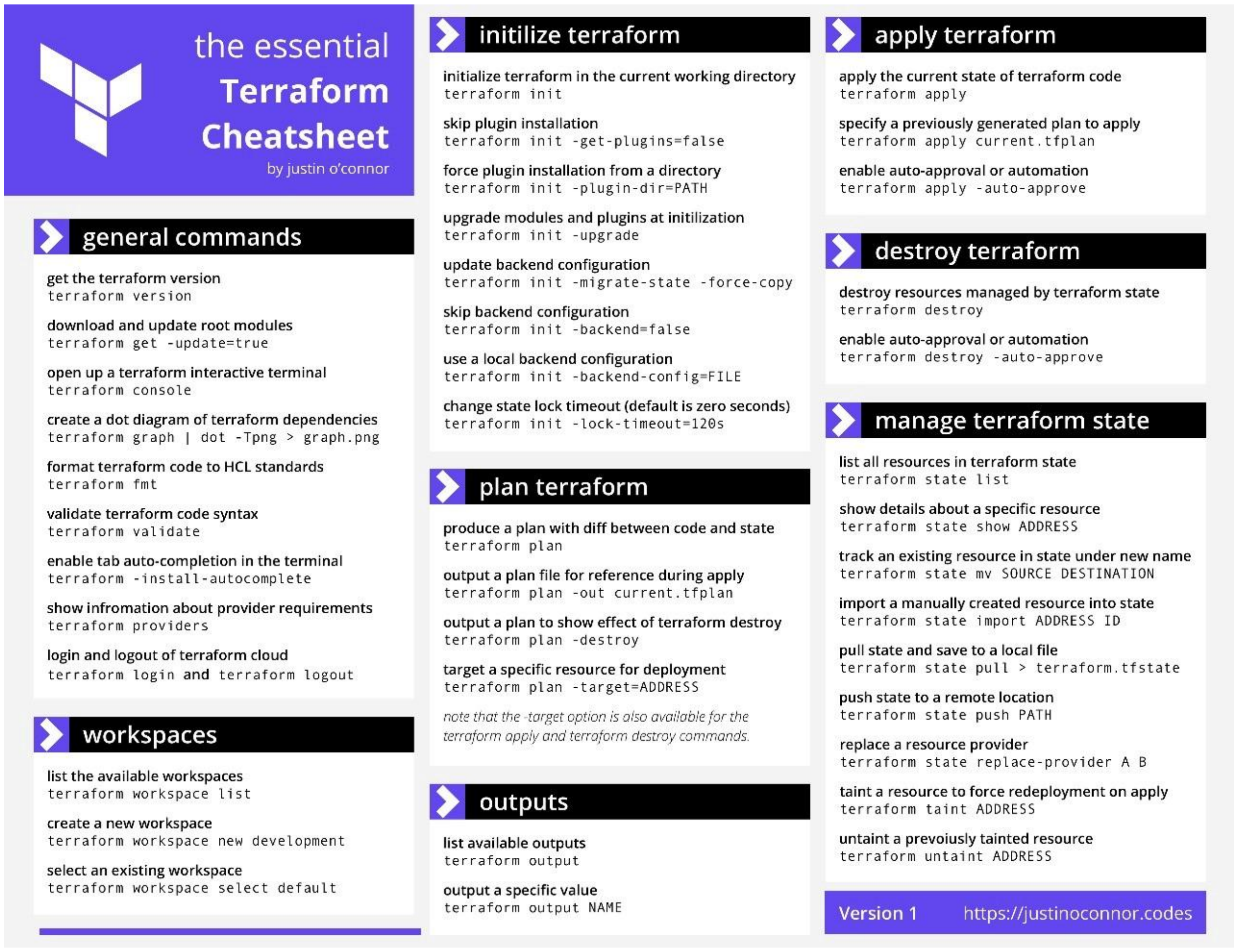
day 5 terraform

Terraform Configuration



the essential **Terraform Cheatsheet**

by justin o'connor

general commands

get the terraform version
`terraform version`

download and update root modules
`terraform get -update=true`

open up a terraform interactive terminal
`terraform console`

create a dot diagram of terraform dependencies
`terraform graph | dot -Tpng > graph.png`

format terraform code to HCL standards
`terraform fmt`

validate terraform code syntax
`terraform validate`

enable tab auto-completion in the terminal
`terraform -install-autocomplete`

show infromation about provider requirements
`terraform providers`

login and logout of terraform cloud
`terraform login` and `terraform logout`

workspaces

list the available workspaces
`terraform workspace list`

create a new workspace
`terraform workspace new development`

select an existing workspace
`terraform workspace select default`

initilize terraform

initialize terraform in the current working directory
`terraform init`

skip plugin installation
`terraform init -get-plugins=false`

force plugin installation from a directory
`terraform init -plugin-dir=PATH`

upgrade modules and plugins at initilization
`terraform init -upgrade`

update backend configuration
`terraform init -migrate-state -force-copy`

skip backend configuration
`terraform init -backend=false`

use a local backend configuration
`terraform init -backend-config=FILE`

change state lock timeout (default is zero seconds)
`terraform init -lock-timeout=120s`

plan terraform

produce a plan with diff between code and state
`terraform plan`

output a plan file for reference during apply
`terraform plan -out current.tfplan`

output a plan to show effect of terraform destroy
`terraform plan -destroy`

target a specific resource for deployment
`terraform plan -target=ADDRESS`

note that the -target option is also available for the terraform apply and terraform destroy commands.

