, Network Interfaces, Load Balancing (selected), Auto Scaling, and Settings. The main area has tabs: Targets (selected), Monitoring, Health checks, Attributes, and Tags. Below the tabs, it says "Registered targets (1) Info". It shows a table with one row:

	Instance ID	Name	Port	Zone	Health status	Health status details	Admini...	Ov...
<input type="checkbox"/>	i-007c789493343f287	AWS_EC2_1	80	us-east-1c (use...)	Healthy	-	No override.	No

At the top right of the table, there are buttons for "Anomaly mitigation: Not applicable" (with a help icon), "Deregister", "Register targets", and a refresh icon. There are also navigation arrows and a search bar labeled "Filter targets".

Part 2. Azure Infrastructure

2.1 Create an Azure Virtual Machine (VM) and Load Balancer

Log in to the Azure Portal.

The screenshot shows the Microsoft Azure portal homepage. At the top, there's a search bar with the placeholder "Search resources, services, and docs (G+)" and a Copilot button. On the right, the user's name "odl_user_1561355@sim... RAJ-INDIA-AZUREDEMOACCOU..." and profile picture are displayed. Below the header, there's a section titled "Azure services" with icons for Create a resource, Quickstart Center, Azure AI services, Kubernetes services, Virtual machines, App Services, Storage accounts, SQL databases, Azure Cosmos DB, and More services. A "Resources" section follows, with tabs for Recent (selected) and Favorite. It includes columns for Name, Type, and Last Viewed, with a message "No resources have been viewed recently" and a "View all resources" button. The "Navigate" section contains links for Subscriptions, Resource groups, All resources, and Dashboard. The "Tools" section includes Microsoft Learn, Azure Monitor, Microsoft Defender for Cloud, and Cost Management.

Click on Virtual Machines.

The screenshot shows the "Virtual machines" blade in the Azure portal. The top navigation bar includes "Home > Virtual machines" and a "Create" button. The main area displays a table of virtual machines with columns: Name, Type equals all, Resource group equals all, Location equals all, Status, Operating system, Size, Public IP address, Disks, and One row is highlighted: "ODL-azure-1561355" (Type: Azure virtual machine with preset configuration, Resource group: ODL-azure-1561355, Location: East US 2, Status: Running, OS: Windows, Size: Standard_B4ms, Public IP: 172.17.77.158, Disks: 1). Below the table, there's a "More VMs and related solutions" section with a link to "Discover and deploy full workloads and Azure products for your business needs".

Click on Create and “Azure virtual machine”.

In Basics, be sure your subscription is selected and link to your resource group. If you don't have one, click on “create new” to create a resource group.

The screenshot shows the Microsoft Azure 'Create a virtual machine' interface. In the 'Basics' tab, under 'Instance details', the 'Virtual machine name' is set to 'Simplelearn HOL 19'. The 'Region' is selected as '(US) East US'. Under 'Availability options', the 'Self-selected zone' radio button is selected, with the note 'Choose up to 3 availability zones, one VM per zone'. A modal dialog is open, asking for a 'Name' for the new resource group, with 'RG-1' entered. Other tabs like 'Disks', 'Networking', and 'Management' are visible at the top.

The screenshot shows the Microsoft Azure 'Create a virtual machine' interface. The 'Virtual machine name' is now 'AzureVM-1'. The 'Region' is '(US) East US'. Under 'Availability options', the 'Self-selected zone' radio button is selected, with the note 'Choose up to 3 availability zones, one VM per zone'. A note says 'Using an Azure-selected zone is not supported in region 'East US''. The 'Availability zone' dropdown shows 'Zone 1' selected. The 'Security type' is 'Trusted launch virtual machines'. The 'Image' dropdown shows 'Ubuntu Server 24.04 LTS - x64 Gen2' selected. The 'VM architecture' is 'x64'. The 'Run with Azure Spot discount' checkbox is unchecked. The 'Review + create' button is visible at the bottom.

Create a name for your VM “AzureVM-1”. Select your region and availability zone.

Have the security type set to “Trusted launch virtual machine” and for Image, we will use Ubuntu.

Administrator account

Authentication type SSH public key Password

Username * ✓

Password * ✓

Confirm password * ✓

Inbound port rules

Select which virtual machine network ports are accessible from the public internet. You can specify more limited or granular network access on the Networking tab.

Public inbound ports * None Allow selected ports

Select inbound ports * HTTP (80), HTTPS (443), SSH (22)

HTTP (80)

HTTPS (443)

SSH (22)

< Previous Next : Disks > Review + create Give feedback

In Administrator account, select password to create a username and password.

In Inbound port rules, have selected ports be SSH, HTTP, and HTTPS.

Use password authentication.

Click Next: Disks.

Home > Virtual machines > Create a virtual machine ...

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics **Disks** Networking Management Monitoring Advanced Tags Review + create

Azure VMs have one operating system disk and a temporary disk for short-term storage. You can attach additional data disks. The size of the VM determines the type of storage you can use and the number of data disks allowed. Learn more ↗

VM disk encryption

Azure disk storage encryption automatically encrypts your data stored on Azure managed disks (OS and data disk) at rest by default when persisting it to the cloud.

Encryption at host

OS disk

OS disk size ...

OS disk type * ...

The selected VM size supports premium disks. We recommend Premium SSD for high IOPS workloads. Virtual machines with Premium SSD disks qualify for the 99.9% connectivity SLA.

Delete with VM

Key management ...

