{

"AWSTemplateFormatVersion": "2010-09-09",

"Description": "AWS CloudFormation Sample Template VPC\_Single\_Instance\_In\_Subnet: Sample template showing how to create a VPC and add an EC2 instance with an Elastic IP address and a security group. \*\*WARNING\*\* This template creates an Amazon EC2 instance. You will be billed for the AWS resources used if you create a stack from this template.",

"Parameters": {

"InstanceType": {

"Description": "WebServer EC2 instance type",

"Type": "String",

"Default": "t2.small",

"AllowedValues": ["t1.micro", "t2.nano", "t2.micro", "t2.small", "t2.medium", "t2.large", "m1.small", "m1.medium", "m1.large", "m1.xlarge", "m2.xlarge", "m2.2xlarge", "m2.4xlarge", "m3.medium", "m3.large", "m3.xlarge", "m3.2xlarge", "m4.large", "m4.xlarge", "m4.2xlarge", "m4.4xlarge", "m4.10xlarge", "c1.medium", "c1.xlarge", "c3.large", "c3.xlarge", "c3.2xlarge", "c3.4xlarge", "c3.8xlarge", "c4.large", "c4.xlarge", "c4.2xlarge", "c4.4xlarge", "c4.8xlarge", "g2.2xlarge", "g2.8xlarge", "r3.large", "r3.xlarge", "r3.2xlarge", "r3.4xlarge", "r3.8xlarge", "i2.xlarge", "i2.2xlarge", "i2.4xlarge", "i2.8xlarge", "d2.xlarge", "d2.2xlarge", "d2.4xlarge", "d2.8xlarge", "hi1.4xlarge", "hs1.8xlarge", "cr1.8xlarge", "cc2.8xlarge", "cg1.4xlarge"],

"ConstraintDescription": "must be a valid EC2 instance type."

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"KeyName": {

"Description": "Name of an existing EC2 KeyPair to enable SSH access to the instance",

"Type": "AWS::EC2::KeyPair::KeyName",

"ConstraintDescription": "must be the name of an existing EC2 KeyPair."

},

"SSHLocation": {

"Description": " The IP address range that can be used to SSH to the EC2 instances",

"Type": "String",

"MinLength": "9",

"MaxLength": "18",

"Default": "0.0.0.0/0",

"AllowedPattern": "(\\d{1,3})\\.(\\d{1,3})\\.(\\d{1,3})\\.(\\d{1,3})/(\\d{1,2})",

"ConstraintDescription": "must be a valid IP CIDR range of the form x.x.x.x/x."

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"Mappings": {

"Region2Examples": {

"us-east-1": {

"Examples": "https://s3.amazonaws.com/cloudformation-examples-us-east-1"

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"us-west-2": {

"Examples": "https://s3-us-west-2.amazonaws.com/cloudformation-examples-us-west-2"

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"us-west-1": {

"Examples": "https://s3-us-west-1.amazonaws.com/cloudformation-examples-us-west-1"

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"eu-west-1": {

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"eu-central-1": {

"Examples": "https://s3-eu-central-1.amazonaws.com/cloudformation-examples-eu-central-1"

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"ap-southeast-1": {

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"ap-northeast-1": {

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"ap-northeast-2": {

"Examples": "https://s3-ap-northeast-2.amazonaws.com/cloudformation-examples-ap-northeast-2"

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"ap-southeast-2": {

"Examples": "https://s3-ap-southeast-2.amazonaws.com/cloudformation-examples-ap-southeast-2"

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"ap-south-1": {

"Examples": "https://s3-ap-south-1.amazonaws.com/cloudformation-examples-ap-south-1"

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"us-east-2": {

"Examples": "https://s3-us-east-2.amazonaws.com/cloudformation-examples-us-east-2"

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"sa-east-1": {

"Examples": "https://s3-sa-east-1.amazonaws.com/cloudformation-examples-sa-east-1"

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"cn-north-1": {

"Examples": "https://s3.cn-north-1.amazonaws.com.cn/cloudformation-examples-cn-north-1"

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"AWSInstanceType2Arch": {

"t1.micro": {

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"t2.nano": {

"Arch": "HVM64"

