

# **Project name: Set up a multi-region disaster recovery architecture using AWS**

**GitHub repo name:** <https://github.com/Mithra1995/aws-disaster-recovery-terraform.git>

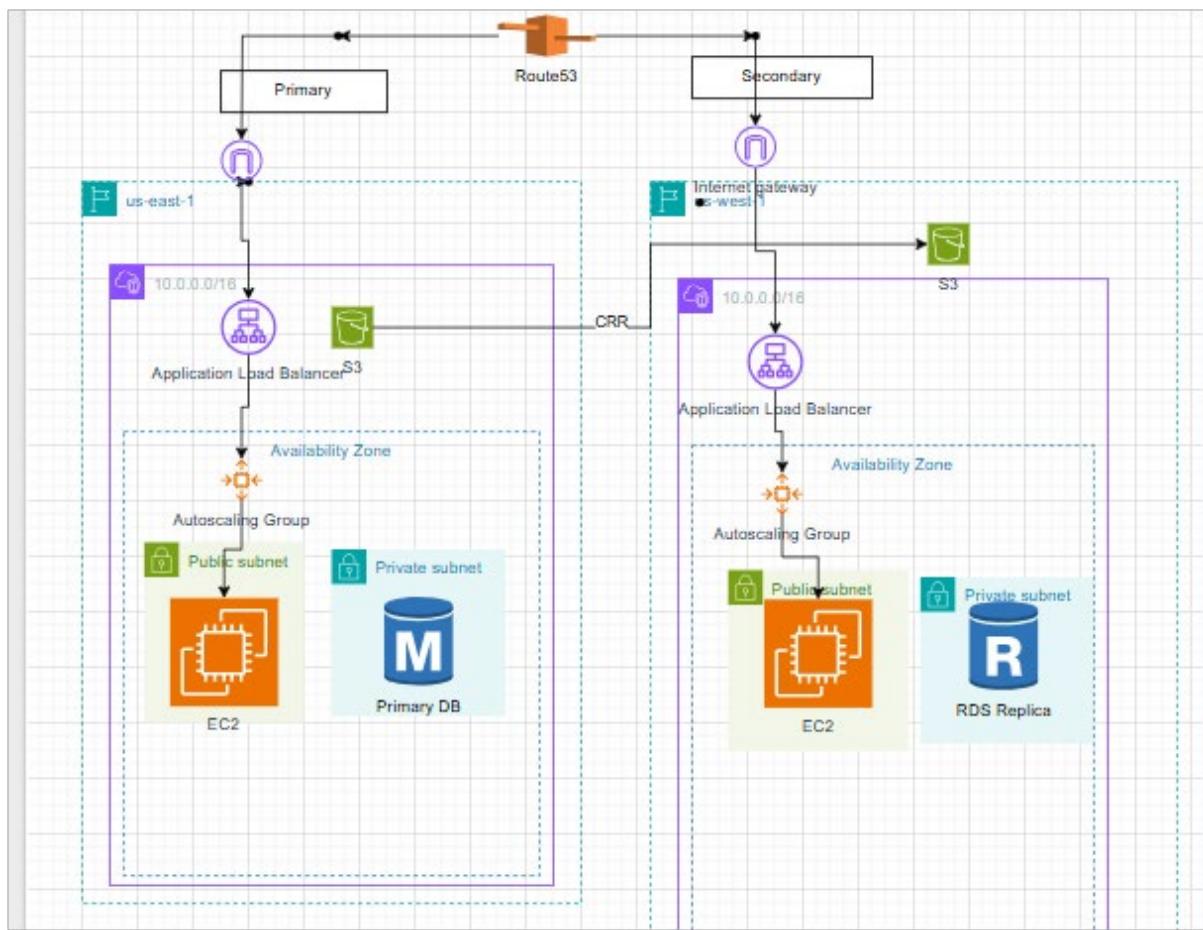
## **1. Objective**

To design and implement a multi-region disaster recovery solution using AWS services, where infrastructure is deployed in two AWS regions. The solution will replicate data across regions, ensure high availability, and implement a failover mechanism for disaster recovery.

## **2. Architecture Overview**

The architecture involves provisioning AWS resources across two regions to create a highly available and resilient infrastructure. Key components include Amazon VPC for networking, Amazon S3 for cross-region data replication, Amazon RDS for multi-region database deployment, and Route 53 for DNS failover routing. The solution ensures that both regions are synchronized and can automatically switch to the backup region if needed.

## **3. Architecture Diagram**



#### 4. Infrastructure setup

- VPCs in `us-east-1` (Primary) and `us-west-2` (Secondary)
- Subnets (Public/Private) in multiple Availability Zones
- Internet Gateways & NAT Gateways
- Route Tables
- S3 Buckets with cross-region replication
- RDS instances with multi-region replication
- Route 53 with DNS failover
- Auto Scaling Groups and Load Balancers

## 5. Step by step process:

S3 bucket creation in both us-east and us-west region

```

module "web_west_compute" {
  target_group_arn = module.web_west_alb.tg_arn
  user_data = filebase64("${path.module}/userdata.sh")
}

module "data" {
  source      = ".../modules/data"
  bucket_name_prefix = "dr-demo-uswest"
  bucket_name_prefix_secondary = "dr-demo-uswest"
  enable_versioning = true
  enable_replication = true

  providers = {
    aws.west = aws.west
  }
}

resource "aws_security_group" "db_east" {
  name     = "db-east-sg"
  description = "Allow traffic to RDS in east"
}

```

The plan was created with the `-target` option in effect, so some changes requested in the configuration may have been ignored and the output values may not be fully updated. Run the following command to verify that no other changes are pending:  
`terraform plan`

Note that the `-target` option is not suitable for routine use, and is provided only for exceptional situations such as recovering from errors or mistakes, or when Terraform specifically suggests to use it as part of an error message.

