

Instructions for AWS integration in Terraform code using S3 bucket for backend state file storage and monitoring using CloudWatch.

Configuring S3 Bucket for Terraform Backend

- Log into your AWS account through the AWS Management Console.
- Navigate to the Amazon S3 service via the AWS Console.

Create S3 Bucket:

- Initiate the creation of a new S3 bucket.
- Assign the bucket name as "finalprojectbucket".
- Set the AWS Region to us-east-1.
- Enable Bucket Versioning to maintain historical versions of your objects.
- Modify the bucket's access settings by unchecking Block all public access.

Organize Terraform Backend

Update Terraform Configuration:

Edit your main.tf Terraform configuration file to include the S3 backend definition:

```
terraform {  
  backend "s3" {  
    bucket     = "finalprojectbucket"  
    key        = "terraform.tfstate"  
    region     = "us-east-1"  
  }  
}
```

Implement CloudWatch and SNS Modules

Develop CloudWatch Monitoring Module:

- Create a Terraform module to configure AWS CloudWatch for monitoring the CPU utilization of the EC2 instances.
- Set an alarm threshold at or above 80% CPU utilization.
- Define the evaluation period to occur twice before triggering an alert.

Integrate SNS for Alerting:

- Associate the CloudWatch module with an SNS (Simple Notification Service) module.
- This SNS module should create a topic, which will be utilized for alert notifications.