Enable Ultra Disk compatibility

Data disks for AzureVM-1

You can add and configure additional data disks for your virtual machine or attach existing disks. This VM also comes with a temporary disk.

LUN	Name	Size (GB)	Disk type	Host caching	Delete with VM
					<input type="checkbox"/>

Create and attach a new disk Attach an existing disk

Advanced

< Previous Next : Networking > Review + create Give feedback

In Disks, select Standard SSD for OS disk type. Leave all default settings.

Click on Next: Networking.

Home > Virtual machines >

Create a virtual machine

...

[Help me create a low cost VM](#)

[Help me create a VM optimized for high availability](#)

[Help me choose the right VM size for my workload](#)

Network interface

When creating a virtual machine, a network interface will be created for you.

Virtual network * [\(new\)](#)

(new) AzureVM-1-vnet

[Create new](#)

Subnet * [\(new\)](#)

(new) default (10.0.0.0/24)

Public IP [\(new\)](#)

(new) AzureVM-1-ip

[Create new](#)

NIC network security group [\(new\)](#)

None

Basic

Advanced

Public inbound ports * [\(new\)](#)

None

Allow selected ports

Select inbound ports *

HTTP (80), HTTPS (443), SSH (22)

⚠ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Delete public IP and NIC when VM is deleted [\(new\)](#)

Enable accelerated networking [\(new\)](#)

Load balancing

...

[< Previous](#)

[Next : Management >](#)

[Review + create](#)

In Networking, be sure that your public IP is set, NIC network security group is Basic, and “Delete public IP and NIC when VM is deleted” is selected. Azure will automatically create a virtual network, subnet, and public IP for you.

2.1.1 Azure Load Balancer

During the process of creating your VM, you can create an Azure load balancer.

Under Load Balancing, select “Azure load balancer” for Load Balancing options.

Then select, Create a load balancer.

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

NLG network security group: **Basic**

Public inbound ports *: Allow selected ports

Select inbound ports: HTTP (80), HTTPS (443), SSH (22)

⚠️ This will allow all IP addresses to access your virtual machine. This is only recommended for testing. Use the Advanced controls in the Networking tab to create rules to limit inbound traffic to known IP addresses.

Delete public IP and NIC when VM is deleted:

Enable accelerated networking:

Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options: **Azure load balancer**

Select a load balancer *: [Create a load balancer](#)

< Previous | Next : Management > | Review + create | Create | Cancel

On the right will pop-up, Create a load balancer.

Provide a name for your load balancer “AzureLB-1”, select type as Public, Protocol is TCP, and load balancer rule are 80 for both frontend port and backend port.

Then select Create.

Create a virtual machine

Help me create a low cost VM | Help me create a VM optimized for high availability | Help me choose the right VM size for my workload

The ports on the network security group has been updated to allow traffic from the Azure load balancer configured.

Delete public IP and NIC when VM is deleted:

Enable accelerated networking:

Load balancing

You can place this virtual machine in the backend pool of an existing Azure load balancing solution. [Learn more](#)

Load balancing options: **Azure load balancer**

Select a load balancer *: [Create a load balancer](#)

< Previous | Next : Management > | Review + create | Give feedback

Press Next: Management but skip Management and go to Monitoring.

Home > Virtual machines >

Create a virtual machine

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disks Networking Management **Monitoring** Advanced Tags Review + create

Configure monitoring options for your VM.

Alerts
Enable recommended alert rules

Diagnostics
Boot diagnostics Enable with managed storage account (recommended)
 Enable with custom storage account
 Disable
Enable OS guest diagnostics

Health
Enable application health monitoring

< Previous Next : Advanced > **Review + create** ↗ Give feedback

Under Monitoring, select disable for Boot Diganotics.

Skip Advanced and Tags and then click on Review+Create.

Home > Virtual machines >

Create a virtual machine

Validation passed

Help me create a low cost VM Help me create a VM optimized for high availability Help me choose the right VM size for my workload

Basics Disks Networking Management **Monitoring** Advanced Tags **Review + create**

Price
1 X Standard D2s v3 by Microsoft Subscription credits apply
0.0960 USD/hr [Pricing for other VM sizes](#)

TERMS
By clicking "Create", I (a) agree to the legal terms and privacy statement(s) associated with the Marketplace offering(s) listed above; (b) authorize Microsoft to bill my current payment method for the fees associated with the offering(s), with the same billing frequency as my Azure subscription; and (c) agree that Microsoft may share my contact, usage and transactional information with the provider(s) of the offering(s) for support, billing and other transactional activities. Microsoft does not provide rights for third-party offerings. See the [Azure Marketplace Terms](#) for additional details.

Name

Preferred e-mail address

Preferred phone number

⚠ You have set SSH port(s) open to the internet. This is only recommended for testing. If you want to change this setting, go [here](#)

< Previous Next > **Create** ↗ Download a template for automation ↗ Give feedback

If it all validates, click on Create.