**Apply complete! Resources: 9 added, 0 changed, 0 destroyed.**

Name	AWS Region	IAM Access Analyzer	Creation date
<a href="#">dr-demo-use1-east-37cf18a</a>	US East (N. Virginia) us-east-1	<a href="#">View analyzer for us-east-1</a>	July 8, 2025, 11:34:26 (UTC-04:00)
<a href="#">dr-demo-use1-west-37cf18a</a>	US West (Oregon) us-west-2	<a href="#">View analyzer for us-west-2</a>	July 8, 2025, 11:34:27 (UTC-04:00)
<a href="#">elasticbeanstalk-us-east-1-382828593676</a>	US East (N. Virginia) us-east-1	<a href="#">View analyzer for us-east-1</a>	June 24, 2025, 14:06:06 (UTC-04:00)

Now I will upload the image in us-east region and incorporate that content to launch template

Screenshot of the AWS S3 Bucket Overview page for bucket dr-demo-use1-east-37cf18a.

**Bucket overview**

AWS Region US East (N. Virginia) us-east-1	Amazon Resource Name (ARN) arn:aws:s3:::dr-demo-use1-east-37cf18a	Creation date July 8, 2025, 11:34:26 (UTC-04:00)
---	--	---

**Bucket Versioning**

Versioning is a means of keeping multiple variants of an object in the same bucket. You can use versioning to preserve, retrieve, and restore every version of every object stored in your Amazon S3 bucket. With versioning, you can easily recover from both unintended user actions and application failures. [Learn more](#)

**Bucket Versioning**  
Enabled

**Multi-factor authentication (MFA) delete**  
An additional layer of security that requires multi-factor authentication for changing Bucket Versioning settings and permanently deleting object versions. To modify MFA delete settings, use the AWS CLI, AWS SDK, or the Amazon S3 REST API. [Learn more](#)

**Tags (1)**

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Screenshot of the AWS S3 Bucket Replication rules page for bucket dr-demo-use1-east-37cf18a.

**No lifecycle rules**  
There are no lifecycle rules for this bucket. [Create lifecycle rule](#)

**Replication rules (1)**

Replication rule name	Status	Destination bucket	Destination Region	Priority	Scope	Storage class	Replica owner
crr-east-to-west	Enabled	s3://dr-demo-use1-west-37cf18a	US West (Oregon) us-west-2	0	Entire bucket	Transition to Standard	Same as source

[View replication configuration](#)

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The screenshot shows the AWS S3 Replication Rules configuration page. The left sidebar lists various bucket types: General purpose buckets, Directory buckets, Table buckets, Access Grants, Access Points for general purpose buckets, Access Points for directory buckets, Object Lambda Access Points, Multi-Region Access Points, Batch Operations, and IAM Access Analyzer for S3. Below this is a section for Block Public Access settings. The main content area displays the 'crr-east-to-west' replication rule. It includes sections for Replication rule summary, Source bucket, Destination, and a footer with copyright and links.

**Replication rule summary**

Replication rule name	Status	Priority
crr-east-to-west	Enabled	0

**Source bucket**

Source bucket name	Scope	Tags
dr-demo-use1-east-37cf18a	Entire bucket	-
Source Region	Prefix	
US East (N. Virginia) us-east-1	-	

**Destination**

Destination bucket name	Storage class	Object ownership
dr-demo-use1-west-37cf18a	Transition to Standard	Same as source

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## Upload image in east region

The screenshot shows the AWS S3 Upload page. It features a large central area for dragging and dropping files or adding them via a button. Below this is a table of files and folders to be uploaded, with columns for Name, Folder, Type, and Size. The table shows one item: 'image.png' (image/png, 36.0 KB). There are buttons for Remove, Add files, and Add folder. The Destination section shows the destination bucket as 's3://dr-demo-use1-east-37cf18a'. The Destination details section provides information about bucket settings. The footer includes standard AWS links.

Add the files and folders you want to upload to S3. To upload a file larger than 160GB, use the AWS CLI, AWS SDKs or Amazon S3 REST API. [Learn more](#)

Drag and drop files and folders you want to upload here, or choose [Add files](#) or [Add folder](#).

Name	Folder	Type	Size
image.png	-	image/png	36.0 KB

**Destination** [Info](#)

**Destination**  
[s3://dr-demo-use1-east-37cf18a](#)

**Destination details**  
Bucket settings that impact new objects stored in the specified destination.

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The screenshot shows the AWS S3 console interface. On the left, there's a sidebar with 'Amazon S3' and 'General purpose buckets'. The main area displays a bucket named 'dr-demo-use1-east-37cf18a' with an 'Info' link. Below it, there are tabs for 'Objects', 'Metadata', 'Properties', 'Permissions', 'Metrics', 'Management', and 'Access Points'. The 'Objects' tab is selected, showing a list of objects. There is one object listed: 'image.png' (Type: png, Last modified: July 8, 2025, 11:39:40 (UTC-04:00), Size: 36.0 KB, Storage class: Standard). Action buttons like 'Copy S3 URI', 'Copy URL', 'Download', 'Open', 'Delete', 'Actions', and 'Create folder' are available. A search bar at the top right says 'Search [Alt+S]'.

The image got replicated in west region as well

This screenshot shows the AWS S3 console for a different region, 'United States (Oregon)'. The interface is identical to the one in the previous screenshot, showing the same bucket 'dr-demo-use1-west-37cf18a' with one object 'image.png'. The object details are identical: Type: png, Last modified: July 8, 2025, 11:39:40 (UTC-04:00), Size: 36.0 KB, Storage class: Standard.

