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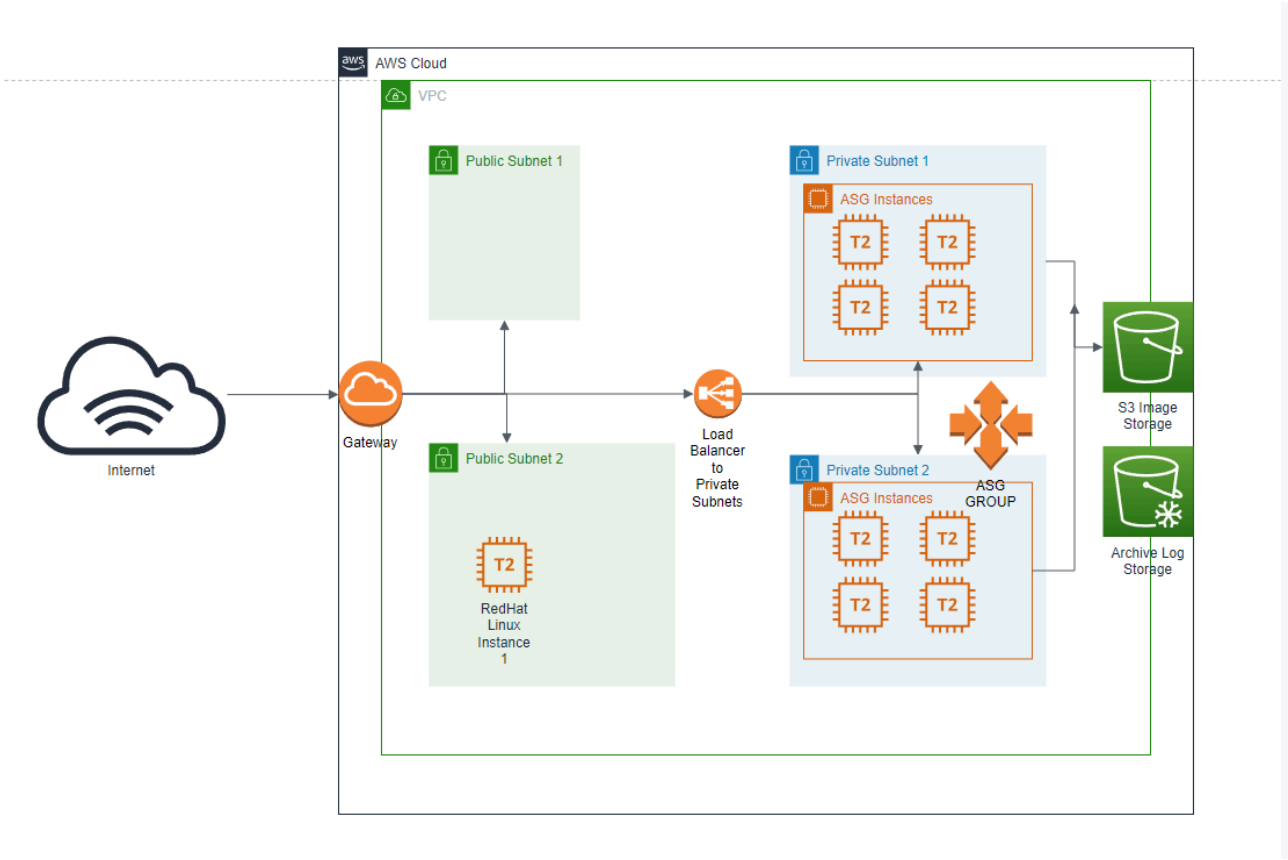
Overview

This documentation provides an overview of the AWS infrastructure managed by Terraform configurations in the **`Martino-CF`** repository.

Coalfire AWS Config

The accompanying terraform configuration will create the network configuration and resources shown below.



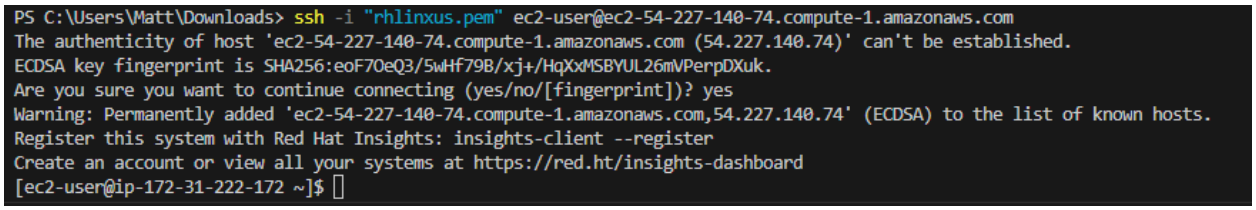
1. Architecture Overview

The AWS architecture consists of:

- Virtual Private Cloud (VPC) for network isolation.
- 2 Public and 2 private subnets for resource segregation.
- An ASG Group for Red Hat Linux instances
- S3 buckets for object storage.
- Elastic Load Balancer for traffic management between private subnets
- Security groups, IAM roles, and policies for security management.

2. Infrastructure Components

- Networking (VPC, Subnets)
    a. The infrastructure utilizes a VPC with public and private subnets across multiple Availability Zones (AZs) for high availability and fault tolerance.
- Compute (EC2 Instances, Auto Scaling)
    a. EC2 instances are provisioned within private subnets, managed by Auto Scaling Groups (ASGs) for scalability and resilience.



- Storage (S3 Buckets)
    a. S3 buckets are utilized for storing static assets, backups, or other data required by the application.
- Security (Security Groups, IAM Roles)
    a. Security Groups are used to control inbound and outbound traffic to EC2 instances and other resources. IAM roles and policies manage permissions for services and users interacting with AWS resources.

3. Module Structure

We use modules in terraform to organize related resources into reusable components. Modules enhance deployment reliability and efficiency when managing cloud infrastructure in Terraform.

Root Module (martino_cf/)

├── main.tf

├── variables.tf

├── outputs.tf

├── networking/

├── main.tf

├── variables.tf

├── outputs.tf

└── security_groups/

```
        ├── main.tf
        ├── variables.tf
        ├── outputs.tf
    ├── compute/
        ├── main.tf
        ├── variables.tf
        ├── outputs.tf
    ├── load_balancer/
        ├──main.tf
        ├── variables.tf
        └── outputs.tf
    ├── storage/
        ├── main.tf
        ├── variables.tf
        ├── outputs.tf
    ├── security_groups/
        ├── security_groups.tf
        ├── variables.tf
        └── outputs.tf
```

Resources:

https://github.com/orgs/Coalfire-CF/repositories?type=public&q=terraform-aws

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/security_group

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/vpc

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/ami

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/lb

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/lb_listener

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/resources/s3_bucket

https://registry.terraform.io/providers/hashicorp/aws/latest/docs/data-sources/autoscaling_group