

Deploy a High-Availability Web App using CloudFormation

- Diagram

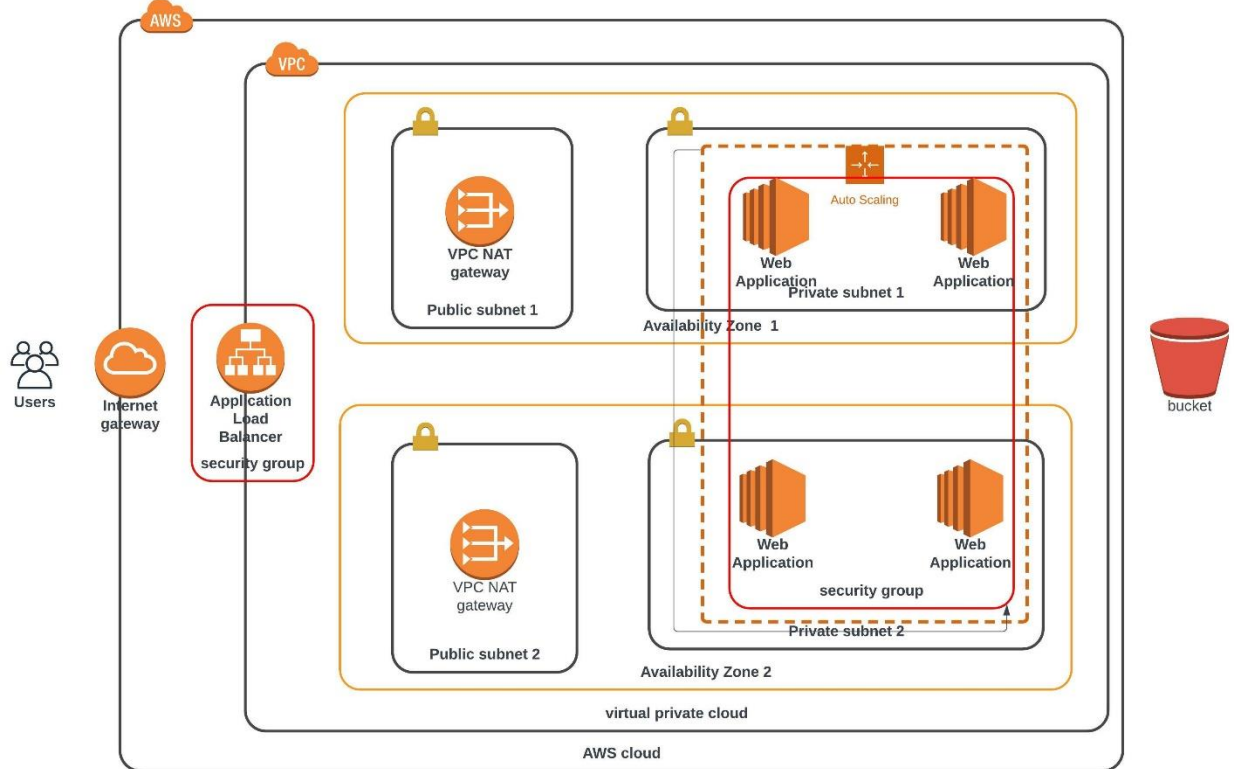


Diagram URL: <https://lucid.app/publicSegments/view/493d2e14-20fb-4600-8c35-a750b8101d94/image.png>

• The Basics

Parameters:

Parameters (3)

Search parameters

Key	▲	Value	▼	Resolved value	▼
AMItoUse		ami-074251216af698218		-	
EnvironmentName		UdacityProject		-	
InsType		t3.medium		-	

Key	▲	Value	▼	Resolved value	▼
EnvironmentName		UdacityProject		-	
PrivateSubnet1CIDR		10.0.2.0/24		-	
PrivateSubnet2CIDR		10.0.3.0/24		-	
PublicSubnet1CIDR		10.0.0.0/24		-	
PublicSubnet2CIDR		10.0.1.0/24		-	
VpcCIDR		10.0.0.0/16		-	

Resources:

Resources (9)