Now I am enabling the s3 backend to store my state file

The screenshot shows the AWS Cloud9 IDE interface. In the left sidebar, under 'TERRAFORM\_PROJECTS', there is a folder 'AWS\_Disaster\_recovery...' containing several files: .terraform, .terraform.lock.hcl, backend.tf, main.tf, outputs.tf, provider.tf, terraform.tfstate, terraform.tfstate.backend, userdata.sh, variables.tf, and modules/alb/main.tf. The 'backend.tf' file is selected and open in the main editor area. The code in the editor is:

```

1  terraform {
2    backend "s3" {
3      bucket = "dr-demo-use1-east-37cf18a"
4      key    = "env:/terraform.tfstate"
5      region = "us-east-1"
6    }
7  }

```

Below the editor, the terminal window shows the output of the 'terraform init' command:

```

Terraform has been successfully initialized!
You may now begin working with Terraform. Try running "terraform plan" to see
any changes that are required for your infrastructure. All Terraform commands
should now work.

If you ever set or change modules or backend configuration for Terraform,
rerun this command to reinitialize your working directory. If you forget, other
commands will detect it and remind you to do so if necessary.

```

And my terraform state file got stored in both the regions

The screenshot shows the AWS S3 console. The left sidebar shows 'Amazon S3 > Buckets > dr-demo-use1-east-37cf18a'. The main panel displays the 'dr-demo-use1-east-37cf18a' bucket details. Under the 'Objects' tab, there are two objects listed:

Name	Type	Last modified	Size	Storage class
env/	Folder	-	-	-
image.png	png	July 8, 2025, 11:39:40 (UTC-04:00)	36.0 KB	Standard

Amazon S3 > Buckets > dr-demo-use1-east-37cf18a > env:/

**Objects (1)**

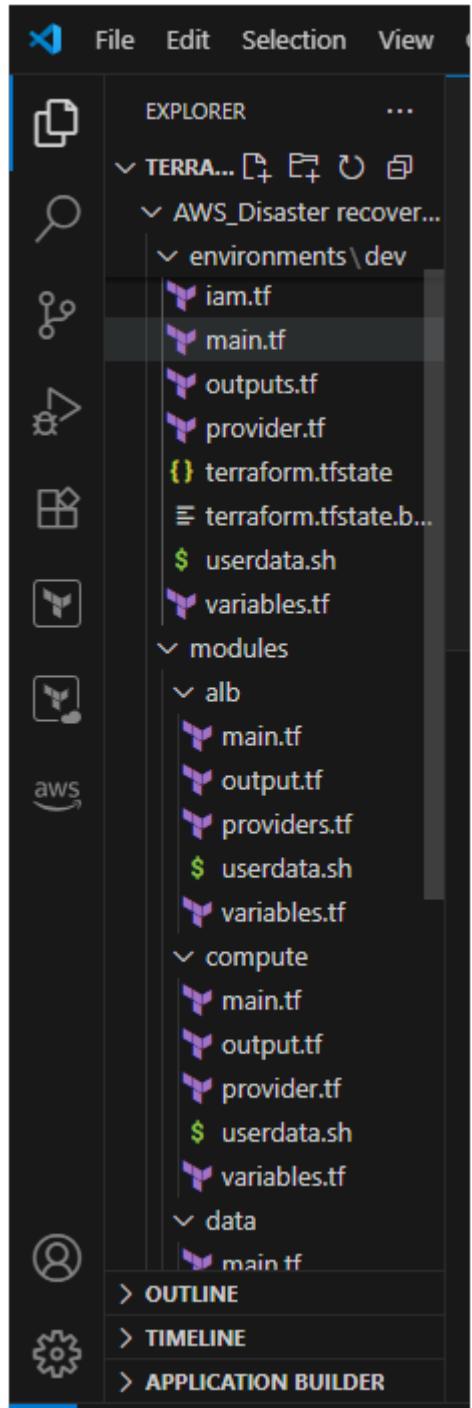
Name	Type	Last modified	Size	Storage class
terraform.tfstate	tfstate	July 8, 2025, 11:42:56 (UTC-04:00)	16.3 KB	Standard

Amazon S3 > Buckets > dr-demo-use1-west-37cf18a

**Objects (2)**

Name	Type	Last modified	Size	Storage class
env:/	Folder	-	-	-
image.png	png	July 8, 2025, 11:39:40 (UTC-04:00)	36.0 KB	Standard

Provisioned the resources like EC2, VPC, Subnets, route tables, internet gateway, NAT gateway, S3, Launch templates and load balancer, RDS



The screenshot shows the Terraform UI interface. The left sidebar displays a tree view of the project structure under 'TERRA... \ dev'. The main area shows the contents of the 'main.tf' file:

```

1 module "vpc_east" {
2   source      = "../../modules/network"
3   name_prefix = "east"
4
5   vpc_cidr    = var.vpc_cidr
6   pubsub      = var.east_pubsubs
7   pubsub_az   = var.east_pubsub_azs
8   prisub      = var.east_prisubs
9   prisub_az   = var.east_prisub_azs
10
11  enable_dns_support  = true
12  enable_dns_hostnames = true
13  create_nat         = var.create_nat
14  nat_eip_id          = var.nat_eip_id
15 }

```

The terminal tab shows the output of the 'terraform apply' command:

```

Apply complete! Resources: 42 added, 0 changed, 0 destroyed.
Apply complete! Resources: 42 added, 0 changed, 0 destroyed.

Outputs:

alb_dns_east = "east-alb-1761142192.us-east-1.elb.amazonaws.com"
alb_dns_west = "west-alb-1942308655.us-west-2.elb.amazonaws.com"
asg_name_east = "east-asg"
asg_name_west = "west-asg"

```

The status bar at the bottom indicates the file is in 'Terraform' mode.

The screenshot shows the AWS VPC dashboard. The left sidebar has sections for EC2 Global View, Virtual private cloud (selected), Your VPCs, Subnets, Route tables, Internet gateways, Egress-only internet gateways, Carrier gateways, DHCP option sets, Elastic IPs, Managed prefix lists, NAT gateways, and Peering connections. The main area shows 'Your VPCs (2) Info' with a table:

Name	VPC ID	State	Action	IPv4 CIDR
east-vpc	vpc-0bcf16ca0d8f26dc8	Available	Actions	10.0.0.0/16
-	vpc-031a9b3b1dcc0a15e	Available	Actions	172.31.0.0/16

A message at the bottom says 'Select a VPC above'.

