**Terraform HCl script**

main.tfprovider "aws" {  region = "us-east-1"}# VPCresource "aws\_vpc" "main" {  cidr\_block = var.vpc\_cidr  tags = {    Name = "main-vpc"  }}# Subnetsresource "aws\_subnet" "public" {  count = length(var.public\_subnet\_cidrs)  vpc\_id = aws\_vpc.main.id  cidr\_block = element(var.public\_subnet\_cidrs, count.index)  map\_public\_ip\_on\_launch = true  availability\_zone = element(var.availability\_zones, count.index)  tags = {    Name = "public-subnet-${count.index}"  }}resource "aws\_subnet" "private" {  count = length(var.private\_subnet\_cidrs)  vpc\_id = aws\_vpc.main.id  cidr\_block = element(var.private\_subnet\_cidrs, count.index)  availability\_zone = element(var.availability\_zones, count.index)  tags = {    Name = "private-subnet-${count.index}"  }}# Internet Gatewayresource "aws\_internet\_gateway" "main" {  vpc\_id = aws\_vpc.main.id  tags = {    Name = "main-igw"  }}# Public Route Tableresource "aws\_route\_table" "public" {  vpc\_id = aws\_vpc.main.id  route {    cidr\_block = "0.0.0.0/0"    gateway\_id = aws\_internet\_gateway.main.id  }  tags = {    Name = "public-route-table"  }}# Public Route Table Associationresource "aws\_route\_table\_association" "public" {  count = length(var.public\_subnet\_cidrs)  subnet\_id = element(aws\_subnet.public[\*].id, count.index)  route\_table\_id = aws\_route\_table.public.id}# Security Groupresource "aws\_security\_group" "web\_sg" {  vpc\_id = aws\_vpc.main.id  ingress {    from\_port = 80    to\_port = 80    protocol = "tcp"    cidr\_blocks = ["0.0.0.0/0"]  }  ingress {    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 = "web-sg"  }}# EC2 Instancesresource "aws\_instance" "web" {  count = var.instance\_count  ami = var.ami\_id  instance\_type = var.instance\_type  subnet\_id = element(aws\_subnet.public[\*].id, count.index % length(aws\_subnet.public[\*].id))  security\_groups = [aws\_security\_group.web\_sg.name]  tags = {    Name = "web-instance-${count.index}"  }}var.tfvariable "vpc\_cidr" {  description = "The CIDR block for the VPC."  default = "10.0.0.0/16"}variable "public\_subnet\_cidrs" {  description = "The CIDR blocks for the public subnets."  default = ["10.0.1.0/24", "10.0.2.0/24"]}variable "private\_subnet\_cidrs" {  description = "The CIDR blocks for the private subnets."  default = ["10.0.3.0/24", "10.0.4.0/24"]}variable "availability\_zones" {  description = "The availability zones to deploy resources in."  default = ["us-east-1a", "us-east-1b"]}variable "instance\_count" {  description = "Number of EC2 instances to deploy."  default = 2}variable "ami\_id" {  description = "The AMI ID for the EC2 instances."  default = "ami-0c55b159cbfafe1f0" # Example AMI ID for Amazon Linux 2}variable "instance\_type" {  description = "The instance type for the EC2 instances."  default = "t2.micro"}output.tfoutput "vpc\_id" {  description = "The ID of the VPC."  value = aws\_vpc.main.id}output "public\_subnet\_ids" {  description = "The IDs of the public subnets."  value = aws\_subnet.public[\*].id}output "private\_subnet\_ids" {  description = "The IDs of the private subnets."  value = aws\_subnet.private[\*].id}output "instance\_ids" {  description = "The IDs of the EC2 instances."  value = aws\_instance.web[\*].id}output "instance\_public\_ips" {  description = "The public IPs of the EC2 instances."  value = aws\_instance.web[\*].public\_ip}