Microsoft Azure

CreateVm-canonical.ubuntu-24_04-lts-server-20250109153049 | Overview

Deployment

Search

Delete Cancel Redeploy Download Refresh

Overview

Your deployment is complete

Deployment name: CreateVm-canonical.ubuntu-24_04-lts-server-2... Start time: 1/9/2025, 4:23:12 PM
Subscription: Simplilearn HOL 19 Correlation ID: 6b1f5696-6f84-4dcf-be57-2fed062ab851

Inputs Outputs Template

Deployment details

Next steps

Setup auto-shutdown Recommended
Monitor VM health, performance and network dependencies Recommended
Run a script inside the virtual machine Recommended

Go to resource Create another VM

Give feedback Tell us about your experience with deployment

Cost Management Get notified to stay within your budget and prevent unexpected charges on your bill. Set up cost alerts >

Microsoft Defender for Cloud Secure your apps and infrastructure Go to Microsoft Defender for Cloud >

Free Microsoft tutorials Start learning today >

Work with an expert Azure experts are service provider partners who can help manage your assets on Azure and be your first line of support. Find an Azure expert >

The screenshot shows the Microsoft Azure Deployment Overview page. It displays a successful deployment named 'CreateVm-canonical.ubuntu-24_04-lts-server-20250109153049'. The deployment status is 'Your deployment is complete'. Key details include the deployment name, start time (1/9/2025, 4:23:12 PM), subscription (Simplilearn HOL 19), and correlation ID (6b1f5696-6f84-4dcf-be57-2fed062ab851). The page also includes sections for deployment inputs, outputs, and template, along with deployment details, next steps, and links to cost management, Microsoft Defender for Cloud, free tutorials, and expert work.

Your VM is created.

2.1.2 Check Load Balancer

Once created, go to your resource group and click on your load balancer.

Microsoft Azure

RG-1 | Resource group

Search

+ Create Manage view Delete resource group Refresh Export to CSV Open query Assign tags Move Delete Export template ... JSON View

Overview

Essentials

Subscription (move) : Simplilearn HOL 19 Deployments : 1.Succeeded
Subscription ID : 87948765-5c07-4a92-819f-251defd8beef9 Location : East US

Tags (edit) : Add tags

Resources Recommendations (1)

Filter for any field... Type equals all Location equals all Add filter

Showing 1 to 8 of 8 records. Show hidden types

Name	Type	Location
AzureLB-1	Load balancer	East US
AzureLB-1-publicip	Public IP address	East US
AzureVM-1	Virtual machine	East US
AzureVM-1-ip	Public IP address	East US
AzureVM-1-nsg	Network security group	East US
AzureVM-1-vnet	Virtual network	East US
azurervm-1637_z1	Network Interface	East US
AzureVM-1_OsDisk_1_cd0d0dab62a24141b65d2a6618ca478e	Disk	East US

< Previous Page 1 of 1 Next > Give feedback

The screenshot shows the Microsoft Azure Resource Group Overview page for 'RG-1'. It displays the resource group's essentials, including its subscription (Simplilearn HOL 19), deployment count (1.Succeeded), and location (East US). The 'Resources' section shows a list of 8 items, each with a checkbox, a name, a type, and a location. The items listed are: AzureLB-1 (Load balancer, East US), AzureLB-1-publicip (Public IP address, East US), AzureVM-1 (Virtual machine, East US), AzureVM-1-ip (Public IP address, East US), AzureVM-1-nsg (Network security group, East US), AzureVM-1-vnet (Virtual network, East US), azurervm-1637_z1 (Network Interface, East US), and AzureVM-1_OsDisk_1_cd0d0dab62a24141b65d2a6618ca478e (Disk, East US). Navigation buttons like '< Previous', 'Page 1 of 1', and 'Next >' are at the bottom, along with a 'Give feedback' link.

AzureLB-1 | Load balancer

Overview

Essentials

Resource group (move) : RG-1
Location : East US
Subscription (move) : Simplilearn.HQL.19
Subscription ID : 87948765-5c07-4a92-819f-251defd8eef0
SKU : Standard
Tags (edit) : Add tags
Tier : Regional

Configure high availability and scalability for your applications

Create highly-available and scalable applications in minutes by using built-in load balancing for cloud services and virtual machines. Azure Load Balancer supports TCP/UDP-based protocols and protocols used for real-time voice and video messaging applications. [Learn more](#)

Balance IPv4 and IPv6 addresses
Native dual-stack endpoints help meet regulatory requirements and address the fast-growing number of devices in mobile and IoT. [Learn more](#)

Build highly reliable applications
Load Balancer improves application uptime by routing traffic to healthy nodes. [Learn more](#)

Secure your networks
Control network traffic and protect private networks using built-in network address translation (NAT). [Learn more](#)

Frontend IP configuration

Backend pools

Health probes

Load balancing rules

Inbound NAT rules

Outbound rules

Properties

Locks

Monitoring

Automation

Help

View frontend IP configuration

View backend pools

View health probes

View load balancing rules

View inbound NAT rules

On the right under Settings, check “Frontend IP configuration”.

AzureLB-1 | Frontend IP configuration

Frontend IP configuration

Name	IP address	Rules count
AzureLB-1-frontendconfig01	172.208.65.99 (AzureLB-1-publicip)	1

Check you have a Frontend IP configuration (public IP). This is where Route 53 will connect to whenever the user sends a request.

AzureLB-1 | Backend pools

Backend pools

Backend pool	Resource Name	IP address	Network interface	Availability zone	Rules count	Resource Status	Admin state
AzureLB-1-backendpool01(1)	AzureVM-1	10.0.0.4	azurervm-167_z1	1	1	Running	None

Next, click on Backend pools, you will see a backend pool connected to your Azure VM.

Name	Protocol	Port	Path	Used By
AzureLB-1-probe01	Tcp	80	-	AzureLB-1-lbrule01

Next, click on Health Probes, select your Health Probe.