AWS VPC Subnets Dashboard

Last updated 1 minute ago

Actions | Create subnet

Name	Subnet ID	State	VPC
east-pubsub-0	subnet-08364648a4e5834f3	Available	vpc-0bcf16ca0d8f26dc8   east-...
-	subnet-0355fb975989646d0	Available	vpc-031a9b3b1dcc0a13e   off
east-pubsub-1	subnet-0dfdfa735903c929d3	Available	vpc-0bcf16ca0d8f26dc8   east-...
-	subnet-0abca6d70ed3bedb	Available	vpc-031a9b3b1dcc0a13e   off
east-prisub-1	subnet-047080b0b88441dc5	Available	vpc-0bcf16ca0d8f26dc8   east-...
-	subnet-0c7083c579952e6e7	Available	vpc-031a9b3b1dcc0a13e   off
east-prisub-0	subnet-0cdf7cb46060174bf	Available	vpc-0bcf16ca0d8f26dc8   east-...

Select a subnet

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AWS VPC Route Tables Dashboard

Last updated 1 minute ago

Actions | Create route table

Name	Route table ID	Explicit subnet assoc...	Edge associations	Main	VPC
-	rtb-0337e406dc8013441	subnet-0355fb97598964...	-	Yes	vpc-0
east-public-rt	rtb-0ab09b33051513df9	2 subnets	-	No	vpc-0
east-private-rt	rtb-0f1bde19f919173d9	2 subnets	-	No	vpc-0
-	rtb-0351e9a01d5a033e1	-	-	Yes	vpc-0

Select a route table

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Internet gateways (2) <a href="#">Info</a>			
<input type="checkbox"/>	Name	Internet gateway ID	State
<input type="checkbox"/>	east-igw	<a href="#">igw-06735e515e9e200bc</a>	Attached
<input type="checkbox"/>	-	<a href="#">igw-0bc6bb92d072a62cb</a>	Attached

NAT gateways (1) <a href="#">Info</a>				
<input type="checkbox"/>	Name	NAT gateway ID	Connectivity...	State
<input type="checkbox"/>	-	<a href="#">nat-06d9dabe4d9a40639</a>	Public	Available

West region – us-west-2

The screenshot shows the AWS VPC dashboard for the West region (us-west-2). On the left, there's a navigation sidebar with options like EC2 Global View, Filter by VPC, Virtual private cloud (Your VPCs), Subnets, Route tables, Internet gateways, Egress-only internet gateways, Carrier gateways, DHCP option sets, Elastic IPs, Managed prefix lists, NAT gateways, Peering connections, and Route servers. The 'west-vpc' VPC is currently selected.

The main area displays 'Your VPCs (2) [Info](#)'. It shows two VPCs:

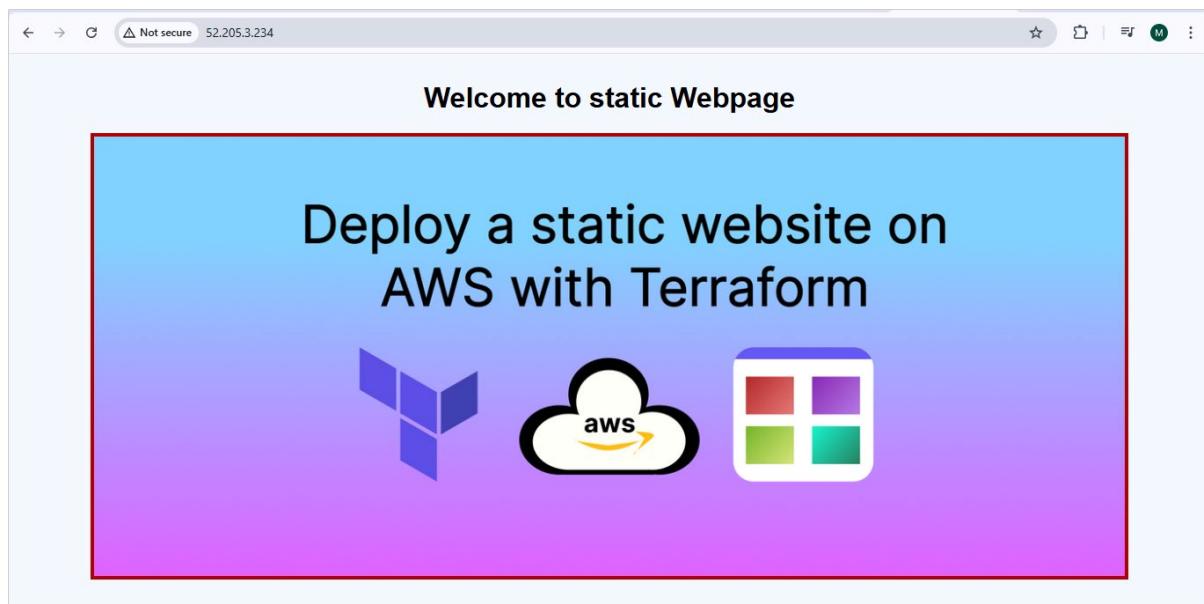
<input type="checkbox"/>	Name	VPC ID	State	Block Public...	IPv4 CIDR	IPv6 CIDR
<input type="checkbox"/>	-	<a href="#">vpc-0cde479dba28f0e36</a>	Available	Off	172.31.0.0/16	-
<input type="checkbox"/>	west-vpc	<a href="#">vpc-004649a266b96b129</a>	Available	Off	192.168.4.0/24	-

Below the table, it says 'Select a VPC above'.

The screenshot shows the AWS EC2 Instances page. On the left, there's a navigation sidebar with 'EC2' selected. The main area displays a table titled 'Instances (1) Info'. A single row is shown for an instance named 'east-ec2' with the ID 'i-0f706bc496fdc7b54'. The instance is listed as 'Running' with a status check of '2/2 checks passed'. The table has columns for Name, Instance ID, Instance state, Instance type, and Status check.

