**Terraform**

**Infrastuare as a Code**

**What?**

A fundamental principle of DevOps is to treat infrastructure the same way developers treat code. Application code has defined formal and syntax. if the code is not written according to the rules of programming language application cannot be created .code is stored in a version management or source control system that logs a history of code development, changes ,and bug fixes. When code is compiled or build into application ,we expect a consistent application to be created and the build is repeatable and reliable

Ex.Terraform,chef,puppet,Ansible.

Benefits:

Configure consistency:reduce possibility of error.

Code reduction

Speed

Stable and scalable enviroments

Reduced risk:reduce risk associated with human error.like manual misconfiguration.

Test:test application in development lifecycle.

Accountability

Enhance security:if all compute storage,and networking service are provisioned with code ,then they are deploye the same way every time .

What is terraform?

Terraform is an infrastructure as code(Iac) tool that allows you to build.change,and version infrastructure safely and efficiently,this includes low-levels component such as DNS entries.Saas Features .Terraform can manage both existing service providers and custom in-house solutions.

Terraform has become one of the most popular Infrastucture as code tool getting used by Devops team worldwide to automate infra provisioning and management.

Terraform is an open-source cloud agnostic provisioning tool developed by hashicorp by Hashicorp and written in GO language.

**Features:**

**1)Improve multi-cloud infrastructure deployement**

Terraform applies to multi cloud scenarios where similar infrastructure is deployed on Alibaba cloud other cloud providers or local data centers developers can use the same tool and configuration file to simultaneously manage the resouces of different cloud providers.

2)Automated infrasture management

Terraform cancreate configuration file template to defiles,provision and configures ECS resourse in a predictable manner,reducing development and management error resulting form human invention.terraform can deploye the same template times to create the same development test and production environment.

3)Infrastucture as code

With terraform you can use code to manage and maintain resource. It allows you to stoare the infrastructure status,so that you can track the changes in different component of the system (infracture as code) and share the configuration to others.

Reduced development costs

You can reduce costs

Reduse costs by createing on demand development and deployement lifecycle