AzureLB-1-probe01

Name * AzureLB-1-probe01

Protocol * TCP

Port * ① 80

Interval (seconds) * ① 15

Used by * ① AzureLB-1-lbrule01

AzureLB-1-probe01

Name * AzureLB-1-probe01

Protocol * HTTP

Port * ① 80

Path * ① /

Interval (seconds) * ① 15

Used by * ① AzureLB-1-lbrule01

*** Saving probe
Saving probe 'AzureLB-1-probe01'.

Save Cancel Give feedback

In Protocol, set it to HTTP. Be sure Port is 80.

Then click on Save.

Name	Protocol	Port	Path	Used By
AzureLB-1-probe01	Http	80	/	AzureLB-1-lbrule01

2.2 Azure Web Installer

Open PuTTy app and copy IP from your Virtual Machine.

Item	Value
OS	Linux (ubuntu 24.04)
Size	Standard_D4_v2 (4 vCPUs, 8 GiB memory)
Network	20.83.152.245 (IP address)
Subnet	AzureVM-1-vnet/default
Status	Not configured
Last updated	1/23/2025, 10:53 PM UTC

```
adm1@AzureVM-1: ~
[?] Login as: adm1
[?] adm1@20.84.82.234's password:
Welcome to Ubuntu 24.04.1 LTS (GNU/Linux 6.8.0-1017-azure x86_64)

 * Documentation: https://help.ubuntu.com
 * Management: https://landscape.canonical.com
 * Support: https://ubuntu.com/pro

System information as of Fri Jan 10 00:50:20 UTC 2025

System load: 0.0 Processes: 129
Usage of /: 5.4% of 28.02GB Users logged in: 0
Memory usage: 3% IPv4 address for eth0: 10.0.0.4
Swap usage: 0%

Expanded Security Maintenance for Applications is not enabled.

0 updates can be applied immediately.

Enable ESM Apps to receive additional future security updates.
See https://ubuntu.com/esm or run: sudo pro status

The list of available updates is more than a week old.
To check for new updates run: sudo apt update

The programs included with the Ubuntu system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*copyright.

Ubuntu comes with ABSOLUTELY NO WARRANTY, to the extent permitted by
applicable law.

To run a command as administrator (user "root"), use "sudo <command>".
See "man sudo_root" for details.

adm1@AzureVM-1:~$
```

Run the following commands to install Apache web server:

```
sudo apt update
```

```
sudo apt install apache2 -y
```

```
sudo systemctl start apache2
```

```
sudo systemctl enable apache2
```

```

[adm1@AzureVM-1: ~]
Setting up ssl-cert (1.1.2ubuntu0.1) ...
Created symlink /etc/systemd/system/multi-user.target.wants/ssl-cert.service → /usr/lib/sys
tamd/system/ssl-cert.service
Setting up libapr1l64:amd64 (1.7.2-3.1ubuntu0.1) ...
Setting up libaprutil1l64:amd64 (5.4.6-3build2) ...
Setting up apache2-data (2.4.50-1ubuntu0.5) ...
Setting up libaprutil1l64:amd64 (1.6.3-1.1ubuntu7) ...
Setting up libaprutil1l64:debsegui:amd64 (1.6.4-1.1ubuntu7) ...
Setting up apache2-utils (2.4.50-1ubuntu0.5) ...
Setting up apache2-bin (2.4.50-1ubuntu0.5) ...
Setting up apache2 (2.4.50-1ubuntu0.5) ...
Enabling module mpm_event.
Enabling module authz_core.
Enabling module authz_host.
Enabling module authz_core.
Enabling module authz_user.
Enabling module access_compat.
Enabling module authn_file.
Enabling module authz_user.
Enabling module alias.
Enabling module dir.
Enabling module autoindex.
Enabling module env.
Enabling module mime.
Enabling module negotiation.
Enabling module setenvif.
Enabling module filter.
Enabling module deflate.
Enabling module status.
Enabling module expires.
Enabling module headers.
Enabling conf localized-error-pages.
Enabling conf other-vhosts-access-log.
Enabling conf security.
Enabling conf serve-cgi-bin.
Enabling site 000-default.
Created symlink /etc/systemd/system/multi-user.target.wants/apache2.service → /usr/lib/sys
tamd/system/apache2.service
Created symlink /etc/systemd/system/multi-user.target.wants/apache-htcacheclean.service → /
usr/lib/systemd/system/apache-htcacheclean.service.
Processing triggers for ufw (0.36.2-6) ...
Processing triggers for man-db (2.12.0-4build2) ...
Processing triggers for libc-bin (2.39-0ubuntu0.3) ...
Scanning processes...
Scanning linux images...
Running kernel seems to be up-to-date.
No services need to be restarted.
No containers need to be restarted.
No user sessions are running outdated binaries.
No VM guests are running outdated hypervisor (qemu) binaries on this host.
adm1@AzureVM-1:~$ sudo systemctl start apache2
adm1@AzureVM-1:~$ sudo systemctl enable apache2
Synchronizing state of apache2.service with SysV service script with /usr/lib/systemd/syste
md-sysv-install.
Executing: /usr/lib/systemd/systemd-sysv-install enable apache2
adm1@AzureVM-1:~$ █

```

2.3 Azure Public IP

In your resource group, click on your public IP.

Type	Location	...
Load balancer	East US	...
Public IP address	East US	...
Virtual machine	East US	...
Public IP address	East US	...
Network security group	East US	...
Virtual network	East US	...
Network Interface	East US	...
Disk	East US	...

