Deploying to AWS Using Terraform

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Agenda

1. Terraform Recap
2. Deploying
3. Migrating to Terraform 0.12
4. Q&A

Terraform

Microsoft

What is Terraform (Recap)

- Infrastructure as Code
- Automation of your infrastructure
- Keep your infrastructure in a certain state (compliant)
  e.g. 2 web instances with 2 volumes, and 1 load balancer
- Make your infrastructure auditable
- You can keep your infrastructure change history in a version control system like GIT

Terraform Deploying

Creating an User in AWS

- AmazonEC2FullAccess.
- AmazonS3FullAccess.
- AmazonDynamoDBFullAccess.
- AmazonRDSFullAccess.
- CloudWatchFullAccess.
- IAMFullAccess.

Credentials Management

#export AWS_ACCESS_KEY_ID=(your access key id)
#export AWS_SECRET_ACCESS_KEY=(your secret access key)

#Windows %USERPROFILE%\.aws\credentials
#Linux $HOME/.aws/credentials

Credentials Management (..Continued..)

```
provider "aws" {
  access_key = "ACCESS_KEY_HERE"
  secret_key = "SECRET_KEY_HERE"
  region     = "us-east-1"
}

resource "aws_instance" "example" {
  ami           = "ami-0d729a60"
  instance_type = "t2.micro"
}
```

Provisioning software

- There are 2 ways to provision software on your instances.
- You can build your own custom AMI and bundle your software with the image: **Packer** is a great tool to do this
- Another way is to boot standardized AMIs, and then install the software on it you need

  Using file uploads

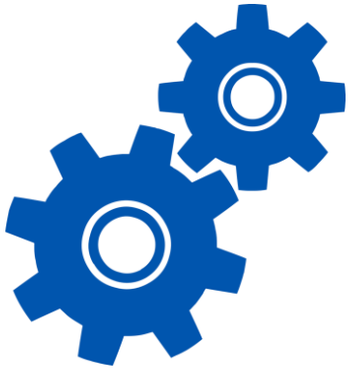
  Using remote exec

  Using automation tools like chef, puppet, ansible

Provisioning software (..Continued..)

Current state for terraform with automation:

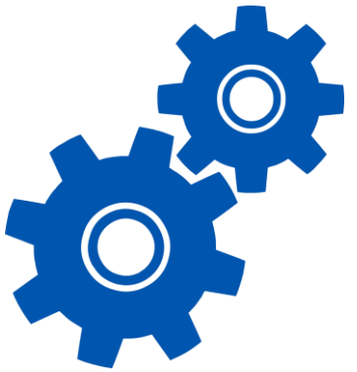
- Chef is integrated within terraform, you can add chef statements
- You can run puppet agent using remote-exec
- For ansible, you can first run terraform, and output the IP addresses, then run ansible-playbook on those hosts
- This can be automated in a workflow scripts
- There are 3rd party initiatives integrating Ansible with terraform



Hands On Lab 1

Cloning the Repository

https://github.com/AshWilliams/TerraformPoC.git



Migration to Terraform 0.12

Migration to Terraform 0.12

- Upgrade to Terraform 0.11 first.
- Pre-upgrade Checklist for Terraform v0.11.14
  terraform 0.12checklist
- Upgrading Terraform configuration
  terraform 0.12upgrade

Q&A?