

Jenkins CI

Notes

Creating a Terraform pipeline that provisions VMs using Jenkins

Sadly wsl2 doesn't provide nested VMs and deployment fails

Sorry for the crappy pdf but conversion from markdown to pdf sucks

1. Creating terraform files

```

terraform {
required_providers {
  virtualbox = {
    source = "terra-farm/virtualbox"
    version = "0.2.2-alpha.1"
  }
}
}

# There are currently no configuration options for the provider itself.

resource "virtualbox_vm" "node" {
count      = 3
name      = format("node-%02d", count.index + 1)
image     = "https://app.vagrantup.com/ubuntu/boxes/bionic64/versions/20180903.0.0/providers/virtualbox.box"
cpus      = 2
memory    = "512 mib"
status    = "poweroff"

network_adapter {
  type      = "hostonly"
  host_interface = "vboxnet1"
}
}

output "IPAddr" {
value = element(virtualbox_vm.node.*.network_adapter.0.ipv4_address, 1)
}

output "IPAddr_2" {
value = element(virtualbox_vm.node.*.network_adapter.0.ipv4_address, 2)
}

```

2. Creating Jenkins script

```

pipeline {
    tools {
        terraform 'terraform'
    }
    triggers {
        githubPush()
    }
    agent any

    stages {
        stage('Fetch repository') {
            steps {
                sh 'pwd'
            }
        }
        stage('initialize') {
            steps {
                dir('Homework-19') {
                    sh 'pwd'
                    sh 'ls'
                    sh 'terraform init'
                }
            }
        }
        stage('apply') {
            steps {
                dir('Homework-19') {
                    sh 'terraform apply -auto-approve'
                }
            }
        }
        stage('update virtualboxes') {
            steps {
                sh 'ansible'
            }
        }
    }
}

```

3. Setting up Github hooks

- Using ngrok for establishing a tunnel with the local jenkins server

Webhooks / Manage webhook

We'll send a `POST` request to the URL below with details of any subscribed events. You can also specify which data format you'd like to receive (`JSON`, `x-www-form-urlencoded`, etc). More information can be found in our [developer documentation](#).

Payload URL *

`http://6a63-213-130-93-57.ngrok-free.app/github-webhook/`

Content type

`application/x-www-form-urlencoded` ▾

Secret

Which events would you like to trigger this webhook?

- ☒ Just the push event.
- ☐ Send me **everything**.
- ☐ Let me select individual events.

☒ Active

We will deliver event details when this hook is triggered.

Update webhook

Delete webhook

4. Running the pipes

Stage View

		Declarative: Checkout SCM	Declarative: Tool Install	Fetch repository	initialize	apply	update virtualboxes
Average stage times:		2s	490ms	1s	2s	7s	73ms
#17	Apr 27 18:39 2 commits	789ms	702ms	1s	3s	28s failed	71ms failed
#16	Apr 27 17:39 2 commits	804ms	347ms	853ms	2s	1s aborted	73ms aborted
#15	Apr 27 17:16 No Changes						