Home > RG-1 >

AzureLB-1-publicip

Public IP address

Search Overview Associate Dissociate Delete Move Refresh Open in mobile Give feedback JSON View

Overview

Activity log

Access control (IAM)

Tags

Settings

- Configuration
- Properties
- Locks

Monitoring

Automation

Help

Tags (edit) Add tags

Get Started Properties Tutorials

Essentials

Resource group (move)	: RG-1	SKU	: Standard
Location (move)	: East US	Tier	: Regional
Subscription (move)	: Simplilearn HOL-15	IP address	: 172.208.65.99
Subscription ID	: 69bc249a-10fa-42bf-af4f-1ae74c56fdbd	DNS name	: -
		Domain name label sco...	: -
		Associated to	: AzureLB-1
		Virtual machine	: -
		Routing preference	: Microsoft network

Use public IP addresses for public connections to Azure resources

Associate and configure public IP addresses to various Azure resources [Learn more](#).

Associate to a resource

Associate your public IP address to an Azure resource such as an Azure Load Balancer or a network interface.

Associate IP

Configure a public IP address

Configure a DNS idle time, name, and alias record for your public IP address.

Configure

Protect IP address

Choose the right DDoS protection level for your IP address.

Protect

On the left menu, click on Configuration.

Home > RG-1 > AzureLB-1-publicip

AzureLB-1-publicip | Configuration

Public IP address

Search Save Discard Refresh

Overview

Activity log

Access control (IAM)

Tags

Settings

Configuration

- Properties
- Locks

Monitoring

Automation

Help

IP address assignment

Static

IP address ⓘ

172.208.65.99

Idle timeout (minutes) ⓘ

15

DNS name label (optional) ⓘ

solmazurewebapp

.eastus.cloudapp.azure.com

You can use the IP address as your 'A' DNS record or DNS label as your 'CNAME' record. [Learn more about adding a custom domain to this IP address](#).

Alias record sets

Create an alias record in Azure DNS. [Learn more](#).

+ Create alias record

Subscription	DNS zone	Name	Type	TTL
No results.				

Create a DNS name for Route 53. It needs to be a very unique name in order to be accepted.

solmazurewebapp.eastus.cloudapp.azure.com

Click Save.

To check your web page works, copy your DNS onto your browser: http://<DNS_name>

Your output should be this based on the web server you installed.

Part 3. Route 53

Go back to AWS and search for Route 53.

Screenshot of the AWS search results for "route 53".

The sidebar shows navigation links for EC2, Instances, Images, Elastic Block Store, Network & Content Delivery, and more.

The main content area displays the following sections:

- Services**:
 - Route 53**: Scalable DNS and Domain Name Registration. Includes Top features: Traffic flow, Health checks, Hosted zones, Domain names, Resolver endpoints.
 - Route 53 Resolver**: Resolve DNS queries in your Amazon VPC and on-premises network.
 - Amazon Location Service**: Securely and easily add location data to applications.
- Features**:
 - Transit Gateway route tables (VPC feature)
 - Route 53 dashboard (Route 53 feature)
 - Route table (VPC feature)
- Resources**: / for a focused search.

A message at the bottom left says "Were these results helpful? Yes No". A "Register targets" button is visible on the right.

Screenshot of the Amazon Route 53 landing page.

The page title is "Amazon Route 53" and the subtitle is "A reliable way to route users to internet applications".

A small note below states: "Amazon Route 53 is a highly available and scalable cloud Domain Name System (DNS) web service."

Key sections include:

- Get started with Route 53**: "Get started by registering a domain, configuring DNS, or using another Route 53 feature." Includes a "Get started" button.
- Pricing (US)**: "View pricing" link.
- How it works**: A diagram showing a central shield icon with a play button inside, connected by dashed lines to various icons representing different services like databases and storage.
- More resources**: Documentation, API reference, FAQs, Forum - DNS and health checks, and Forum - Domain name registration.

Click on "Get Started" to start up Route 53.

3.1 Register domain

The screenshot shows the 'Get started' section of the AWS Route 53 console. It features a grid of six service options:

- Register a domain**: Registers a domain name for your application. Icon: shield with '53' and a computer monitor.
- Transfer domain**: Transfers a domain from another registrar to Route 53. Icon: computer monitor with a shield containing '53'.
- Create hosted zones**: Manages DNS responses for a domain. Icon: three shields with '53' and a cloud.
- Configure health checks**: Monitors application health. Icon: ECG line with '53'.
- Configure traffic flow**: Manages policies for multiple endpoints. Icon: shield with multiple dashed lines connecting to other icons.
- Configure resolvers**: Routes DNS queries between VPCs and networks. Icon: server racks with '53' and a cloud.

At the bottom right are 'Cancel' and 'Get started' buttons.

First will need to create a domain that we can use for as a DNS for your web app.

Select “Register a domain” and click “Get Started”.

The screenshot shows the 'Register domains' page. The search bar contains 'solwebappexample.com'. The 'Search result' table shows one entry:

Domain	Price/year	Actions
solwebappexample.com <small>Exact match</small>	14.00 USD Renews at 14.00 USD	Select

The 'Suggested available domains (9)' section lists the following top-level domains:

Domain	Price/year	Actions
solwebappexample.net	15.00 USD	Select
solwebappexample.org	14.00 USD	Select
solwebappexample.io	71.00 USD	Select
solwebappexample.co	31.00 USD	Select
solwebappexample.com	14.00 USD	Select
solwebappexample.info	25.00 USD	Select
solwebappexamples.com	14.00 USD	Select
solwebappexample.me	25.00 USD	Select
solwebappexample.biz	19.00 USD	Select

In Search for domain, type in the name of the DNS you wish to create to see it's available.

