

# Experiment : 9

## Title : Configure Failover Routing with Amazon Route 53

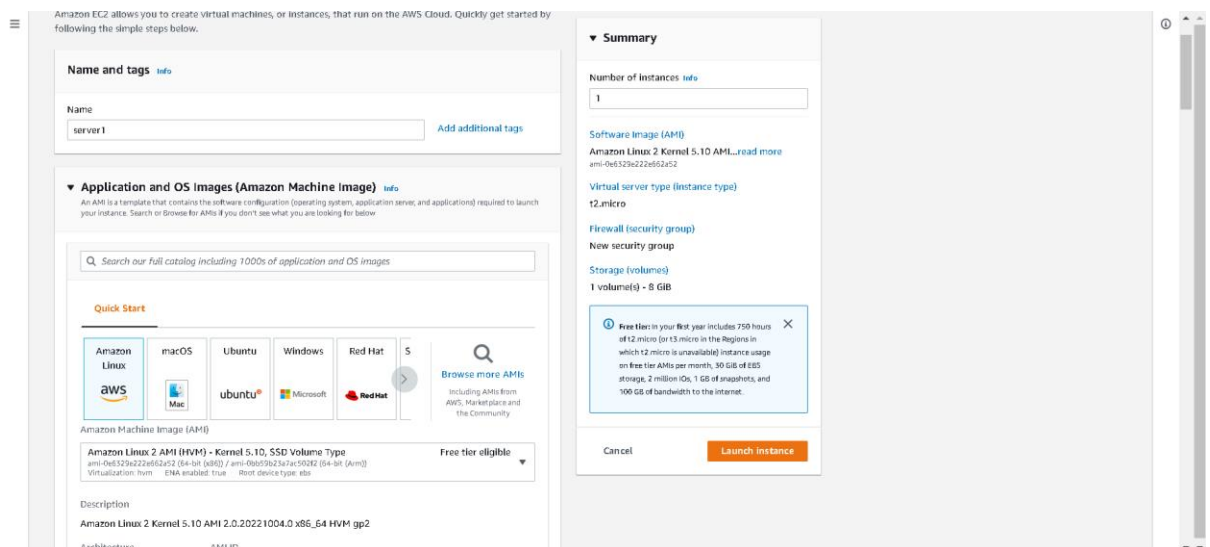
**Aim :** Configure DNS failover routing policy for Webservers across AWS Regions.

**Pre-requisites :** AWS Console, Amazon Route 53, Amazon EC2.

## Procedure :

Steps:

1. Create a Public webserver in region 1.



▼ 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 🔑

▼ Network settings [info](#)

VPC - required [info](#)

vpc-0f5e6ca3b5f734813 (default) 🔑

Subnet [info](#)

subnet-0d666856a68d53e15 🔑 [Create new subnet](#)

VPC: vpc-0f5e6ca3b5f734813 Owner: 979334535947  
IP addresses available: 4091 CIDR: 172.31.0.0/16 Availability Zone: ap-south-1b

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](#)

1

Software Image (AMI)

Amazon Linux 2 Kernel 5.10 AMI...[read more](#)  
ami-0e63296222662a12

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 GiB of snapshots, and 100 GiB of bandwidth to the internet. ✕

Cancel Launch instance

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

Security group name - required

webserver

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 \_ (not at the beginning or end).

Description - required [info](#)

launch-wizard-7 created 2022-11-08T09:04:56.116Z

Inbound security groups rules

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

Type [info](#)

ssh ▼

Protocol [info](#)

TCP

Port range [info](#)

22

Source type [info](#)

My IP ▼

Name [info](#)

🔍 Add CIDR, prefix list or security group

Description - optional [info](#)

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

Type [info](#)

HTTP ▼

Protocol [info](#)

TCP

Port range [info](#)

80

Source type [info](#)

Custom ▼

Source [info](#)

🔍 Add CIDR, prefix list or security group

Description - optional [info](#)

▼ Summary

Number of instances [info](#)

1

Software Image (AMI)

Amazon Linux 2 Kernel 5.10 AMI...[read more](#)  
ami-0e63296222662a12

Virtual server type (instance type)