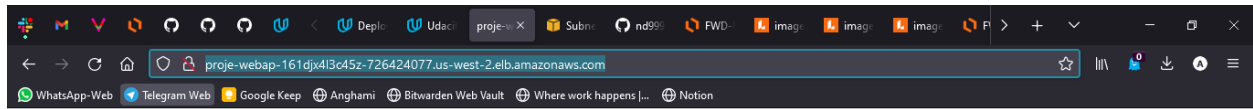
Search resources

Logical ID	Physical ID	Type	Status	Status reason	Module
ALBListenerRule	arn:aws:elasticloadbalancing:us-west-2:482366075815:listener-rule/app/ProjectWebApp-1OU3OKZ20UTPA/796a01b03892d4cd/623ff68b310ab2c0/fdfd97c4581496f5	AWS::ElasticLoadBalancingV2::ListenerRule	✔ CREATE_COMPLETE	-	-
LBSecGroup	sg-02d92a7bc69979ac6	AWS::EC2::SecurityGroup	✔ CREATE_COMPLETE	-	-
Listener	arn:aws:elasticloadbalancing:us-west-2:482366075815:listener/app/ProjectWebApp-1OU3OKZ20UTPA/796a01b03892d4cd/623ff68b310ab2c0	AWS::ElasticLoadBalancingV2::Listener	✔ CREATE_COMPLETE	-	-
ProfileWithRolesForOurApp	ProjectServer-ProfileWithRolesForOurApp-d1ukTBGIGOLX	AWS::IAM::InstanceProfile	✔ CREATE_COMPLETE	-	-
WebAppGroup	ProjectServer-WebAppGroup-1QSCBLKNQYZP2	AWS::AutoScaling::AutoScalingGroup	✔ CREATE_COMPLETE	-	-
WebAppLB	arn:aws:elasticloadbalancing:us-west-2:482366075815:loadbalancer/app/ProjectWebApp-1OU3OKZ20UTPA/796a01b03892d4cd	AWS::ElasticLoadBalancingV2::LoadBalancer	✔ CREATE_COMPLETE	-	-
WebAppLaunchConfig	ProjectServer-WebAppLaunchConfig-RsjwSAhpBEv2	AWS::AutoScaling::LaunchConfiguration	✔ CREATE_COMPLETE	-	-
WebAppTargetGroup	arn:aws:elasticloadbalancing:us-west-2:482366075815:targetgroup/ProjectWebApp-E5FWUJVIKR6J/2b8fc33e6b9afbdf	AWS::ElasticLoadBalancingV2::TargetGroup	✔ CREATE_COMPLETE	-	-
WebServerSecGroup	sg-0075d35d4ff116feb	AWS::EC2::SecurityGroup	✔ CREATE_COMPLETE	-	-

Outputs

Outputs (1)			
<div><div><div></div><div>Search outputs</div></div><div></div></div>			
Key ▲	Value ▼	Description ▼	Export name ▼
AppLB	http://proj-WebAp-161DJX4L3C45Z-726424077.us-west-2.elb.amazonaws.com	A reference to Load Balancer URL	UdacityProject-Load-Balancer-URL
PrivateSubnet1	subnet-0ff9abfded5fe9472	A reference to the private subnet in the 1st Availability Zone	UdacityProject-PRI1-SN
PrivateSubnet2	subnet-00a7ce586a911485e	A reference to the private subnet in the 2nd Availability Zone	UdacityProject-PRI2-SN
PrivateSubnets	subnet-0ff9abfded5fe9472,subnet-00a7ce586a911485e	A list of the private subnets	UdacityProject-PRIV-NETS
PublicSubnet1	subnet-04ad6835a0a0b4b3c	A reference to the public subnet in the 1st Availability Zone	UdacityProject-PUB1-SN
PublicSubnet2	subnet-06f12a291f22f7b3e	A reference to the public subnet in the 2nd Availability Zone	UdacityProject-PUB2-SN
PublicSubnets	subnet-04ad6835a0a0b4b3c,subnet-06f12a291f22f7b3e	A list of the public subnets	UdacityProject-PUB-NETS
VPC	vpc-0714a45caced9b911	A reference to the created VPC	UdacityProject-VPCID
VPCPrivateRouteTable1	rtb-0c6178fc3a06d1fa6	Private Routing AZ1	UdacityProject-PRI1-RT
VPCPrivateRouteTable2	rtb-0802b7253ea0ac5b9	Private Routing AZ2	UdacityProject-PRI2-RT
VPCPublicRouteTable	rtb-0df0fb56ae842048c	Public Routing	UdacityProject-PUB-RT

