

CloudFormation

Using this template we can create Private vpc, subnet, internet gateway, routetable, securitygroup and 2 EC2 instances with bootstrap- installing apache webserver.

Resources:

VPC:

Type: AWS::EC2::VPC

Properties:

CidrBlock: 10.0.0.0/16

Tags:

- Key: Name

Value: VPC

InternetGateway:

Type: AWS::EC2::InternetGateway

VPCGatewayAttachment:

Type: AWS::EC2::VPCGatewayAttachment

Properties:

VpcId: !Ref VPC

InternetGatewayId: !Ref InternetGateway

SubnetA:

Type: AWS::EC2::Subnet

Properties:

AvailabilityZone: us-east-1a

VpcId: !Ref VPC

CidrBlock: 10.0.0.0/24

MapPublicIpOnLaunch: true

RouteTable:

Type: AWS::EC2::RouteTable

Properties:

VpcId: !Ref VPC

InternetRoute:

Type: AWS::EC2::Route

DependsOn: InternetGateway

Properties:

DestinationCidrBlock: 0.0.0.0/0
GatewayId: !Ref InternetGateway
RouteTableId: !Ref RouteTable

SubnetARouteTableAssociation:

Type: AWS::EC2::SubnetRouteTableAssociation
Properties:
RouteTableId: !Ref RouteTable
SubnetId: !Ref SubnetA

InstanceSecurityGroup:

Type: AWS::EC2::SecurityGroup
Properties:
GroupName: "Webserver SG Group"
GroupDescription: "Webserver SG"
VpcId: !Ref VPC
SecurityGroupIngress:
- IpProtocol: tcp
FromPort: '22'
ToPort: '22'
CidrIp: 0.0.0.0/0
- IpProtocol: tcp
FromPort: '80'
ToPort: '80'
CidrIp: 0.0.0.0/0
- IpProtocol: tcp
FromPort: '443'
ToPort: '443'
CidrIp: 0.0.0.0/0
SecurityGroupEgress:
- IpProtocol: -1
CidrIp: 0.0.0.0/0

Webserver:

Type: AWS::EC2::Instance
Properties:
ImageId: ami-03ededff12e34e59e
InstanceType: t2.micro
SubnetId: !Ref SubnetA

SecurityGroupIds:

- Ref: InstanceSecurityGroup

UserData:

Fn::Base64: !Sub |

#!/bin/bash

yum update -y

yum install -y httpd.x86_64

systemctl start httpd.service

systemctl enable httpd.service

echo "Hello World from \$(hostname -f)" > /var/www/html/index.html

Tags:

-

Key: Name

Value: WebServer

Webserver2:

Type: AWS::EC2::Instance

Properties:

ImageId: ami-03ededff12e34e59e

InstanceType: t2.micro

SubnetId: !Ref SubnetA

SecurityGroupIds:

- Ref: InstanceSecurityGroup

UserData:

Fn::Base64: !Sub |

#!/bin/bash

yum update -y

yum install -y httpd.x86_64

systemctl start httpd.service

systemctl enable httpd.service

echo "Hello World from \$(hostname -f)" > /var/www/html/index.html

Tags:

-

Key: Name

Value: WebServer2

Screenshots of the Resources

VPC

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Your VPCs (2) Info

Filter VPCs

Name	VPC ID	State	IPv4 CIDR	IPv6 CIDR
-	vpc-08cd67f03cdf67f19	Available	172.31.0.0/16	-
VPC	vpc-0955e6b0074126072	Available	10.0.0.0/16	-

Select a VPC above

Subnet

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Subnets (1/7) Info

Filter subnets

Name	Subnet ID	State	IPv4 CIDR	IPv6 CIDR
-	subnet-0ce0191971b66152b	Available	vpc-08cd67f03cdf67f19	172.31.32.0/20
-	subnet-053b66384066fefa0	Available	vpc-08cd67f03cdf67f19	172.31.64.0/20
VPC-webserver	subnet-011ab7a50165c1497	Available	vpc-0955e6b0074126072 VPC	10.0.0.0/24
-	subnet-06344eb80f57ee60c	Available	vpc-08cd67f03cdf67f19	172.31.0.0/20
-	subnet-0d9032537ee2d72b1	Available	vpc-08cd67f03cdf67f19	172.31.80.0/20
-	subnet-0f4ebca956ef913e0	Available	vpc-08cd67f03cdf67f19	172.31.48.0/20

