**What is terraform?**

Terraform is HCL.(hashicorp language )

Terraform is an infrastructure as code tool that allows you to build, change and version infrastructure safely & efficiently.

**Terraform providers:**

Terraform relies on plugins called providers to interact with cloud providers ,saas providers & other API’s.

**Terraform Resources:**

Resources are most important element in the terraform language. Each resources block describes one or more infrastructure object.

Such as VN, compute instances or higher-level component such as DNS records.

**Terraform Variables:**

Using variables in terraform configuration makes our deployment more dynamic.

A separate file with name “variables.tf” needs to be created in the working directory to store all variables for our used in main.tf configuration file.

**Terraform state file.**

After the deployment is completed terraform create the state file to keep track of current state of the infrastructure.

It will use this file to compare when you deploy/destroy resources in other words it compares “current state” with “ desired state “ using this file.

A file with name of terraform.tfstate will be created in your working directory.

**Terraform Backend**

Terraform backend is centralized storage like store the state file into one remote location. Like azure storage locations & aws storage location.

**Terraform Data sources:**

Use this data source to access information about an existing resources group.

**Terraform Local**

Local variables is variables which is initialized with in the code. we can’t pass values from outsides.

We use local variables specific times. whenever you have long expression in code.

**Terraform Module**

Terraform modules is set of terraform configuration files in single directory. Even a simple configuration consists of single directory with one or more .tf files is module.

When you run terraform commands directly from such a directory, it is considered the root module.

Whenever deploy the multiple environments at time you can use terraform modules.

**Terraform Workspaces**

Terraform workspaces is logical portion and specific environment deployment. To manage multiple state files .

Suppose if I want to create the separate environment state file you can use terraform workspace.

Terraform workspace list – to list of workspaces.

terraform workspace new dev – create the workspace.

terraform workspace select – to switch workspace one to another.

terraform workspace show – to display the workspace

**Terraform Import**

Suppose if create the resources in through portal or any other way. terraform state file don’t know about the that resource for current state again create the resources.

Import command through create the existing resources in terraform state file.

Terraform commands:

Terraform init – initialized the terraform code.

Terraform plan – before creating the plan for resources.

Terraform validate – validate the code before creating the resources.

Terraform apply – create the resources.

Terraform destroy – delete the resources.