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"hs1.8xlarge": {

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"Arch": "NATHVM64"

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"Arch": "NATHVM64"

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"us-east-1": {

"PV64": "ami-2a69aa47",

"HVM64": "ami-6869aa05",

"HVMG2": "ami-a41a3fb3"

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"us-west-2": {

"PV64": "ami-7f77b31f",

"HVM64": "ami-7172b611",

"HVMG2": "ami-caf253aa"

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"us-west-1": {

"PV64": "ami-a2490dc2",

"HVM64": "ami-31490d51",

"HVMG2": "ami-00347e60"

},

"eu-west-1": {

"PV64": "ami-4cdd453f",

"HVM64": "ami-f9dd458a",

"HVMG2": "ami-e2f7bd91"

},

"eu-central-1": {

"PV64": "ami-6527cf0a",

"HVM64": "ami-ea26ce85",

"HVMG2": "ami-d2ff04bd"

},

"ap-northeast-1": {

"PV64": "ami-3e42b65f",

"HVM64": "ami-374db956",

"HVMG2": "ami-4c78d52d"

},

"ap-northeast-2": {

"PV64": "NOT\_SUPPORTED",

"HVM64": "ami-2b408b45",

"HVMG2": "NOT\_SUPPORTED"

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"ap-southeast-1": {

"PV64": "ami-df9e4cbc",

"HVM64": "ami-a59b49c6",

"HVMG2": "ami-f3f95990"

},

"ap-southeast-2": {

"PV64": "ami-63351d00",

"HVM64": "ami-dc361ebf",

"HVMG2": "ami-3a122e59"

},

"ap-south-1": {

"PV64": "NOT\_SUPPORTED",

"HVM64": "ami-ffbdd790",

"HVMG2": "ami-21a7d34e"

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"us-east-2": {

"PV64": "NOT\_SUPPORTED",

"HVM64": "ami-f6035893",

"HVMG2": "NOT\_SUPPORTED"

},

"sa-east-1": {

"PV64": "ami-1ad34676",

"HVM64": "ami-6dd04501",

"HVMG2": "NOT\_SUPPORTED"

},

"cn-north-1": {

"PV64": "ami-77559f1a",

"HVM64": "ami-8e6aa0e3",

"HVMG2": "NOT\_SUPPORTED"

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"Resources": {

"VPC": {

"Type": "AWS::EC2::VPC",

"Properties": {

"CidrBlock": "10.0.0.0/16",

"Tags": [{

"Key": "Application",

"Value": {

"Ref": "AWS::StackId"

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}]

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"Subnet": {

"Type": "AWS::EC2::Subnet",

"Properties": {

"VpcId": {

"Ref": "VPC"

},

"CidrBlock": "10.0.0.0/24",

"Tags": [{

"Key": "Application",

"Value": {

"Ref": "AWS::StackId"

}

}]

}

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"InternetGateway": {

"Type": "AWS::EC2::InternetGateway",

"Properties": {

"Tags": [{

"Key": "Application",

"Value": {

"Ref": "AWS::StackId"

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"AttachGateway": {

"Type": "AWS::EC2::VPCGatewayAttachment",

"Properties": {

"VpcId": {

"Ref": "VPC"

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"InternetGatewayId": {

"Ref": "InternetGateway"

}

}

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"RouteTable": {

"Type": "AWS::EC2::RouteTable",

"Properties": {

"VpcId": {

"Ref": "VPC"

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"Tags": [{

"Key": "Application",

"Value": {

"Ref": "AWS::StackId"

}

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"Route": {

"Type": "AWS::EC2::Route",

"DependsOn": "AttachGateway",

"Properties": {

"RouteTableId": {

"Ref": "RouteTable"

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"DestinationCidrBlock": "0.0.0.0/0",

"GatewayId": {

"Ref": "InternetGateway"

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"SubnetRouteTableAssociation": {

"Type": "AWS::EC2::SubnetRouteTableAssociation",

"Properties": {

"SubnetId": {

"Ref": "Subnet"

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"RouteTableId": {

"Ref": "RouteTable"