Details

Subnet ID subnet-011ab7a50165c1497	Subnet ARN arn:aws:ec2:us-east-1:450800326274:subnet/subnet-011ab7a50165c1497	State Available	IPv4 CIDR 10.0.0.0/24
Available IPv4 addresses 249	Availability Zone us-east-1a	Availability Zone ID use1-az4	

Route Table

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Security Groups (1/3) Info

Filter security groups

Name	Security group ID	Security group name	VPC ID	Description	Owner
VPC-webserver	sg-07fd3c2e16f722bf3	Webserver SG Group	vpc-0955e6b0074126072	Webserver SG	450
-	sg-035a63b2929a2fc74	default	vpc-08cd67f03cdf67f19	default VPC security gr...	450
-	sg-0b7f15b5355ab3f72	default	vpc-0955e6b0074126072	default VPC security gr...	450

Inbound rules (3)

Filter security group rules

Name	Security group rule...	IP version	Type	Protocol	Port range	Source	Description
-	sgr-0b8b909ee0ffee290	IPv4	HTTPS	TCP	443	0.0.0.0/0	-
-	sgr-089ce89ae925eaf9d	IPv4	SSH	TCP	22	0.0.0.0/0	-
-	sgr-0077bfe0cca407c61	IPv4	HTTP	TCP	80	0.0.0.0/0	-

webserver 1

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Instances (1/3) Info

Search

Name	Instance ID	Instance type	Instance state	Alarm state	Availability zone	Public IPv4 address
WebServer	i-07d7fbdf38433a597	t2.micro	Terminated	No alarms	us-east-1a	-
WebServer2	i-0c67c7220b9dd09...	t2.micro	Running	No alarms	us-east-1a	18.208.218.39
WebServer	i-06eeb29d8faeafd1a	t2.micro	Running	No alarms	us-east-1a	54.173.79.206

Instance: i-06eeb29d8faeafd1a (WebServer)

Instance ID i-06eeb29d8faeafd1a (WebServer)	Public IPv4 address 54.173.79.206 open address	Private IPv4 addresses 10.0.0.144
IPv6 address -	Instance state Running	Public IPv4 DNS -
Hostname type IP name: ip-10-0-0-144.ec2.internal	Private IP DNS name (IPv4 only) in-10-0-0-144.ec2.internal	Answer private resource DNS name -

← → ↻ ⚠ Not secure | 54.173.79.206

“Hello World from ip-10-0-0-144.ec2.internal”

Webserver2

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Instances (1/3) Info

Search

	Name	Instance ID	Instanc...	Ins...	Stat...	Alarm...	Availa...	P...	Public IPv4 ...	EL
<input type="checkbox"/>	WebServer	i-07d7fbdf38433a597	Termin...	t2.micro	-	No ...	us-east-1a	-	-	-
<input checked="" type="checkbox"/>	WebServer2	i-0c67c7220b9dd09...	Running	t2.micro	2/2 ch	No ...	us-east-1a	-	18.208.218.39	-
<input type="checkbox"/>	WebServer	i-06eeb29d8faeafd1a	Running	t2.micro	2/2 ch	No ...	us-east-1a	-	54.173.79.206	-

Instance: i-0c67c7220b9dd091a

Public IPv4 address copied

18.208.218.39 | open address

Instance ID
i-0c67c7220b9dd091a (WebServer2)

IPv6 address
-

Hostname type

Instance state
Running

Private IP DNS name (IPv4 only)

Private IPv4 addresses
10.0.0.5

Public IPv4 DNS
-

Answer private resource DNS name

← → ↻ ⚠ Not secure | 18.208.218.39

“Hello World from ip-10-0-0-5.ec2.internal”

