Terraform

Terraform: Provision Software

Terraform : Deployment Automation

- There are 2 ways to Provision Software on your Instance.
- **Build Custom AMI**:
  - Bundle your softwares and Files in Base Image.
  - **Packer** is Tool to Bundle the Custom AMIs.
- Boot Standard AMIs and Install Software on Instance at Runtime.
  - Using File Upload.
  - Using Remote-exec
  - Using tools like Chef, Puppet & Ansible.

Terraform : Deployment Automation

- **Chef** is Integrated with Terraform.
- User Can Run **Puppet** using Remote-Exec
- For Ansible, First Run Terraform, Get the **Host IP** address and then execute Ansible Playbook on Host.

Terraform : Deployment Automation

- **File Upload on Instance -**

```
 resource "aws_instance" "MyFirstInstnace" {
 ami           = lookup(var.AMIS, var.AWS_REGION)
instance_type = "t2.micro"

tags = {
  Name = "demoinstnce"
}

provisioner "file" {
    source = "installNginx.sh"
    destination = "/etc/installNginx.sh"

}
}
```

Terraform : Deployment Automation

- Remote-exec needs to be execute to execute the Script.
- Terraform Provisioner needs to use SSH(Unix/Linux) or WinRM(Windows Machine)
- User can use Connection to Make SSH Connection on Host.

```
provisioner "file" {
    source = "installNginx.sh"
    destination = "/etc/installNginx.sh"

    connection {
        user = var.instance_user
        password = var.instance_pass
    }
}
```

Terraform : Deployment Automation

- On AWS User needs to use SSH KeyPairs instead of Password.

```
resource "aws_key_pair" "levelup-key" {
   key_name = "levelup_key"
   public_key = "ssh rsa my-public-key"
}

resource "aws_instance" "MyFirstInstnace" {
  ami           = lookup(var.AMIS, var.AWS_REGION)
  instance_type = "t2.micro"
  key_name      = aws_key_pair.levelup_key.key_name

  tags = {
    Name = "custom_instance"
  }

  provisioner "file" {
      source = "installNginx.sh"
      destination = "/etc/installNginx.sh"

      connection {
          user = var.instance_user
          private_key = file(var.path_to_private_key)
      }
  }
}
```

Terraform : Deployment Automation

- Remote-exec need to execute the Script.

```
provisioner "remote-exec" {
    inline = [
        "chmod +x /etc/installNginx.sh",
        "/etc/installNginx.sh"
    ]
}
```

Will see you in Next Lecture…

See you in next lecture …