As we see, you are given a list of top-level domains (TLD) to use.

For this project, we will select solwebappexample.com. Then click on “Proceed to checkout”.

Route 53 > Registered domains > Register domains > Checkout

Pricing Info

Domain pricing options

Domain name: solwebappexample.com Duration (price): 1 year (14.00 USD)

Auto-renew: On

Auto-renew is turned on for 1 domain.
We will send an email to the registrant contact before expiration to remind you that auto-renew is currently turned on. You can turn it off at any time by using the Route 53 console. For more information, see [Renewing Registration for a Domain](#).

Subtotal: 14.00 USD
Applicable taxes will be calculated at checkout.

[Cancel](#) [Next](#)

In checkout you will follow three steps:

1. Pricing on your domain name
2. Contact information to provide including for billing
3. Review and submit

After you follow these steps, click on submit.

Route 53 > Requests

Requests Info

Operation ID	Domain name	Message	Status	Type	Submitted
61b439dc-cb10-4be8-a23c-98de51e8bd25	solwebappexample.com	-	In progress	Register domain	January 23, 2025, 15:55 (UTC-08:00)

This can take 20 minutes or more but should look like this.

Route 53 > Registered domains > solwebappexample.com

solwebappexample.com Info

Registration date	Auto-renew	Domain status code	Name servers
January 23, 2025, 15:56 (UTC-08:00)	Off	addPeriod ok	ns-812.awsdns-37.net
Expiration date	Transfer lock	DNSSEC status	ns-1619.awsdns-10.co.uk
January 23, 2026	Off	Not configured	ns-299.awsdns-37.com
			ns-1063.awsdns-04.org

[Transfer out](#) [Delete domain](#)

Contact information [DNSSEC keys](#) [Tags](#)

We can use this for our Hosted zones

3.2 Hosted Zones

Route 53 > Get started

Get started Info

Choose your starting point

- Register a domain**
Register the name, such as example.com, that your users use to access your application.
- Transfer domain**
You can transfer domain names to Route 53 that you registered with another domain registrar.
- Create hosted zones**
A hosted zone tells Route 53 how to respond to DNS queries for a domain such as example.com.
- Configure health checks**
Health checks monitor your applications and web resources, and direct DNS queries to healthy resources.
- Configure traffic flow**
A visual tool that lets you easily create policies for multiple endpoints in complex configurations.
- Configure resolvers**
A regional service that lets you route DNS queries between your VPCs and your network.

Cancel **Get started**

You are given options to set up Route 53. Select “hosted zones” to created your DNS zone for your domain. Once selected, click on “Get Started”.

Route 53 > Hosted zones > Create hosted zone

Create hosted zone Info

Hosted zone configuration
A hosted zone is a container that holds information about how you want to route traffic for a domain, such as example.com, and its subdomains.

Domain name Info
This is the name of the domain that you want to route traffic for.

Valid characters: a-z, 0-9, !# \$ % & ' () * + , - / ; < = ? @ [\] ^ _ ` { } , ~

Description - optional Info
This value lets you distinguish hosted zones that have the same name.

The description can have up to 256 characters. 43/256

Type Info
The type indicates whether you want to route traffic on the internet or in an Amazon VPC.

Public hosted zone
A public hosted zone determines how traffic is routed on the internet.

Private hosted zone
A private hosted zone determines how traffic is routed within an Amazon VPC.

Tags Info
Apply tags to hosted zones to help organize and identify them.
No tags associated with the resource.
[Add tag](#)
You can add up to 50 more tags.

Cancel **Create hosted zone**

Create a name for your domain.

Be sure to select Public hosted zone for Type. Description is optional.

Click on Create hosted zone.

Route 53

Hosted zones

solwebappexample.com

Hosted zone details

Records (2)

Record ...	Type	Routing p...	Differ...	Alias	Value/Route traffic to
<input checked="" type="checkbox"/> solwebap...	NS	Simple	-	No	ns-1581.awsdns-05.co.uk. ns-422.awsdns-52.com. ns-1006.awsdns-61.net. ns-1216.awsdns-24.org.
<input type="checkbox"/> solwebap...	SOA	Simple	-	No	ns-1581.awsdns-05.co.uk. a...

Record details

Record name: solwebappexample.com

Record type: NS

Value:

- ns-1581.awsdns-05.co.uk.
- ns-422.awsdns-52.com.
- ns-1006.awsdns-61.net.
- ns-1216.awsdns-24.org.

TTL (seconds): 172800

Routing policy: Simple

Or from registering domain

Go to Hosted Zones

Route 53

Hosted zones

solwebappexample.com

Hosted zones (1)

Hosted zone name	Type	Created by	Record count
solwebappexample.com	Public	Route 53	2

0 hosted zone selected

Select a hosted zone to see its details

As you will see, by registering your domain, you have created a Hosted Zone.

