08-Terraform configuration Files

- Code in the Terraform language is stored in plain text files with the `.tf` file extension.
- We can call the files containing terraform code as Terraform Configuration Files or Terraform Manifests

Terraform Main files

- variables.tf
- provider or version.tf
- main.tf
  - vpc.tf
  - sg.tf,
  - ec2.tf,
  - eks.tf
  - database.tf
- terraform.tfvars
- outputs.tf
- .tfvars
  - vpc.tfvars
  - ec2.tfvars
  - db.tfvars
  - eks.tfvars
- .auto.tfvars
  - vpc.auto.tfvars
  - ec2.auto.tfvars
  - db.auto.tfvars
  - eks.auto.tfvars

terraform.tfvars – It is used to define any value that was declared in `variables.tf` or overwrite any value that was declared in `variables.tf.` The terraform.tfvars will auto-load whenever we run Terraform apply to replace all values that were defined in `variables.tf` file

main.tf – Its main file of your Module. However, you can create more files in your project, and the other files can be called any name different than the main.tf. For example, I like to create files for each kind of resource. To store a configuration for one EC2 instance, I would make a new file, webserver.tf, and define all code there.

variables.tf – On this file, the main goal is to define all variables needed for a module. The variables should be configured as arguments in the module block when others utilize our Module. Since all Terraform values must be specified, any variables that don't have a default value will become required arguments. An error will happen in the **"plan" phase if not set.**

We can override the default values from the variables, providing module arguments. We use other files to define the values of the variables, usually by ***.tfvars** extension (`terraform.tfvars:` will be loaded automatically)

Other files that end will ***.tfvars** and that are not `terraform.tfvars` will not be loaded automatically when you run terraform apply and you need to specify that file through the CLI using --var-file option

example: `terraform apply --var-file=vpc.tfvars`

Files that end with **.auto.tfvars** with automatically get loaded when we run `terraform apply` same as `terraform.tfvars` . We will not specify --var-file through the CLI while running `terraform apply`

PS: this is useful if you do not want to put all your resource variables values in `terraform.tfvars` and you want each resource to have its own `.tfvars`

output.tf – This file contains all definitions of all output for the Module. Without those outputs, the modules wouldn't be possible or exist because it's the only approach we can have to do one Module to communicate to other parts of your infrastructure modules.