The screenshot shows the 'Instance summary for i-0f706bc496fdc7b54 (east-ec2)' page. The left sidebar is identical to the previous screenshot. The main content area is titled 'Instance summary for i-0f706bc496fdc7b54 (east-ec2) Info'. It provides detailed information about the instance, including its public and private IP addresses, instance state, and various identifiers like VPC ID, Subnet ID, and Instance ARN. The page also includes sections for AWS Compute Optimizer finding and Auto Scaling Group name.

Displaying static webpage from EC2-public ip



Launch Templates (1) <a href="#">info</a>					
<a href="#">Actions ▾</a> <a href="#">Create launch template</a>					
<input type="text"/> <a href="#">Search</a>					
Launch Template ID	Launch Template Name	Default Version	Latest Version	Create Time	
<a href="#">lt-061a56018a3ffc963</a>	east-lt-2025070818582400320...	1	1	2025-07-08T18:58:24.000Z	

Security group EC2 and ALB

<input type="checkbox"/>	east-alb-sg	<a href="#">sg-05873723200494829</a>	east-alb-sg	<a href="#">vpc-0bcf16ca0d8f26dc8</a>
<input type="checkbox"/>	east-ec2-sg	<a href="#">sg-01f47eaa18a4e4c8b</a>	east-ec2-sg	<a href="#">vpc-0bcf16ca0d8f26dc8</a>

ASG – min,max and desired capacity = 1

Auto Scaling groups (1) <a href="#">Info</a>					
Last updated <a href="#">less than a minute ago</a>		<a href="#">Launch configurations</a>	<a href="#">Launch templates</a>	<a href="#">Actions</a> ▾	<a href="#">Create Auto Scaling group</a>
<input type="text"/> Search your Auto Scaling groups					
<input type="checkbox"/>	Name	Launch template/configuration	Instances	Status	Desired capacity
<input type="checkbox"/>	<a href="#">east-asg</a>	<a href="#">east-lt-20250708185824003200000002</a>	1	-	1

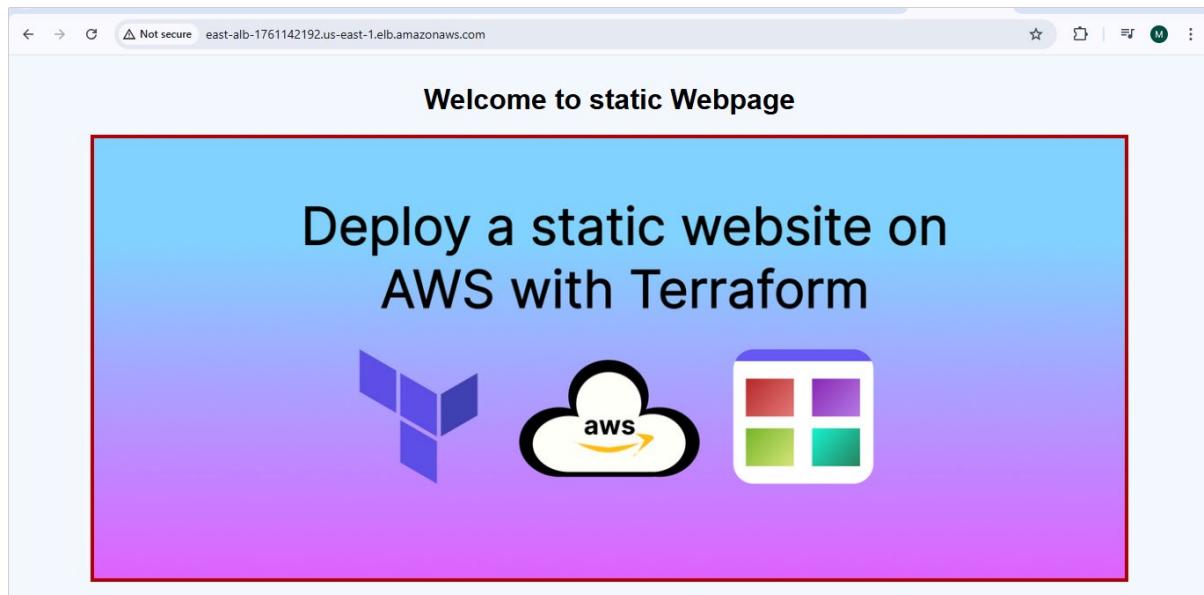
## Target group

Target groups (1) <a href="#">Info</a>					
<a href="#">Actions</a> ▾ <a href="#">Create target group</a>					
<input type="text"/> Filter target groups					
<input type="checkbox"/>	Name	ARN	Port	Protocol	Target t... Load balancer
<input type="checkbox"/>	<a href="#">east-tg</a>	<a href="#">arn:aws:elasticloadbalancin...</a>	80	HTTP	Instance east-alb

## Load Balancer

Load balancers (1)					
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.					
<a href="#">Actions</a> ▾ <a href="#">Create load balancer</a>					
<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones Type
<input type="checkbox"/>	<a href="#">east-alb</a>	<a href="#">east-alb-1761142192.us-ea...</a>	<span>Active</span>	vpc-0bcf16ca0d8f26dc8	2 Availability Zones appla

Static webpage from ALB – east region



Now check the west region ALB

Launch Templates (1) <a href="#">Info</a>					
<input type="checkbox"/> <a href="#">Search</a>		<a href="#">Actions</a>		<a href="#">Create launch template</a>	
<input type="checkbox"/>	Launch Template ID	Launch Template Name	Default Version	Latest Version	Create Time
<input type="checkbox"/>	<a href="#">lt-0b606641e042b99ef</a>	west-lt-202507081858255853...	1	1	2025-07-08T18:58:26.000Z

