

CH04 Terraform Practices

- Believe Everyone Have Learned How to Leverage Terraform to Manage AWS Resource**
- Now We Will Introduce How Develop Module and Make Your Terraform More Professional**

Outline

- What is Terragrunt?
- Modulize Everything
- Exercise, Exercise, Exercise

What You Need In A Terraform Folder At Least Before?

```
Frontend/
├── Makefile           (Terraform Related Tasks)
├── env                (Variable from environment variable)
├── asg.tf             (Define Cloud Provider Resources)
├── lb.tf              (Define Cloud Provider Resources)
├── operations         (Some Helper Shell Script for Make)
├── terraform.tfvars   (Some Predefined Variable Value)
└── variables.tf       (Variable Definition)
```

After Using Terraform a Long Time...

- Have Multiple AWS Accounts
- Deploy Service Within Multiple Regions
- Trust Me, The Terraform Repository Will Become Mess
- And Need to Takes Time to Maintain Makefile and Helper Scripts

What is Terragrunt?

- Terragrunt is a Thin Wrapper for Terraform
- Provides Extra Tools for Keeping Your Terraform Configurations DRY
- Working with Multiple Terraform Modules, and Managing Remote State

What is Terragrunt?

It's A Tool to Save Your Time, Force You to Produce Clean Code

What It Looks Like After Using Terragrunt

```
examples/  
├── account_a  
│   ├── ap-northeast-1  
│   │   ├── dev  
│   │   │   ├── env.tfvars  
│   │   │   ├── frontend  
│   │   │   │   └── terraform.tfvars  
│   │   │   └── terraform.tfvars  
│   └── us-west-2  
│       ├── dev  
│       │   ├── env.tfvars  
│       │   ├── frontend  
│       │   │   └── terraform.tfvars  
│       │   └── terraform.tfvars  
└── modules  
    └── frontend
```

Exercise I

Try to Create A Fountend Server Group in Tokyo...

```
~$ cd ch04/examples/account_a/ap-northeast-1/dev/frontend  
~$ terragrunt init  
~$ terragrunt apply
```


Exercise II

If I Want to Achieve The Same Thing in Oregon...

```
~$ cd ch04/examples/account_a/us-west-2/dev/frontend  
~$ terragrunt init  
~$ terragrunt apply
```

What You Have Done Just Now?

- Create Two Frontend Server Group in Two Different Region
- And Without Write Any New Code
- Let Us Go Through What Terragrunt Do!

```
~$ cd ch04/examples/account_a/us-west-2/dev
```

***.tfvars**

- Only Two tfvars File Create Everything
- In Folder dev Define Remote State Backend, Enviornment Variable
- In Folder frontend Define Module Source, and The Variable Pass to Module frontend

Hence

Not Finish Yet...

We Have Not Understood Module Frontend Yet...

```
modules/  
└─ frontend  
    └─ asg.tf  
    └─ lb.tf  
    └─ main.tf  
    └─ outputs.tf  
    └─ variables.tf
```

If You Want to Create Something Afterward, Just ...

- 1. Developpe Module**
- 2. Create Folder and *.tfvars Files**
- 3. Execute terragrunt !**