

```

Root Module Directory
├─ main.tf
├─ variables.tf
├─ outputs.tf
├─ provider.tf
└─ terraform.tfvars

```

```

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├─ main.tf
├─ variables.tf
├─ outputs.tf
├─ provider.tf
└─ terraform.tfvars
├─ modules
└─ child-1_module
    ├── main.tf
    ├── variables.tf
    └─ outputs.tf

```

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├─ main.tf
├─ variables.tf
├─ outputs.tf
├─ provider.tf
└─ terraform.tfvars
├─ modules
└─ child-1_module
    ├── main.tf
    ├── variables.tf
    └─ outputs.tf
└─ child-2_module
    ├── main.tf
    ├── variables.tf
    └─ outputs.tf

```

```

Root Module Directory
├─ main.tf
├─ variables.tf
├─ outputs.tf
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└─ terraform.tfvars
├─ modules
└─ child-1_module
    ├── main.tf
    ├── variables.tf
    └─ outputs.tf
└─ modules
    └─ child-1-1_module
        ├── main.tf
        ├── variables.tf
        └─ outputs.tf
└─ child-2_module
    ├── main.tf
    ├── variables.tf
    └─ outputs.tf

```

Block	Root	Child-1	Child-2	Child-1-1
Resource Block	root-res-<name>	C1-res-<name>	C2-res-<name>	C11-res-<name>
Module Block	root-mod-<name>	C1-mod-<name>	C2-mod-<name>	C11-mod-<name>
variable	root-var-<name>	C1-var-<name>	C2-var-<name>	C11-var-<name>
output	root-out-<name>	C1-out-<name>	C2-out-<name>	C11-out-<name>

## Terraform – Without Module

```
terraform.tfvars x
TF_Venki > Module > lab1 > terraform.tfvars > root_var_ami
1 root_var_ami = "ami-0e534f3e5321ed9ed"
```

```
variable.tf u x
TF_Venki > Module > lab1 > variable.tf > ...
1 # Root Module - variables.tf
2
3 variable "root_var_ami" {
4     description = "AMI ID for the EC2 instance"
5     type        = string
6 }
7
```

```
main.tf u x
TF_Venki > Module > lab1 > main.tf > ...
1 # Root Module - main.tf
2
3 resource "aws_instance" "root_res_ec2" {
4     ami           = var.root_var_ami
5     instance_type = "t2.micro"
6 }
7
```

```
output.tf u x
TF_Venki > Module > lab1 > output.tf > output "root_out_publicip" > value
1
2 output "root_out_publicip" {
3     description = "Public IP address of the EC2 instance"
4     value       = aws_instance.root_res_ec2.public_ip
5 }
6
```

## Terraform – With Module

Child

```
variable.tf U X
TF_Venki > Module > lab2 > modules > ec2 > variable.tf > ...
1 # Root Module - variables.tf
2
3 variable "c1_var_ami" {
4   description = "AMI ID for the EC2 instance"
5   type       = string
6 }
```

Child

```
main.tf U X
TF_Venki > Module > lab2 > modules > ec2 > main.tf > ...
1 resource "aws_instance" "c1_res_ec2" {
2   ami           = var.c1_var_ami
3   instance_type = "t2.micro"
4 }
5
```

Child

```
output.tf U X
TF_Venki > Module > lab2 > modules > ec2 > output.tf > ...
1 output "c1_out_publicip" {
2   description = "output variable public ip"
3   value       = aws_instance.c1_res_ec2.public_ip
4 }
```

Parent

```
terraform.tfvars X
TF_Venki > Module > lab1 > terraform.tfvars > root_var_ami
1 root_var_ami = "ami-0e534f3e5321ed9ed"
```

Parent

```
variable.tf U X
TF_Venki > Module > lab1 > variable.tf > ...
1 # Root Module - variables.tf
2
3 variable "root_var_ami" {
4   description = "AMI ID for the EC2 instance"
5   type       = string
6 }
7
```

Parent

```
main.tf U X
TF_Venki > Module > lab2 > main.tf > module "root_mod_ec2"
# Root Module - main.tf

module "root_mod_ec2" {
  source = "../modules/ec2"

  c1_var_ami = var.root_var_ami
}
```

Parent

```
output.tf U X
TF_Venki > Module > lab2 > output.tf > output "root_out_publicip"
1 output "root_out_publicip" {
2   description = "output variable public ip"
3   value       = module.root_mod_ec2.c1_out_publicip
4 }
```

1. TF Vars
2. Providers
  - File
  - Remote
3. Data source
4. Module (s)

