# DEPLOY-DISASTER-RECOVERY-OF-WORKLOADS-ON-AWS-WARM-STANDBY

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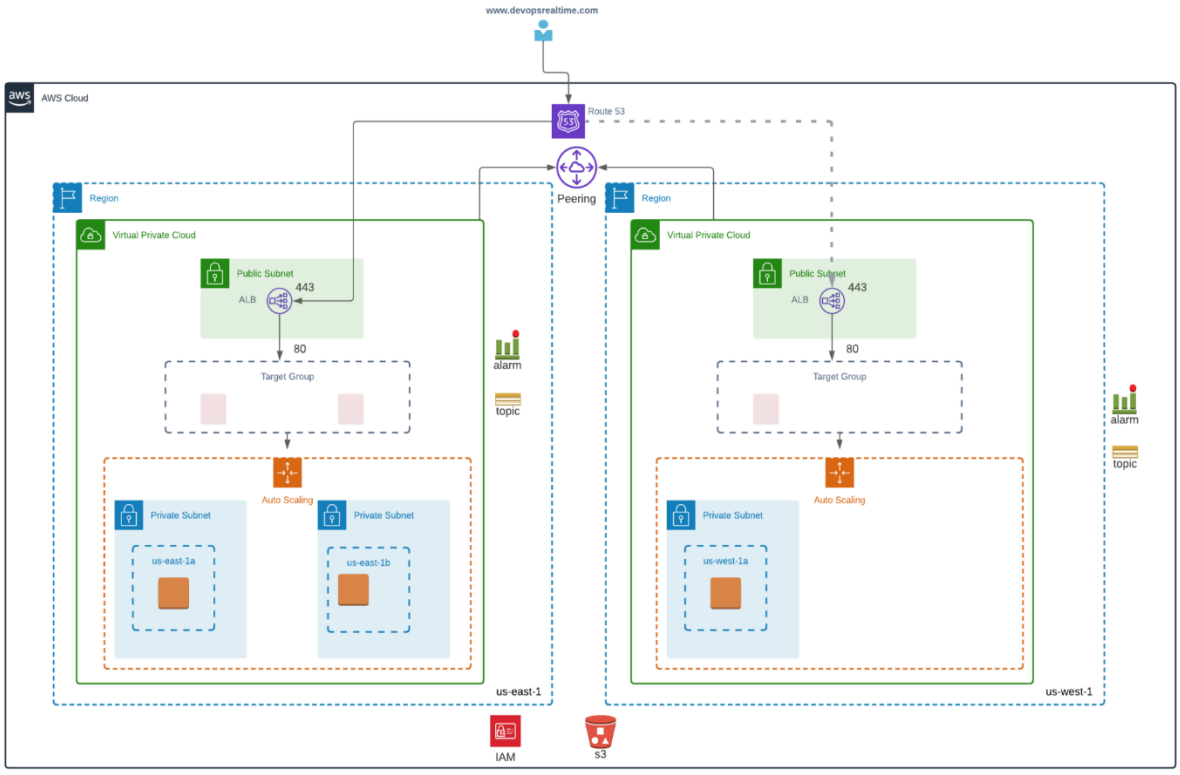
## Project

**Goal of this project is to deploy scalable, highly available and secured web application in AWS Multi-Region for Disaster Recovery solution on Cloud.**



## Pre-Requisites:

1. **Create S3 Bucket and PUT index.html file.**
2. **Register domain in Route 53**

## Deployment:

**Below are the high-level steps to implement the project.**

**us-east-1:**

1. **Create Golden AMI with all pre-requisites to setup a webserver.**
    1. **Install Apache Webserver**
2. **Copy Golden AMI to us-west-1 region**
3. **Create VPC**
    1. **CIDR: 172.32.0.0/16**
4. **Deploy Internet Facing Application Load balancer with below configuration**
    1. **Listening Port 443**
    2. **Associate SSL from ACM.**
5. **Deploy Launch Configuration and auto scaling group for Webserver.**
    1. **Min: 2**
    2. **Max: 4**
    3. **Associate Subnets from two AZs (us-east-1a & us-east-1b)**
    4. **Customize Launch Configuration user-data to automate the software provisioning for webserver.**
        1. **Download the index.html (Artifact) from S3 and deploy to root folder**
        2. **Start Apache Webserver**
    5. **Associate IAM Role with Session Manager and S3 Policies.**
6. **Associate Target Group to Auto Scaling Group.**
7. **Configure SNS notification on auto scaling Group event change.**
8. **Configure scaling policy to scale out when CPU utilization breaches the threshold 80% utilization.**

9. **Configure scaling policy to scale in when CPU utilization below the threshold 80% utilization.**

## us-west-1:

1. **Create VPC**
    1. **CIDR: 172.33.0.0/16**
2. **Create VPC Peering between the two VPCs in two Regions and update the route tables accordingly to have private communication between the VPCs.**
3. **Deploy Internet Facing Application Load balancer with below configuration**
    1. **Listening Port 443**
    2. **Associate SSL from ACM.**
4. **Deploy Launch Configuration and auto scaling group for Webserver.**
    1. **Min: 1**
    2. **Max: 3**
    3. **Associate Subnets from two AZs (us-west-1a & us-west-1b)**
    4. **Customize Launch Configuration user-data to automate the software provisioning for webserver.**
        1. **Download the index.html (Artifact) from S3 and deploy to root folder**
        2. **Start Apache Webserver**
    5. **Associate IAM Role with Session Manager and S3 Policies.**
    6. **Associate Golden AMI**
5. **Associate Target Group to Auto Scaling Group.**
6. **Configure SNS notification on auto scaling Group event change.**
7. **Configure scaling policy to scale out when CPU utilization breaches the threshold 80% utilization.**
8. **Configure scaling policy to scale in when CPU utilization below the threshold 80% utilization.**

## Global:

1. **Create Resource Record in Route 53 with "Failover routing policy"**
    1. **Primary Record pointing to ALB in us-east-1 region**

2. **Standby Record pointing to ALB in us-west-1 region**

## Verification:

**1.You may manually fail the resource to test the below scenario.**

**2.AZ Failures**

**3.Instance Failures**

**4.Region Failures**

**5.Apache Webserver Service Failures**