SG for EC2 and ALB

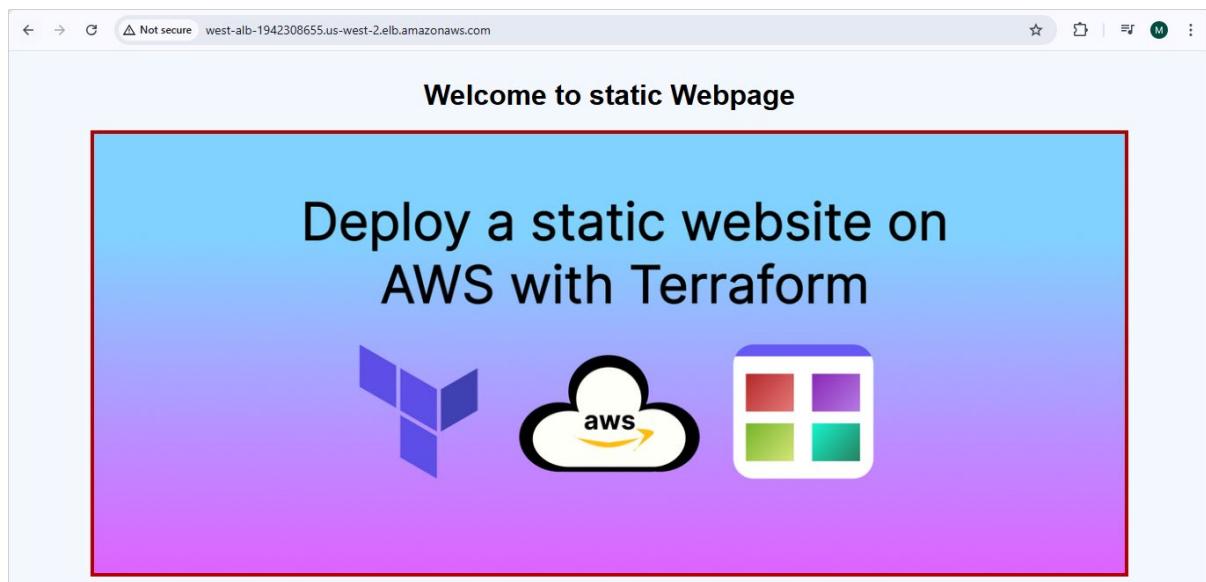
<input type="checkbox"/>	-	<a href="#">sg-0676d22b0da62cd2c</a>	default	<a href="#">vpc-0cde479dba28f0e36</a>
<input type="checkbox"/>	west-alb-sg	<a href="#">sg-072b7d2e6b722f70d</a>	west-alb-sg	<a href="#">vpc-004649a266b96b129</a>
<input type="checkbox"/>	west-ec2-sg	<a href="#">sg-0ec17b86ad7cc2370</a>	west-ec2-sg	<a href="#">vpc-004649a266b96b129</a>

Auto Scaling groups (1) <a href="#">Info</a>					
Last updated		<a href="#">Launch configurations</a>	<a href="#">Launch templates</a>	<a href="#">Actions</a>	<a href="#">Create Auto Scaling group</a>
<a href="#">Search your Auto Scaling groups</a>					
<input type="checkbox"/>	Name	Launch template/configuration	Instances	Status	Desired capacity
<input type="checkbox"/>	<a href="#">west-asg</a>	<a href="#">west-lt-20250708185825585300000002</a>	1	-	1

Target groups (1) <a href="#">Info</a>					
<a href="#">Actions</a> <a href="#">Create target group</a>					
<a href="#">Filter target groups</a>					
<input type="checkbox"/>	Name	ARN	Port	Protocol	Target type
<input type="checkbox"/>	<a href="#">west-tg</a>	<a href="#">arn:aws:elasticloadbalancing:us-west-2:1942308655:targetgroup/west-tg/53a2e0f3d43a4a20</a>	80	HTTP	Instance
					Load balancer
					<a href="#">west-alb</a>

## Load Balancer

Load balancers (1)					
Elastic Load Balancing scales your load balancer capacity automatically in response to changes in incoming traffic.					
<a href="#">Actions</a> <a href="#">Create load balancer</a>					
<input type="checkbox"/>	Name	DNS name	State	VPC ID	Availability Zones
<input type="checkbox"/>	<a href="#">west-alb</a>	<a href="#">west-alb-1942308655.us-west-2.elb.amazonaws.com</a>	<span>Active</span>	vpc-004649a266b96b129	2 Availability Zones
					application



Now check the RDS

Primary RDS

A screenshot of the AWS RDS console showing the "Databases" page. It lists one database named "east-db" which is available and primary. The left sidebar shows options like Dashboard, Databases, and Subnet groups.

AWS | Search [Alt+S] | United States (N. Virginia) | Mithra @ 3828-2859-3676 ▾

Aurora and RDS > Databases > east-db

## east-db

**Multi-AZ DB clusters now available**  
For Amazon RDS for MySQL and PostgreSQL workloads, you can now deploy Multi-AZ DB clusters. A Multi-AZ DB cluster includes a writer DB instance and two readable standby DB instances. When compared to Multi-AZ DB instance deployments, Multi-AZ DB cluster deployments improve transaction commit latencies (up to twice as fast), provide faster failover (typically under 35 seconds), and provide read scalability with two readable standby DB instances. [Learn more](#)

Summary	
DB identifier east-db	Status <span style="color: green;">Available</span>
CPU <div style="width: 5.78%;">5.78%</div>	Role Primary
Class db.t3.micro	Current activity <div style="width: 0%;">0 Connections</div>
Recommendations	Engine MySQL Community
	Region & AZ us-east-1d

Connectivity & security | Monitoring | Logs & events | Configuration | Zero-ETL integrations | Maintenance

## Connectivity & security

Endpoint & port	Networking	Security
<b>Endpoint</b> <a href="#">east-db.c8ls4qsi4evl.us-east-1.rds.amazonaws.com</a>	<b>Availability Zone</b> us-east-1d	<b>VPC security groups</b> <a href="#">db-east-sg (sg-0916a5a168551ec89)</a> <span style="color: green;">Active</span>
<b>Port</b> 3306	<b>VPC</b> <a href="#">east-vpc (vpc-01f47f8dbdd116382)</a> <b>Subnet group</b> east-db-sng <b>Subnets</b> <a href="#">subnet-061d6ce836b83f8d2</a> <a href="#">subnet-03f295590f57d3b23</a>  <b>Network type</b> IPv4	<b>Publicly accessible</b> No  <b>Certificate authority</b> <a href="#">Info</a> rds-ca-rsa2048-g1  <b>Certificate authority date</b> May 25, 2061, 19:34 (UTC-04:00)  <b>DB instance certificate expiration date</b> July 08, 2026, 11:56 (UTC-04:00)

