provider "aws" {

region = "us-west-2"

}

resource "aws\_instance" "web" {

ami = "ami-0c55b159cbfafe1f0"

instance\_type = "t2.micro"

user\_data = <<-EOF

#!/bin/bash

sudo apt-get update

sudo apt-get install apache2 -y

sudo a2enmod ssl

sudo service apache2 restart

# Add HTML content to the default index file

sudo sh -c 'echo "<html><head><title>Hello World</title></head><body><h1>Hello World!</h1></body></html>" > /var/www/html/index.html'

EOF

tags = {

Name = "web-server"

}

# Allow HTTP and HTTPS traffic from anywhere

security\_groups = ["${aws\_security\_group.web.id}"]

}

resource "aws\_security\_group" "web" {

name\_prefix = "web-server-"

ingress {

from\_port = 80

to\_port = 80

protocol = "tcp"

cidr\_blocks = ["0.0.0.0/0"]

}

ingress {

from\_port = 443

to\_port = 443

protocol = "tcp"

cidr\_blocks = ["0.0.0.0/0"]

}

}

resource "tls\_private\_key" "web" {

algorithm = "RSA"

rsa\_bits = 2048

}

resource "tls\_self\_signed\_cert" "web" {

key\_algorithm = tls\_private\_key.web.algorithm

private\_key\_pem = tls\_private\_key.web.private\_key\_pem

subject {

common\_name = "example.com"

}

validity\_period\_hours = 8760

}

resource "null\_resource" "configure\_ssl" {

provisioner "local-exec" {

command = <<EOT

sudo openssl req -x509 -nodes -days 365 -newkey rsa:2048 \

-keyout /etc/ssl/private/apache-selfsigned.key \

-out /etc/ssl/certs/apache-selfsigned.crt \

-subj "/C=US/ST=California/L=San Francisco/O=Example/OU=Web/CN=example.com"

sudo openssl dhparam -out /etc/ssl/certs/dhparam.pem 2048

sudo cp /etc/apache2/sites-available/default-ssl.conf /etc/apache2/sites-available/default-ssl.conf.bak

sudo sed -i 's/ssl-cert-snakeoil.pem/apache-selfsigned.crt/g' /etc/apache2/sites-available/default-ssl.conf

sudo sed -i 's/ssl-cert-snakeoil.key/apache-selfsigned.key/g' /etc/apache2/sites-available/default-ssl.conf

sudo sed -i '/SSLCertificateChainFile/d' /etc/apache2/sites-available/default-ssl.conf

sudo sed -i '/SSLCACertificateFile/d' /etc/apache2/sites-available/default-ssl.conf

sudo sed -i '/SSLCertificateFile/a SSLCertificateChainFile /etc/ssl/certs/apache-selfsigned.crt' /etc/apache2/sites-available/default-ssl.conf

sudo sed -i '/SSLCertificateFile/a SSLCACertificateFile /etc/ssl/certs/dhparam.pem' /etc/apache2/sites-available/default-ssl.conf

sudo a2ensite default-ssl

sudo service apache2 restart

EOT

}

depends\_on = [aws\_instance.web]

}

output "public\_ip" {

value = aws\_instance.web.public\_ip

}

Assignment 2

import re

def is\_valid\_string(string):

# Check if string starts with a '.' or ','

if not re.match(r'^[.,]', string):

return False

# Check if string contains exactly 10 digits

if not re.match(r'^[.,]?\d{3}(-\d{3}){2}\d{1}$', string):

return False

# Check if string only consists of digits and hyphens

if not re.match(r'^[.,]?\d{3}(-\d{3}){2}\d{1}$', string):

return False

# Check if string contains repeated digits

if re.search(r'(\d)\1{1,}', string):

return False

return True