TERRAFORM

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What is terraform?

- Terraform is an Infrastructure as Code (IaC) which means it manages your IT infrastructure using configuration files.

- Terraform is a tool for building, changing and versioning infrastructure safely and efficiently.

- The main purpose of the terraform language is declaring resources, which represent infrastructure objects.

Providers

- In Terraform, providers are responsible for managing the interaction between Terraform and the underlying infrastructure or service providers.

- Providers can represent cloud service providers (e.g., AWS, Azure, Google Cloud Platform), infrastructure providers (e.g., VMware, OpenStack), or other services (e.g., GitHub, Docker).

- In this project we have used AWS cloud service provider.

- provider "aws" {

-     region = "us-west-2" # Specify your desired region

-     access_key = "your-access-key"

-     secret_key = "your-secret-key" # Additional provider settings, if required }

Syntax of terraform

- resource "aws_vpc" "my-vpc"

- {

- cidr_block = "10.0.0.0/16"

-   }

- Block type - resource

- Block label 1 - aws_vpc

- Block label 2 - user defined   name(main/web)

- Identifier - ami,instance_type, cidr_block, etc,

- Expression- cidr_block etc

TERRAFORM FLOW

TERRAFORM WORK FLOW

- Write
- Plan
- Apply

TERRAFORM EXECUTION FLOW

- Terraform version
- Terraform init
- Terraform fmt
- Terraform validate
- Terraform plan
- Terraform apply
- Terraform show
- Terraform refresh
- Terraform destroy

Automation

- All the tasks that have been done manually in the terraform here we use jenkins and automate all the manual tasks.

- To use Jenkins, you typically set up a Jenkins server, configure jobs or pipelines, define build steps, and manage plugins.

THANK YOU