INTRODUCTION TO TERRAFORM

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Agenda

01

What is Terraform ?

Terraform is an open-source Infrastructure as Code (IaC) tool created by HashiCorp

02

Why IAC ?

IaC allows you to manage and provision infrastructure using code.

03

Key features of Terraform

Deatils about some important features.

04

Terraform Providers

Terraform Providers are responsible for interacting with APIs and exposing resources for a particular platform (e.g., AWS, Azure, GCP).

05

Terraform Workflow

The Terraform workflow consists of several key steps that users typically follow when working with Terraform to manage infrastructure resources.

06

Getting Started: A Simple Example

Basic sample explainng the syntax and structure.

What is Terraform ?

Language ??

New Cloud Provider ??

FRamework ??

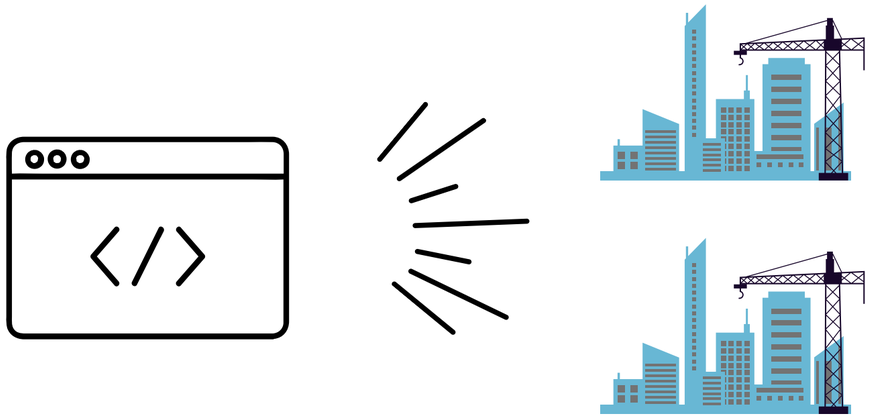
Terraform a Tool

Terraform is an infrastructure as code software tool. While Terraform does have its own syntax and configuration language for defining infrastructure, it primarily functions as a tool for managing and provisioning infrastructure resources across various cloud providers and services.

Terraform creates and manages resources on cloud platforms and other services through their application programming interfaces (APIs). Providers enable Terraform to work with virtually any platform or service with an accessible API.

It is an open-source tool uses its own declarative language called HashiCorp Configuration Language (HCL).

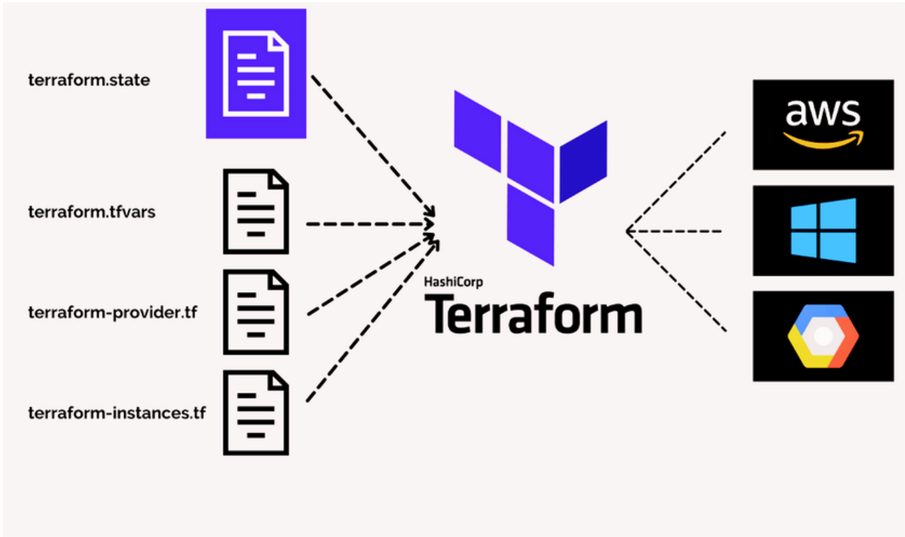
Why IaC ?



- Consistency
- Efficiency & Automation
- Scalability & Agility
- Version Control & Change Mgmt
- Collaboration & Document

Terraform Features

- Cloud Provider Agnostic
- Easy integration with tools
- Parallel Environment Setup in a go



- Declarative Programming
- Enables Immutability
- Open-Source

- Most Popular

Terraform Providers

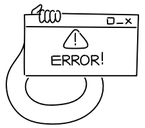
Terraform provider acts as an interface between Terraform and the APIs of various infrastructure platforms, Saas-Service, allowing Terraform to create, update, and delete resources within those platforms.

Resource Management

State Management

CRUD Operations

What do I do ?