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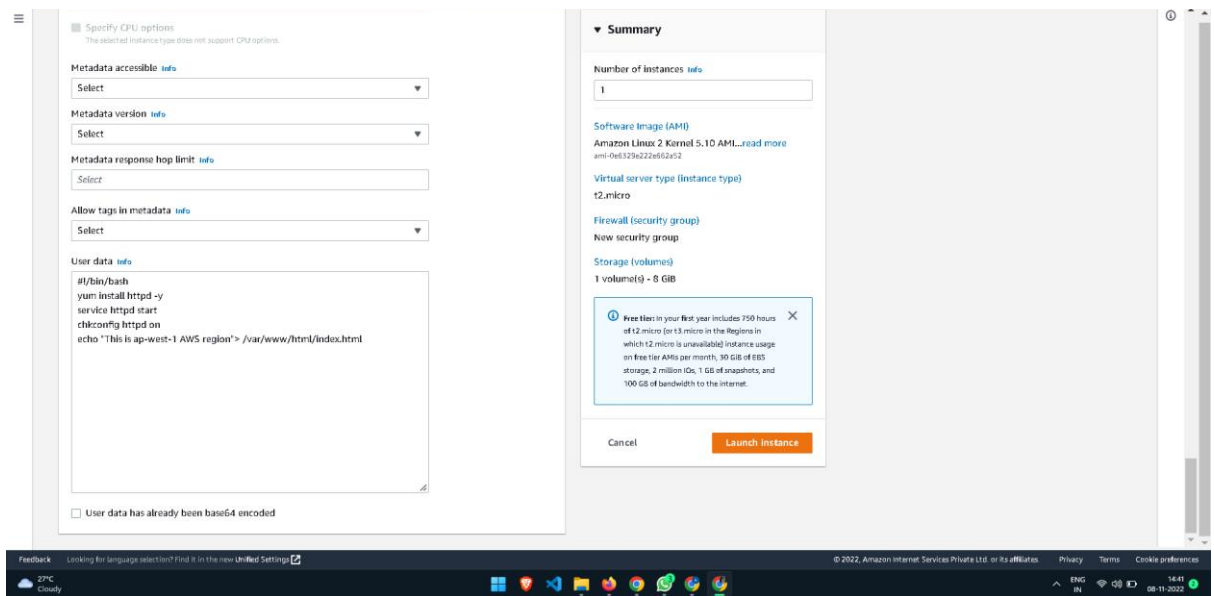
Cancel Launch instance

Feedback Looking for language selection? Find it in the new [United Settings](#)

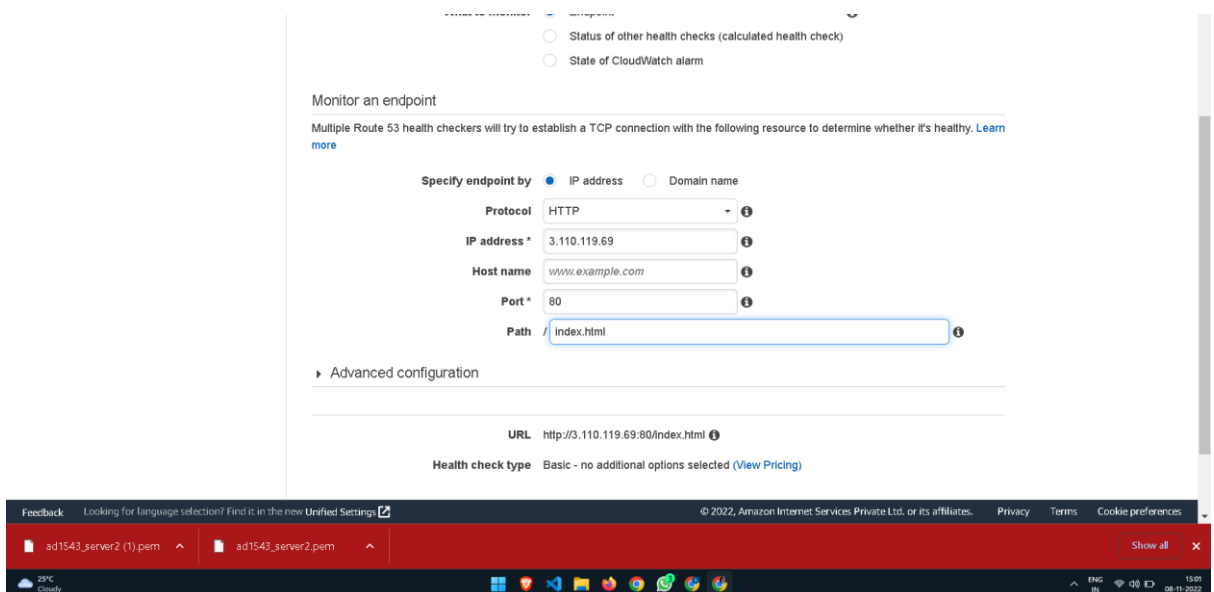
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27°C Cloudy

ENG IN 14:40 08-11-2022



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.



### 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**

**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**

**IP address \***

**Host name**

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

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

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	Healthy	http://3.110.119.69:80/index.html	No alarms configured.	adfd20d-8363-4516

15 minutes ago now

**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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ad1543\_server2 (1).pem ad1543\_server2.pem Show all

29°C Cloudy 15:03 08-11-2022

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 Webservers across AWS Regions.