Route 53

Hosted zones

Records (2)

Record	Type	Value	TTL
solwebap...	NS	ns-812.awsdns-37.net. ns-1619.awsdns-10.co.uk. ns-299.awsdns-37.com. ns-1063.awsdns-04.org.	172
solwebap...	SOA	ns-812.awsdns-37.net. awsd...	900

Record details

- Record name: solwebappexample.com
- Record type: NS
- Value: ns-812.awsdns-37.net, ns-1619.awsdns-10.co.uk, ns-299.awsdns-37.com, ns-1063.awsdns-04.org
- Alias: No
- TTL (seconds): 172800
- Routing policy: Simple

3.3 Create Record Sets

On your hosted zone you created, click on “Create Record”.

Records (2)

Record	Type	Value	TTL
solwebap...	NS	ns-812.awsdns-37.net. ns-1619.awsdns-10.co.uk. ns-299.awsdns-37.com. ns-1063.awsdns-04.org.	172
solwebap...	SOA	ns-812.awsdns-37.net. awsd...	900

Create two record sets for your website with one for AWS and the other for Azure

3.3.1 For AWS Load Balancer

The screenshot shows the 'Create record' interface for an 'Alias' record. The 'Record name' field contains 'subdomain' and the 'Record type' field is set to 'A'. Under 'Route traffic to', 'Alias' is selected, and 'Alias to Application and Classic Load Balancer' is chosen. The 'US East (N. Virginia)' region is selected. The 'Routing policy' dropdown shows 'Simple routing'. The 'Evaluate target health' checkbox is checked. A note indicates that the alias is hosted zone ID Z355XDOTRQ7X7K. On the right side, there's a 'Record ID' section with a note about unique identifiers, a 'Was this content helpful?' button, and a 'Learn more' link.

In Create Record, use the following:

Have Record Type set to A.

For record name, you can either provide a name, such as www, to route to a specific subdomain such as one of your load balancers. Or leave it blank and it will automatically go to one of your subdomains.

For our AWS load balancer, select Alias. By this you can find your load balancer to connect to by selecting Alias to Application Load Balancer then select the AZ of your load balancer. From this, you can select your created load balancer.

As this will be a weighted policy, under Routing policy select “Weighted”.

The screenshot shows the 'Create record' interface for a 'Weighted' routing policy. The 'Record name' field contains 'subdomain' and the 'Record type' field is set to 'A'. Under 'Route traffic to', 'Alias' is selected, and 'Alias to Application and Classic Load Balancer' is chosen. The 'US East (N. Virginia)' region is selected. The 'Routing policy' dropdown shows 'Weighted'. A 'Weight' input field is set to 50. A note explains that the weight determines the proportion of DNS queries that Route 53 will respond to using that record. The 'Evaluate target health' checkbox is checked. A 'Health check ID - optional' field is present. The 'Record ID' field contains 'Weighted AWS Record'. On the right side, there's a 'Choose routing policy' section with a note about routing policies, a comparison table, and descriptions for Simple, Weighted, Geolocation, and Latency policies.

Assign weights to control traffic distribution, such as 50 for AWS. Provide a Record ID.

Now Create record.

The screenshot shows the AWS Route 53 console. On the left, the navigation menu is visible with sections like Route 53, Hosted zones, IP-based routing, Traffic flow, Domains, and Resolver. The 'Hosted zones' section is selected. In the center, a hosted zone for 'solwebappexample.com' is shown. A success message at the top says 'Record for solwebappexample.com was successfully created.' Below it, the 'Hosted zone details' section shows 'Records (3)'. One record is selected, showing the following details:

Record	Type	Weighted	Alias	Value/Route traffic to
solwebap...	A	50	Yes	dualstack.aws-lb-a-4616450...
solwebap...	NS	Simple	No	ns-812.awsdns-37.net. ns-1619.awsdns-10.co.uk. ns-299.awsdns-37.com. ns-1063.awsdns-04.org.
solwebap...	SOA	Simple	No	ns-812.awsdns-37.net. awsd...

On the right, the 'Record details' pane is open, showing the following configuration:

- Record name: solwebappexample.com
- Record type: A
- Value: dualstack.aws-lb-a-46164507.us-east-1.elb.amazonaws.com
- Alias: Yes
- TTL (seconds): -
- Routing policy: Weighted
- Weight: 50
- Record Id: Weighted AWS Record

3.3.2 Azure Load Balancer Record

Now repeat the same steps for Azure. Create record.

Go to your Azure Load Balancer, under Frontend IP Configuration. Copy the IP.

The screenshot shows the Azure portal interface for an Azure Load Balancer named 'AzureLB-1'. The 'Frontend IP configuration' section is selected in the sidebar. The main area displays the following information:

- Overview: The frontend IP address configuration of a load balancer serves as the entry point for incoming traffic to the load balancer, and the load balancer then distributes the traffic to the backend pool of virtual machines or services.
- Activity log: Shows no activity.
- Access control (IAM): Shows no access control.
- Tags: Shows no tags.
- Diagnose and solve problems: Shows no problems.
- Settings:
 - Frontend IP configuration: Selected.
 - Backend pools
 - Health probes

Under 'Frontend IP configuration', there is one item listed:

Name	IP address	Rules count
AzureLB-1-frontendconfig01	172.208.65.99 (AzureLB-1-publicip)	1

Provide your Azure IP to your record in AWS.

The screenshot shows the 'Create record' wizard in the AWS Route 53 console. The 'Record name' field contains 'subdomain' and the 'Value' field contains '172.208.65.99'. The 'Record type' is set to 'A' (Rout to an IPv4 address and some AWS resources). The 'Routing policy' is 'Weighted'. The 'TTL (seconds)' is set to 300. The 'Weight' is set to 50. The 'Record ID' is 'Weighted Azure Record'. The 'Health check ID - optional' field is empty. Buttons at the bottom include 'Add another record', 'Cancel', and a prominent orange 'Create records' button.