Error Handling and Reporting

Version Compatibility

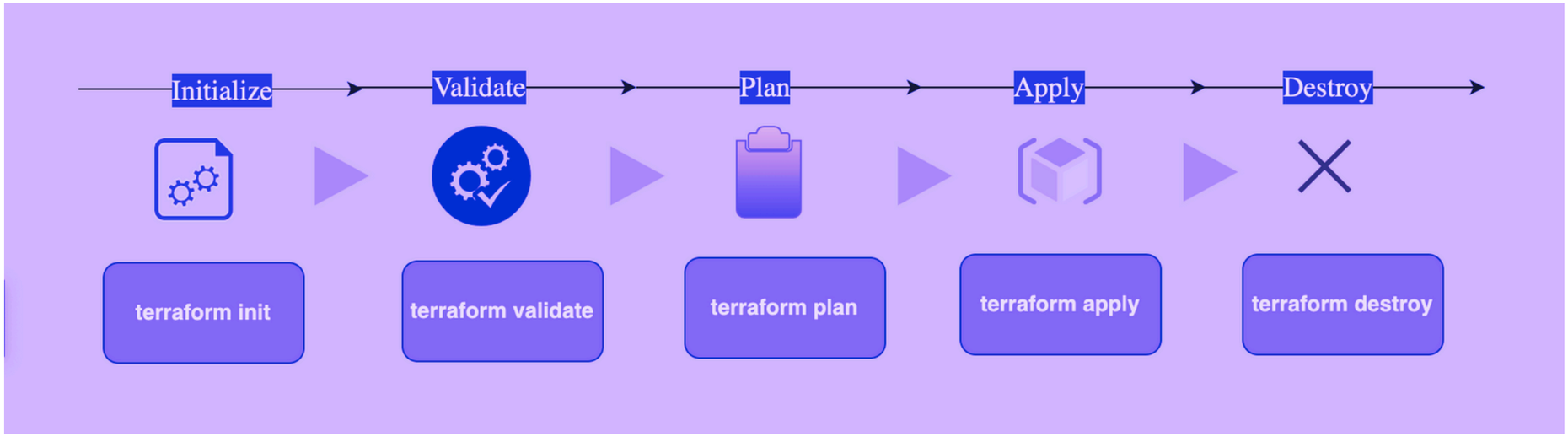
Terraform Providers

Some “Famous” terraform providers

Link to the Terraform Providers

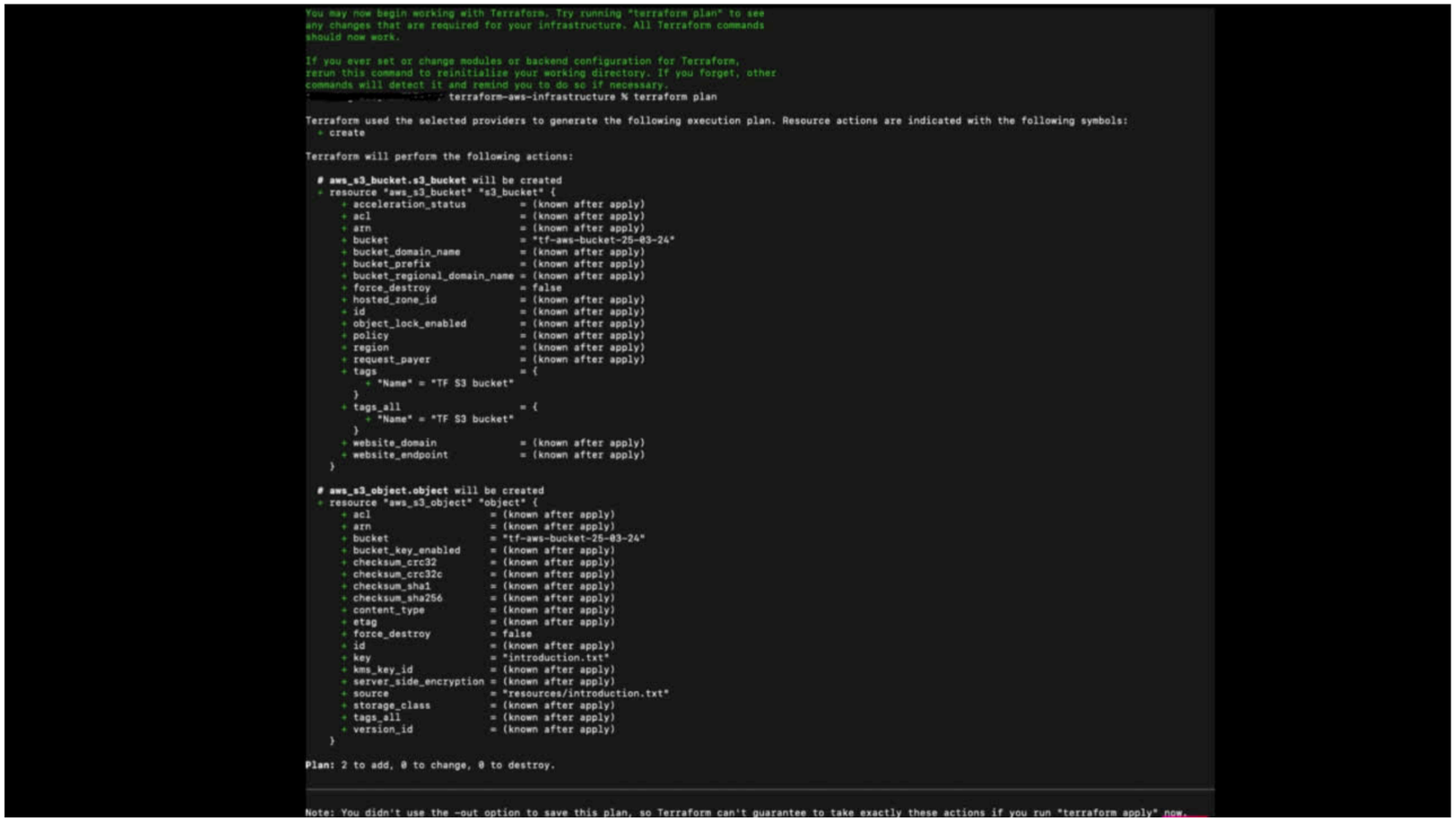
Terraform Workflow

To provision infrastructure using terraform, you need to follow 5 core commands known as “Terraform Workflow”
And they are !!!



Demo

In this demo, Will use the AWS provider to provision a S3 bucket and place a file in the bucket via Terraform



References

- https://www.terraform.io/
- https://www.terraform-best-practices.com/

Source Code

- https://github.com/goelsonali/terraform-aws-infrastructure

THANK YOU