## Subnet group

The screenshot shows the AWS Aurora and RDS Subnet groups page. On the left, there's a sidebar with options like Dashboard, Databases, Query editor, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engine versions, and Zero-ETL integrations. The main area is titled "Subnet groups (2)". It has a search bar and a table with columns: Name, Description, Status, and VPC. The first row is "default-vpc-031a9b3b1dcc0a13e" with a description of "Created from the RDS Management Console", status "Complete", and VPC "vpc-031a9b3b1dcc0a13e". The second row is "east-db-sng" with a description of "Managed by Terraform", status "Complete", and VPC "vpc-01f47f8dbdd116382". There are "Edit" and "Delete" buttons at the top right, and a "Create DB subnet group" button.

This screenshot shows the details for the "east-db-sng" subnet group. The left sidebar is identical to the previous one. The main area shows the ARN "arn:aws:rds:us-east-1:5828285959:db:subgrp:east-db-sng". It includes sections for "Supported network types" (IPv4), "Description" ("Managed by Terraform"), and "Subnets (2)". The "Subnets" table has columns: Availability zone, Subnet name, Subnet ID, and CIDR block. It lists "us-east-1d" with subnet "east-prisub-1" and ID "subnet-03f295590f57d3b23" (CIDR 10.0.192.0/18) and "us-east-1c" with subnet "east-prisub-0" and ID "subnet-061d6ce836b83f8d2" (CIDR 10.0.128.0/18). There's also a "Tags (0)" section with a "Manage tags" button.

West region – RDS Replica

Aura and RDS > Subnet groups

**Subnet groups (1)**

Name	Description	Status	VPC
<a href="#">west-db-sng</a>	Managed by Terraform	Complete	vpc-0bcebd778e3c3212f

[Create DB subnet group](#)

**Subnet groups**

- Parameter groups
- Option groups
- Custom engine versions
- Zero-ETL integrations [New](#)

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Aura and RDS > Databases

**Databases (1)**

DB identifier	Status	Role	Engine
<a href="#">west-db</a>	Available	Replica	MySQL Co...

[Create database](#)

**Databases**

- Query editor
- Performance insights
- Snapshots
- Exports in Amazon S3
- Automated backups
- Reserved instances
- Proxies

**Subnet groups**

- Parameter groups
- Option groups
- Custom engine versions
- Zero-ETL integrations [New](#)

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The screenshot shows the AWS Aurora and RDS console. The left sidebar is titled "Aurora and RDS" and includes links for Dashboard, Databases (selected), Query editor, Performance insights, Snapshots, Exports in Amazon S3, Automated backups, Reserved instances, Proxies, Subnet groups, Parameter groups, Option groups, Custom engine versions, Zero-ETL integrations (with a "New" link), CloudShell, and Feedback.

The main content area is titled "west-db". It has a "Summary" section with details: DB identifier (west-db), Status (Available), Role (Replica), Engine (MySQL Community), CPU (7.22%), Class (db.t3.micro), Current activity (0 Connections), and Region & AZ (us-west-2d). Below the summary is a navigation bar with tabs: Connectivity & security (selected), Monitoring, Logs & events, Configuration, Zero-ETL integrations, and Maintenance.

The "Connectivity & security" tab contains three sections: Endpoint & port, Networking, and Security. The Endpoint & port section shows the Endpoint (west-db.c7oc8o06kmnj.us-west-2.rds.amazonaws.com) and Port (3306). The Networking section shows the Availability Zone (us-west-2d). The Security section shows the VPC security groups (db-west-sg sg-0ee98761864709bb2).

At the bottom of the page are links for CloudShell, Feedback, Privacy, Terms, and Cookie preferences.

This screenshot is identical to the one above, showing the "Connectivity & security" tab of the "west-db" database details page. It displays the same information: Endpoint & port (Endpoint: west-db.c7oc8o06kmnj.us-west-2.rds.amazonaws.com, Port: 3306), Networking (Availability Zone: us-west-2d), and Security (VPC security groups: db-west-sg sg-0ee98761864709bb2, Active status).

Create Route53

Domain name - [www.mithraawscloud.online](http://www.mithraawscloud.online)

The screenshot shows the AWS Route 53 service interface. On the left, there's a navigation sidebar with sections like Dashboard, Hosted zones (which is selected), Health checks, Profiles, IP-based routing, Traffic flow, Domains, and Resolver. The main content area is titled "Hosted zones (1)". It displays a table with one row for the hosted zone "mithraawscloud.online". The columns in the table are Hosted zone name, Type, Created by, Record count, Description, and Hosted zone ID. The zone is Public, created by Route 53, has 4 records, and a description "this is my publ...". There are buttons for View details, Edit, Delete, and Create hosted zone.

This screenshot shows the same AWS Route 53 interface, but it's focused on the "Records (4)" tab for the "mithraawscloud.online" hosted zone. The table lists four records:

Record	Type	Routing	Differ...	Alias	Value/Route traffic to	TTL	Health
mithraaw...	NS	Simple	-	No	ns-1303.awsdns-34.org. ns-492.awsdns-61.com. ns-1831.awsdns-56.co.uk. ns-589.awsdns-09.net.	172800	-
mithraaw...	SOA	Simple	-	No	ns-1303.awsdns-34.org. aw...	900	-
www.mith...	A	Failover	Primary	Yes	dualstack.east-alb-17611421...	-	07abc...
www.mith...	A	Failover	Secondary	Yes	dualstack.west-alb-1942308...	-	-

Create health check for primary

> mithrahealthcheck

mithrahealthcheck [Info](#)

[Delete](#) [Invert](#) [Disable](#) [Edit](#)

### Configuration

ID <input checked="" type="checkbox"/> 07abc00d-4857-4950-932c-b752d5b58e3b	URL http://east-alb-1761142192.us-east-1.elb.amazonaws.com:80/	Specified endpoint by Domain name
State <span style="color: green;">Enabled</span>	Status <span style="color: green;">Healthy</span>	Inverted No

► Advanced configuration

[Metrics](#) [Alarms](#) [Health checkers](#) [Tags](#)

### Metrics [Info](#)

Alarm recommendations ?