Be sure to have record type set to A, routing policy in Weighted, assign weight value, and a record ID.

Once again, you can leave record name blank if you wish to.

Click on Create Record.

The screenshot shows the 'Hosted zone details' page for 'solwebappexample.com'. A success message states 'Record for solwebappexample.com was successfully created.' The 'Records' section shows four entries:

Record name	Type	Routing policy	Weight	Alias	Value
solwebappexample.com	A	Weighted	50	Yes	dual
solwebappexample.com	A	Weighted	50	No	172.208.65.99
solwebappexample.com	NS	Simple	-	No	ns-8 ns-1 ns-2 ns-1
solwebappexample.com	SOA	Simple	-	No	ns-8

3.4 Test your DNS of Web App

Finally test your application. Copy the name of your domain and place in your browser.

Route 53 > Hosted zones > solwebappexample.com

Route 53

- Dashboard
- Hosted zones**
- Health checks
- Profiles New
- IP-based routing
- CIDR collections
- Traffic flow
- Traffic policies
- Policy records
- Domains
- Registered domains
- Requests
- Resolver
- VPCs
- Inbound endpoints
- Outbound endpoints
- Rules
- Query logging
- Outposts

solwebappexample.com

Hosted zone details

Records (4)

Type	Routing policy	Alias	Value/Route traffic to
A	Weighted	Yes	dualstack.aws-lb-a-4616450...
A	Weighted	No	172.208.65.99
NS	Simple	No	ns-812.awsdns-37.net. ns-1619.awsdns-10.co.uk. ns-299.awsdns-37.com. ns-1063.awsdns-04.org.
SOA	Simple	No	ns-812.awsdns-37.net. awsd...

Record details

Record type: NS

Value: ns-812.awsdns-37.net.

Alias: No

TTL (seconds): 172800

Routing policy: Simple

← → ⌂ ⓘ Not secure solwebappexample.com ☆

Apache2 Default Page

Ubuntu

It works!

This is the default welcome page used to test the correct operation of the Apache2 server after installation on Ubuntu systems. It is based on the equivalent page on Debian, from which the Ubuntu Apache packaging is derived. If you can read this page, it means that the Apache HTTP server installed at this site is working properly. You should **replace this file** (located at /var/www/html/index.html) before continuing to operate your HTTP server.

If you are a normal user of this web site and don't know what this page is about, this probably means that the site is currently unavailable due to maintenance. If the problem persists, please contact the site's administrator.

Configuration Overview

Ubuntu's Apache2 default configuration is different from the upstream default configuration, and split into several files optimized for interaction with Ubuntu tools. The configuration system is **fully documented in /usr/share/doc/apache2/README.Debian.gz**. Refer to this for the full documentation. Documentation for the web server itself can be found by accessing the **manual** if the apache2-doc package was installed on this server.

The configuration layout for an Apache2 web server installation on Ubuntu systems is as follows:

```
/etc/apache2/
|-- apache2.conf
|-- ports.conf
|-- mods-enabled
|   |-- *.load
|   |-- *.conf
|-- conf-enabled
|   |-- *.conf
|-- sites-enabled
|   |-- *.conf
```

- apache2.conf is the main configuration file. It puts the pieces together by including all remaining configuration files when starting up the web server.
- ports.conf is always included from the main configuration file. It is used to determine the listening ports for incoming connections, and this file can be customized anytime.

As you see, the DNS works and we receive the webpage created from the Azure Load Balancer.

To further test, create another record for AWS load balancer but provide a record name such as “www”.

The screenshot shows the 'Create record' wizard in the AWS Route 53 console. The configuration is as follows:

- Record name:** www
- Record type:** A (Routed traffic to an IPv4 address and some AWS resources)
- Route traffic to:** Alias (Alias to Application and Classic Load Balancer, US East (N. Virginia), dualstack.AWS-LB-A-46164507.us-east-1.elb.amazonaws.com)
- Weight:** 60
- Health check ID - optional:** Choose health check
- Evaluate target health:** Yes
- Record ID:** Second AWS record

Buttons at the bottom include 'Switch to wizard', 'Delete', 'Add another record', 'Cancel', and 'Create records'.

Test the domain name with record name of your AWS.

The screenshot shows the 'Hosted zone details' page for the 'solwebappexample.com' zone. The 'Records' section displays the following table:

Record name	Type	Routing...	Differ...	Alias	Value
solwebappexample.com	A	Weighted	50	Yes	dual
solwebappexample.com	A	Weighted	50	No	172. ns-8 ns-1 ns-2 ns-1 ns-8
solwebappexample.com	NS	Simple	-	No	
solwebappexample.com	SOA	Simple	-	No	
www.solwebappexample.com	A	Weighted	60	Yes	dual

On the right, the 'Record details' pane shows the configuration for this specific record:

- Record name: www.solwebappexample.com
- Record type: A
- Value: dualstack.aws-lb-a-46164507.us-east-1.elb.amazonaws.com
- Alias: Yes
- TTL (seconds): -
- Routing policy: Weighted
- Weight: 60
- Record Id: Second AWS record

It works!

You are now directed to the AWS webpage from your EC2 Instance and Load Balancer.

Your Web Application is good to go!

Finish