}

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"InstanceSecurityGroup": {

"Type": "AWS::EC2::SecurityGroup",

"Properties": {

"VpcId": {

"Ref": "VPC"

},

"GroupDescription": "Enable SSH access via port 22",

"SecurityGroupIngress": [{

"IpProtocol": "tcp",

"FromPort": "22",

"ToPort": "22",

"CidrIp": {

"Ref": "SSHLocation"

}

}, {

"IpProtocol": "tcp",

"FromPort": "80",

"ToPort": "80",

"CidrIp": "0.0.0.0/0"

}]

}

},

"WebServerInstance": {

"Type": "AWS::EC2::Instance",

"DependsOn": "AttachGateway",

"Metadata": {

"Comment": "Install a simple application",

"AWS::CloudFormation::Init": {

"config": {

"packages": {

"yum": {

"httpd": []

}

},

"files": {

"/var/www/html/index.html": {

"content": {

"Fn::Join": ["\n", [

"<img src=\"", {

"Fn::FindInMap": ["Region2Examples", {

"Ref": "AWS::Region"

}, "Examples"]

}, "/cloudformation\_graphic.png\" alt=\"AWS CloudFormation Logo\"/>",

"<h1>Congratulations, you have successfully launched the AWS CloudFormation sample.</h1>"

]]

},

"mode": "000644",

"owner": "root",

"group": "root"

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"/etc/cfn/cfn-hup.conf": {

"content": {

"Fn::Join": ["", [

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"stack=", {

"Ref": "AWS::StackId"

}, "\n",

"region=", {

"Ref": "AWS::Region"

}, "\n"

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"mode": "000400",

"owner": "root",

"group": "root"

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"/etc/cfn/hooks.d/cfn-auto-reloader.conf": {

"content": {

"Fn::Join": ["", [

"[cfn-auto-reloader-hook]\n",

"triggers=post.update\n",

"path=Resources.WebServerInstance.Metadata.AWS::CloudFormation::Init\n",

"action=/opt/aws/bin/cfn-init -v ",

" --stack ", {

"Ref": "AWS::StackName"

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" --resource WebServerInstance ",

" --region ", {

"Ref": "AWS::Region"

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"runas=root\n"

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"services": {

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"httpd": {

"enabled": "true",

"ensureRunning": "true"

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"cfn-hup": {

"enabled": "true",

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"Properties": {

"ImageId": {

"Fn::FindInMap": ["AWSRegionArch2AMI", {

"Ref": "AWS::Region"

}, {

"Fn::FindInMap": ["AWSInstanceType2Arch", {

"Ref": "InstanceType"

}, "Arch"]

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"InstanceType": {

"Ref": "InstanceType"

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"KeyName": {

"Ref": "KeyName"

},

"Tags": [{

"Key": "Application",

"Value": {

"Ref": "AWS::StackId"

}

}],

"NetworkInterfaces": [{

"GroupSet": [{

"Ref": "InstanceSecurityGroup"

}],

"AssociatePublicIpAddress": "true",

"DeviceIndex": "0",

"DeleteOnTermination": "true",

"SubnetId": {

"Ref": "Subnet"

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}],

"UserData": {

"Fn::Base64": {

"Fn::Join": ["", [

"#!/bin/bash -xe\n",

"yum update -y aws-cfn-bootstrap\n",

"/opt/aws/bin/cfn-init -v ",

" --stack ", {

"Ref": "AWS::StackName"

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" --resource WebServerInstance ",

" --region ", {

"Ref": "AWS::Region"

}, "\n",

"/opt/aws/bin/cfn-signal -e $? ",

" --stack ", {

"Ref": "AWS::StackName"

},

" --resource WebServerInstance ",

" --region ", {

"Ref": "AWS::Region"

}, "\n"

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"CreationPolicy": {

"ResourceSignal": {

"Timeout": "PT15M"

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"Outputs": {

"URL": {

"Value": {

"Fn::Join": ["", ["http://", {

"Fn::GetAtt": ["WebServerInstance", "PublicIp"]

}]]

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"Description": "Newly created application URL"

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