Cloud DevOps on AWS Platform – POC-1

**Create web application to achieve bellow objective.**

At the end of this POC, you will have created a web site using the following Cloud Services: EC2, EBS, ALB and S3 using **Terraform, Infrastructure as a code**.

You will have created an Elastic-Load-Balancer, two Linux server running Apache. Both the Apaches servers will have websites running on ports 80 (A total of 2 different web pages).

The Elastic-Load-Balancer will distribute traffic to the 2 Linux servers in a round-robin fashion. This means that requests to the Elastic-Load-Balancer on port 80 will be re-directed to the Apache servers listening on port 80.

**Stage 1: Building VPC private and public subnet**

* Create 2 private and 2 public subnets in different availability zones.
* Each subnet should have minimum required IPs to host at least 5 EC2 servers
* Private subnet should have NAT gateway configured for outbound internet connectivity.
* Route table configuration has to be implemented as per the best practice.

**Stage 2: Building the web servers.**

Launch 2 instances – Two Linux to meet the following objectives:

* The instances should be of type t2.micro or equivalent to the respective cloud.
* Web servers should not have public ip addresses attached and **All VPC subnet should be private only**.
* The 1st Linux instance should reside within region ap-southeast-1 within availability zone ap-southeast-1a & 2nd Linux instance should reside in availability zone ap-southeast-1b
* Each instances should use a 1 GiB attached EBS volume and contain valid partition tables with one partition. The partition should contain a valid file system
* The file system residing on the EBS volumes should be mounted automatically upon reboot of the instances.
* The instances should serve web pages via appropriate services such as Apache. These services should start automatically upon boot
* The instances should serve a web page “index.html” containing well-formed HTML displaying the text "Hello VF-Cloud World – running on Linux1 (Or Linux2) – on port 80. The HTML files should reside on the file system within the previously created EBS volume and be served as the default document from the web server root.
* The instance should use Security Groups effectively to allow administration and serve HTTP

**Stage 3: Configuring the Application Load Balancer**

Create an Load-Balancer (ALB) with the following specification:

* The ALB should be created in the Mumbai region.
* The ALB should accept connections on ports 80
* The Healthy Threshold for the ALB to be set to 2
* Deliver traffic to the instances created in Stage 1 – i.e. both the Linux servers will be registered to this Elastic Load Balancer. Requests on load balancer would be load balanced on the servers.