

Experiment # 9

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Aim : Configure DNS failover routing policy for Webservers across AWS Regions.

Procedure :

Steps:

1. Create a Public webserver in region 1.

Amazon EC2 allows you to create virtual machines, or instances, that run on the AWS Cloud. Quickly get started by following the simple steps below.

Name and tags [info](#)

Name
server1 [Add additional tags](#)

Application and OS Images (Amazon Machine Image) [info](#)

An AMI is a template that contains the software configuration (operating system, application server, and application) required to launch your instance. Search or Browse for AMIs if you don't see what you are looking for below.

Search or Browse for AMIs if you don't see what you are looking for below

Quick Start

Amazon Linux macOS Ubuntu Windows Red Hat S Browse more AMIs

Amazon Machine Image (AMI)

Amazon Linux 2 AMI (HVM) - Kernel 5.10, SSD Volume Type
ami-0e5326222e652452 (64-bit x86) / ami-0b093623a7ac5502 (64-bit ARM)
Virtualization: hvm | ENA enabled: true | Root device type: ebs

Free tier eligible

Description
Amazon Linux 2 Kernel 5.10 AMI 2.0.20221004.0 x86_64 HVM gp2

Architecture AMI ID

Summary

Number of instances [info](#)
1

Software image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-0e5326222e652452

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, 30 GiB of EBS storage, 2 million I/Os, 1 GB of snapshots, and 100 GB of bandwidth to the internet.

Cancel [Launch instance](#)

Instance type [info](#)

Instance type
t2.micro [Free tier eligible](#) [Compare instance types](#)

Family: t2 | 1 vCPU | 1 GiB Memory
On-Demand Linux pricing: 0.0124 USD per hour
On-Demand Windows pricing: 0.017 USD per hour

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
ad1543 [Create new key pair](#)

Network settings [info](#)

VPC - required [info](#)
vpc-0f5e6ca3b5f734813 (default) [Create new VPC](#)

Subnet [info](#)
subnet-0d666856a68d53e15 [Create new subnet](#)

VPC: vpc-0f5e6ca3b5f734813 | Owner: 979334533947 | Availability Zone: ap-south-1b
IP address available: 4091 | CIDR: 172.31.0.0/20

Auto-assign public IP [info](#)
Enable

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](#)

Summary

Number of instances [info](#)
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Cancel [Launch instance](#)

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Enable

Firewall (security group) [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*
webservers

Description - *required* [info](#)
launch-wizard-7 created 2022-11-08T09:04:56.116Z

Inbound security group rules

▼ Security group rule 1 (TCP, 22, 14.96.13.220/32) Remove

Type [info](#) Protocol [info](#) Port range [info](#)

Source type [info](#) Name [info](#) Description - *optional* [info](#)

▼ Security group rule 2 (TCP, 80, 0.0.0.0/0) Remove

Type [info](#) Protocol [info](#) Port range [info](#)

Source type [info](#) Source [info](#) Description - *optional* [info](#)

Summary

Number of instances [info](#)
1

Software image (AMI)
Amazon Linux 2 Kernel 5.10 AMI...[read more](#)
ami-0ef529e222e652a52

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t2.micro

Firewall (security group)
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Storage (volumes)
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☐ Specify CPU options
The selected instance type does not support CPU options.

Metadata accessible [info](#)

Metadata version [info](#)

Metadata response hop limit [info](#)

Allow tags in metadata [info](#)

User data [info](#)

```
#!/bin/bash
yum install httpd -y
service httpd start
chkconfig httpd on
echo "This is ap-west-1 AWS region" > /var/www/html/index.html
```

☐ User data has already been base64 encoded

Summary

Number of instances [info](#)
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2. Create a public webserver in region 2.
3. Create a Route53 public hosted zone (e.g: Yourdomain.com).
4. Create 2 health checks for both the webserver.

What to monitor ☒ Endpoint

☐ Status of other health checks (calculated health check)

☐ State of CloudWatch alarm

Monitor an endpoint

Multiple Route 53 health checkers will try to establish a TCP connection with the following resource to determine whether it's healthy. [Learn more](#)

Specify endpoint by ☒ IP address ☐ Domain name

Protocol HTTP ⓘ

IP address * 3.110.119.69 ⓘ

Host name www.example.com ⓘ

Port * 80 ⓘ

Path /index.html ⓘ

Advanced configuration

URL http://3.110.119.69:80/index.html ⓘ

Health check type Basic - no additional options selected ([View Pricing](#))

Create health check

Step 1: Configure health check

Step 2: Get notified when health check fails

Configure health check

Route 53 health checks let you track the health status of your resources, such as web servers or mail servers, and take action when an outage occurs.

Name webserver-ap-south-1 ⓘ

What to monitor ☒ Endpoint ⓘ

☐ Status of other health checks (calculated health check)

☐ State of CloudWatch alarm

Monitor an endpoint

Multiple Route 53 health checkers will try to establish a TCP connection with the following resource to determine whether it's healthy. [Learn more](#)

Specify endpoint by ☒ IP address ☐ Domain name

Protocol HTTP ⓘ

IP address * 3.110.119.69 ⓘ

Host name www.example.com ⓘ

- Create a subdomain A record test.yourdomain.com and configure it as failover routing (Primary).

Dashboard

Hosted zones

Health checks

IP-based routing

CIDR collections

Traffic flow

Traffic policies

Policy records

Domains

Registered domains

Pending requests

Resolver

VPCs

Inbound endpoints

Outbound endpoints

Health check with id 5567d956-467c-4c91-8751-560c96756133 has been created successfully

Create health check Delete health check Edit health check

Filter by keyword

<< < 1 to 2 of 2 health checks >>

Name	Status	Description	Alarms	ID
<input type="checkbox"/> webserver-us-west-2	Unknown	http://52.13.101.183:80/index.html	No alarms configured.	5567d956-467c-4c91
<input type="checkbox"/> webserver-ap-south-1	15 minutes ago Healthy	http://3.110.119.69:80/index.html	No alarms configured.	adf1d20d-8363-4516

Info Monitoring Alarms Tags Health checkers Latency

No health check selected.

6. Create another same subdomain A record test.yourdomain.com and configure it as failover routing (secondary).

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.

Domain name is empty.
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. 0/256

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.

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7. Test the connection by hitting http://test.yourdomain.com.
8. Login to primary webserver in region 1 and stop httpd service.
9. Wait for TTL to expire and see If you get redirected to another web server in region 2.

Result:

Hence, we have successfully configure DNS failover routing policy for Webserver across AWS Regions.