[View metrics in CloudWatch](#) [CloudWatch Metrics]

3h 1d 1w [Calendar] Local timezone ▼ C ▼ Explore related ...

Primary routing policy linked with east region load balancer

<b>Value</b>
<input checked="" type="checkbox"/> dualstack.east-alb-1761142192.us-east-1.elb.amazonaws.com.
<b>Alias</b>
Yes
<b>TTL (seconds)</b>
-
<b>Routing policy</b>
Failover
<b>Failover record type</b>
Primary
<b>Health check ID</b>
<input checked="" type="checkbox"/> 07abc00d-4857-4950-932c-b752d5b58e3b
<b>Record Id</b>
1

Secondary routing policy linked with west region load balancer

**Record details**  

**Edit record**

Record name  
 www.mithraawscloud.online

Record type  
A

Value  
 dualstack.west-alb-1942308655.us-west-2.elb.amazonaws.com.

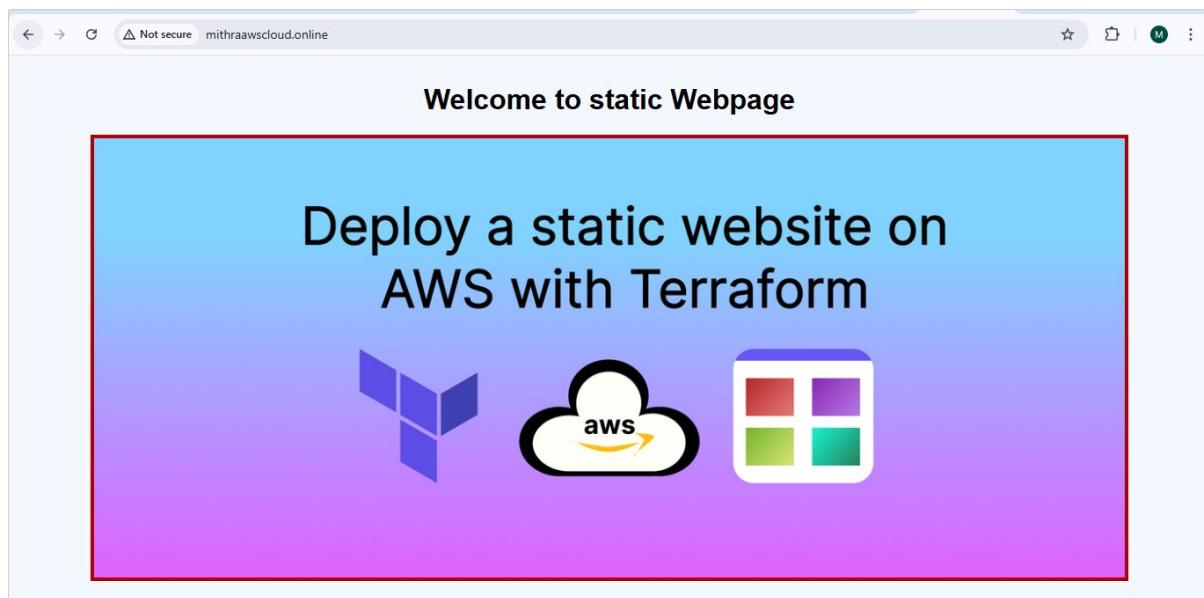
Alias  
Yes

TTL (seconds)  
-

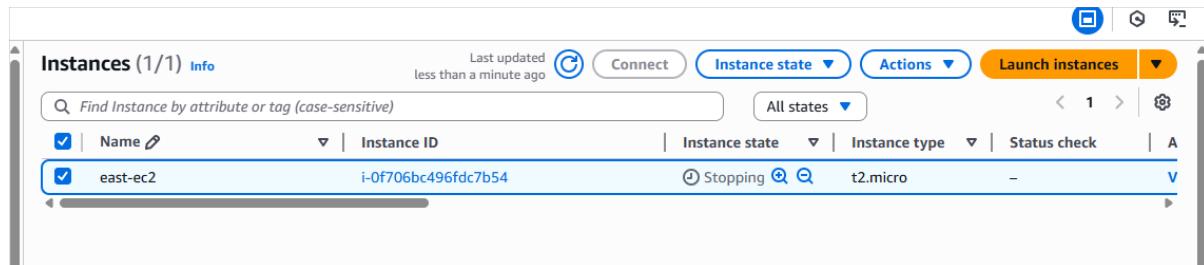
Routing policy  
Failover



Now check the domain name is working fine



Now manually test that by stopping instance in east region ec2 then the west region should able to work



Now the health check should be unhealthy and it should automatically redirect to secondary

The screenshot shows the AWS Route 53 Health checks interface. On the left, there's a navigation sidebar with options like Dashboard, Hosted zones, Health checks (selected), IP-based routing, Traffic flow, Domains, and Resolver. The main area is titled "Health checks (1) Info" and contains a table with one row. The table columns are ID, Name, Details, Status in last 24 hours, Current s..., Alarm, and Actions. The single entry is "07abc00d..." with "mithraheal..." as the name and "http://east..." as the details. The status is "Unhealthy" with a red icon, and the alarm status is "None". A "Create health check" button is at the top right.

## 6. Final Verifications:

Test it with: [www.mithraawscloud.online](http://www.mithraawscloud.online)

It Displays static webpage with secondary region after manually stopped the primary region instance

