# Passing Variables in Terraform Modules – Best Practices

## Introduction

In Terraform, modules are reusable containers for multiple resources that are used together. When using modules, passing variables effectively ensures flexibility, maintainability, and reusability of your infrastructure code.

## What are Module Variables?

Module variables are input parameters that allow customization of a module's behavior without changing its internal logic. They are defined in the module using the 'variable' block and passed from the root module when the module is called.

## Best Practices for Passing Variables

* • Use descriptive variable names that reflect their purpose.
* • Always provide a default value where applicable to make the module reusable.
* • Use types (string, number, list, map, object) for validation and clarity.
* • Group variables logically for readability (networking, compute, storage, etc.).
* • Document variables using descriptions to clarify their purpose.

## Variable Declaration in Modules

Inside modules/vpc/variables.tf:

variable "vpc\_name" {  
 description = "Name of the VPC"  
 type = string  
}  
  
variable "mtu" {  
 description = "MTU size for the VPC"  
 type = number  
 default = 1460  
}

## Calling the Module from Root Module

Inside main.tf (root module):

module "vpc" {  
 source = "./modules/vpc"  
 vpc\_name = var.vpc\_name  
 mtu = var.mtu  
 region = var.region  
 subnet\_name = var.subnet\_name  
 subnet\_cidr = var.subnet\_cidr  
 subnet\_zone = var.subnet\_zone  
}

## Setting Variable Values Using terraform.tfvars

Inside terraform.tfvars:

vpc\_name = "clahan-vpc"  
mtu = 1460  
region = "asia-south1"  
subnet\_name = "clahan-subnet-1"  
subnet\_cidr = "10.0.1.0/24"  
subnet\_zone = "asia-south1-a"

## Summary

Passing variables into Terraform modules helps standardize and simplify infrastructure deployments. Following best practices such as using clear variable names, defaults, types, and documentation ensures that your modules are robust, reusable, and easy to manage.