

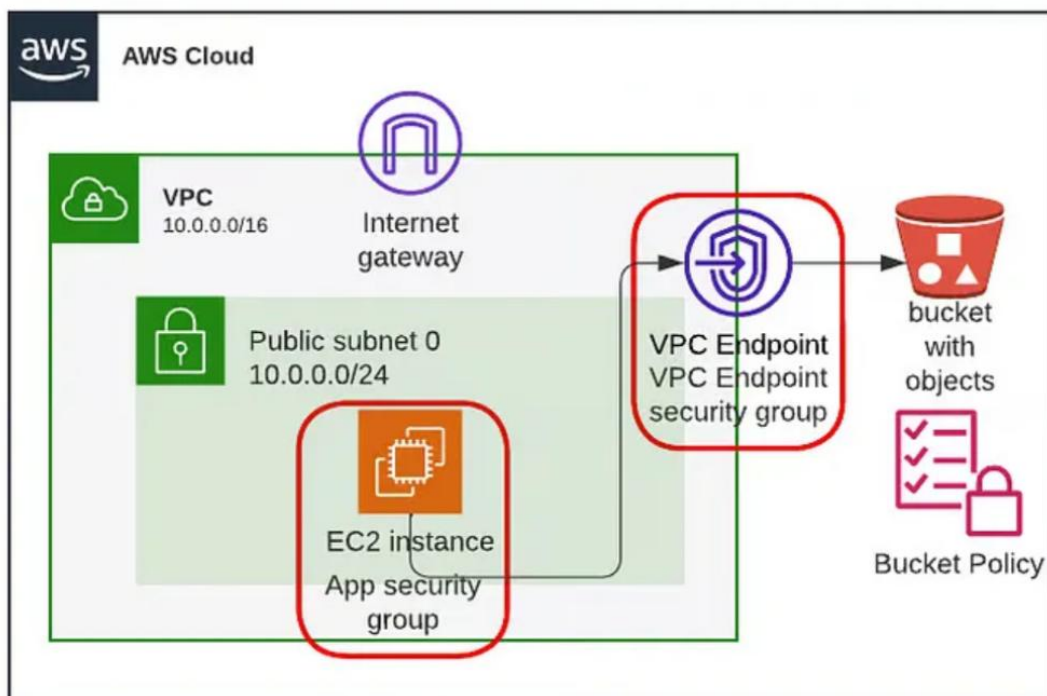
Load Balanced Web Server Deployment using AWS CloudFormation

Project Overview

Objective:

Design and deploy the given cloud infrastructure using AWS CloudFormation Template (CFT). Your goal is to:

- Create the VPC infrastructure shown in the diagram (with subnets, internet gateway, route tables, and an Application Load Balancer).
- Launch EC2 instances in the public subnets of two availability zones.
- Install Apache Web Server on both instances using UserData.
- Deploy a simple HTML page:
 - On Instance 1 (Public Subnet 1), display: "You are connected to Server 1".
 - On Instance 2 (Public Subnet 2), display: "You are connected to Server 2".
- Configure the ALB to route traffic to both instances. When a user accesses the ALB's DNS, they should see the HTML page served from one of the instances, identifying which server they are connected to.



Deliverables

- CloudFormation YAML or JSON template.
- Screenshot of the working ALB endpoint showing responses from both servers (load balanced).

Architecture Components

- VPC with CIDR block 10.0.0.0/16
- Subnets:
 - 10.0.1.0/24 (Public Subnet 1)
 - 10.0.3.0/24 (Public Subnet 2)
- Internet Gateway and Public Route Table
- Security Groups allowing HTTP (port 80)
- EC2 Instances in each public subnet with Apache installed via UserData
- Application Load Balancer (ALB) for routing
- Target Group & Listener attached to ALB

Instructions

1. Upload the CloudFormation template to the AWS Console.
2. Provide a valid EC2 key pair when launching the stack.
3. Wait for the stack to complete and navigate to the ALB DNS in the output.
4. Refresh the ALB DNS in a browser to see alternating responses from both instances.

Screenshots

- Screenshot of CloudFormation stack resources

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Stack info | Events | **Resources** | Outputs | Parameters | Template | Change sets | Git sync

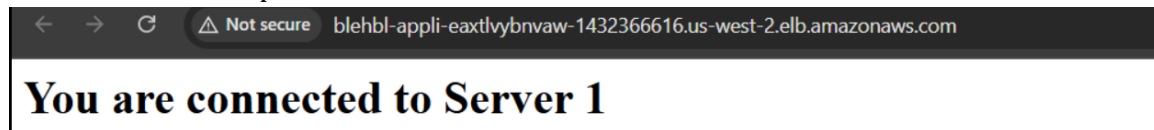
Stacks | Delete | Update stack | Stack actions | Create stack

Resources (16)

Q Search resources

Logical ID	Physical ID	Type	Status	Module
ALBListener	arn:aws:elasticloadbalancing:us-west-2:888577046522:listener/app/blehbl-appli-eaxtlybvnvaw/1432366616:2a4472da0a0c/785a119a-2a4456b1-f9	AWS::ElasticLoadBalancingV2::Listener	CREATE_COMPLETE	-
ALBSecurityGroup	sg-02cd4573156d4d57	AWS::EC2::SecurityGroup	CREATE_COMPLETE	-
ALBTargeGroup	arn:aws:elasticloadbalancing:us-west-2:888577046522:targetgroup/blehbl-ALB7a-1432366616/2d7967614f83f52814	AWS::ElasticLoadBalancingV2::TargetGroup	CREATE_COMPLETE	-
ApplicationLoadBalancer	arn:aws:elasticloadbalancing:us-west-2:888577046522:loadbalancer/app/blehbl-appli-eaxtlybvnvaw/1432366616:2a4472da0a0c	AWS::ElasticLoadBalancingV2::LoadBalancer	CREATE_COMPLETE	-
AttachGateway	IGWlpc-0e4080ff7a9a2c0	AWS::EC2::VPCGatewayAttachment	CREATE_COMPLETE	-
EC2Instance1	i-01a5596c0f8533548	AWS::EC2::Instance	CREATE_COMPLETE	-
EC2Instance2	i-09af314c72f83af65	AWS::EC2::Instance	CREATE_COMPLETE	-
InstanceSecurityGroup	sg-02903185e48629c3a	AWS::EC2::SecurityGroup	CREATE_COMPLETE	-
InternetGateway	lgw-0a43f82295acff1f1	AWS::EC2::InternetGateway	CREATE_COMPLETE	-
MyVPC	vpc-0e4080ff7a9a2c0	AWS::EC2::VPC	CREATE_COMPLETE	-
PublicRoute	rtb-03bad5d86eaffc320.0.0.0/0	AWS::EC2::Route	CREATE_COMPLETE	-
PublicRouteTable	rtb-03bad5d86eaffc32	AWS::EC2::RouteTable	CREATE_COMPLETE	-
PublicSubnet1	subnet-087f1f048aaf53065	AWS::EC2::Subnet	CREATE_COMPLETE	-
PublicSubnet2	subnet-0a90e6a2f5e883a51	AWS::EC2::Subnet	CREATE_COMPLETE	-
SubnetRouteTableAssociation1	rtbasoc-0753a09c158f934b	AWS::EC2::SubnetRouteTableAssociation	CREATE_COMPLETE	-
SubnetRouteTableAssociation2	rtbasoc-080b95d170f711360	AWS::EC2::SubnetRouteTableAssociation	CREATE_COMPLETE	-

- Server 1 HTML response



- Server 2 HTML response