outputs

list available outputs
`terraform output`

output a specific value
`terraform output NAME`

apply terraform

apply the current state of terraform code
`terraform apply`

specify a previously generated plan to apply
`terraform apply current.tfplan`

enable auto-approval or automation
`terraform apply -auto-approve`

destroy terraform

destroy resources managed by terraform state
`terraform destroy`

enable auto-approval or automation
`terraform destroy -auto-approve`

manage terraform state

list all resources in terraform state
`terraform state list`

show details about a specific resource
`terraform state show ADDRESS`

track an existing resource in state under new name
`terraform state mv SOURCE DESTINATION`

import a manually created resource into state
`terraform state import ADDRESS ID`

pull state and save to a local file
`terraform state pull > terraform.tfstate`

push state to a remote location
`terraform state push PATH`

replace a resource provider
`terraform state replace-provider A B`

taint a resource to force redeployment on apply
`terraform taint ADDRESS`

untaint a prevoiusly tainted resource
`terraform untaint ADDRESS`

Version 1 https://justinoconnor.codes

```
terraform {   required_providers {
aws = {       source =
"hashicorp/aws"       version =
"5.92.0"
    }
  }
} provider "aws" {

#Configuration Options

}

Terraform   Version:   terraform   {
required_providers  {        aws  =  {
source  = "hashicorp/aws"
     version = "⍰⍰ 5.0"
    }
  }
}

#Configure the AWS Provider
provider "aws" {   region = "us-
east-1" }
```

Create a VPC

```
resource "aws_vpc" "example" {   cidr_block
= "10.0.0.0/16"
} region = "us-east-1" resource
"aws_vpc" "myvpc" {   cidr_block =
"10.0.0.0/16" tags = {     Name =
"demovpc"
  }
resource "aws_subnet" "pubsub" {   vpc_id
= aws_vpc.myvpc.id   cidr_block =
"10.0.1.0/24"   availability_zone = "us-east-
1a"
tags = {     Name =
"sn1"
  }
}
```

Internet Gateway resource

```
"aws_internet_gateway" "tfigw" {   vpc_id =
aws_vpc.myvpc.id
tags = {     Name =
"tfigw"
  }
} resource "aws_route_table" "tfpubrt" {
vpc_id = aws_vpc.myvpc.id route {
cidr_block = "0.0.0.0/0"
    gateway_id = aws_internet_gateway.tfigw.id
  }
tags = {
    Name = "tfpublicroute"
  }
} resource "aws_route_table_association" "pubsn1" {
subnet_id      = aws_subnet.pubsub.id   route_table_id =
aws_route_table.tfpubrt.id
}
resource "aws_route_table_association" "pubsn2" {
subnet_id      = aws_subnet.pub_sub.id   route_table_id =
aws_route_table.tfpubrt.id
}
resource "aws_eip" "tfeip" {   domain = "vpc"
} resource "aws_nat_gateway" "tfnat" {
allocation_id = aws_eip.tfeip.id   subnet_id
= aws_subnet.pub_sub.id
tags = {     Name = "gw
NAT"
  }
} resource "aws_route_table" "tfprirt" {
vpc_id = aws_vpc.myvpc.id route {
cidr_block = "0.0.0.0/0"
    gateway_id = aws_nat_gateway.tfnat.id
  }
tags = {
   Name = "tfprivateroute"
  }
} resource "aws_security_group" "allow_tfsg" { name
= "allow_tfsg" description = "Allow TLS inbound
traffic" vpc_id           = aws_vpc.myvpc.id ingress {
description    = "HTTPS " from_port      443 to_port
 443 protocol              = "tcp" cidr_blocks         =
["0.0.0.0/0"]
} ingress { description      =
"HTTP " from_port       80
to_port         80 protocol
= "tcp" cidr_blocks      =
["0.0.0.0/0"]
} ingress { description      = "SSH"
from_port       22 to_port        
22 protocol        = "tcp"
cidr_blocks      = ["0.0.0.0/0"]
} egress { from_port       0
to_port         0 protocol       =
"1" cidr_blocks      = ["0.0.0.0/0"]
} tags = {
Name = "TfsecurityGroup"
} } resource "aws_instance" "pub_ins" { ami                    = "ami-
0fc5d935ebf8bc3bc" instance_type              = "t2.micro" subnet_id
= aws_subnet.pub_sub.id vpc_security_group_ids       =
[aws_security_group.allow_tfsg.id]
key_name                  = "David"
associate_public_ip_address  =  "true" }


#terraform init
#terraform validate
#terraform plan
#terraform apply
#terraform destroy
```