Working Test:



<http://proje-webap-1ou3okz20utpa-219932361.us-west-2.elb.amazonaws.com/>

•Load Balancer

Target Group:

Load balancing

Edit

Load balancer target groups

Classic Load Balancers

proj-WebAp-LV92T2XH7YEU

-

Load balancer: **proj-WebAp-161DJX4L3C45Z**

Description

Listeners

Monitoring

Integrated services

Tags

Listeners listen for connection requests using their protocol and port. You can add, remove, or update listeners and listener rules.

To view and edit listener attributes, select the listener and choose Edit.

Add listener

Edit

Delete

<input type="checkbox"/>	Listener ID	Security policy	SSL Certificate	Rules
<input type="checkbox"/>	HTTP : 80 arn...ee3a36b5dc3f4906	N/A	N/A	Default: forwarding to proj-WebAp-LV92T2XH7YEU View/edit rules

Health Check and Listener:

proj-WebAp-LV92T2XH7YEU

Actions

arn:aws:elasticloadbalancing:us-west-2:247136817745:targetgroup/proj-WebAp-LV92T2XH7YEU/35978ddb5303a377

Details

Target type Instance	Protocol : Port HTTP: 80	Protocol version HTTP1	VPC vpc-0714a45caced9b911
IP address type IPv4	Load balancer proj-WebAp-161DJX4L3C45Z		
Total targets 4	Healthy 4	Unhealthy 0	Unused 0
Initial 0	Draining 0		

Registered targets (4)

Filter resources by property or value

< 1 >

<input type="checkbox"/>	Instance ID	Name	Port	Zone	Health status	Health status details
<input type="checkbox"/>	i-0ae11f50d1e2e2ce1		80	us-west-2b	healthy	
<input type="checkbox"/>	i-05d493942c364b8ce		80	us-west-2b	healthy	
<input type="checkbox"/>	i-0abce31b93a999ec6		80	us-west-2a	healthy	
<input type="checkbox"/>	i-096b4d95388cddd26		80	us-west-2a	healthy	

sg-0dd6f0fe6ec648cb5 - projectserver-LBSecGroup-FC26HP18OPQL

Actions

Details

Security group name

projectserver-LBSecGroup-FC26HP18OPQL

Security group ID

sg-0dd6f0fe6ec648cb5

Description

Allow http to our load balancer

VPC ID

vpc-0714a45caced9b911

Owner

247136817745

Inbound rules count

1 Permission entry

Outbound rules count

1 Permission entry

Inbound rules

Outbound rules

Tags

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

Outbound rules (1/1)

Filter security group rules

	Name	Security group rule...	IP version	Type	Protocol	Port range	Destination
<input checked="" type="checkbox"/>	-	sgr-0d069d1d57f6a7d...	IPv4	HTTP	TCP	80	0.0.0.0/0

sg-031371606be98e9b9 - projectserver-WebServerSecGroup-15D17ZF5JFQE0

Actions

Details

Security group name

projectserver-WebServerSecGroup-15D17ZF5JFQE0

Security group ID

sg-031371606be98e9b9

Description

Allow http to our hosts and SSH from local only

VPC ID

vpc-0714a45caced9b911

Owner

247136817745

Inbound rules count

1 Permission entry

Outbound rules count

1 Permission entry

Inbound rules

Outbound rules

Tags

You can now check network connectivity with Reachability Analyzer

Run Reachability Analyzer

Inbound rules (1/1)

Filter security group rules

	Name	Security group rule...	IP version	Type	Protocol	Port range	Source
<input checked="" type="checkbox"/>	-	sgr-03e652a815c11e7...	IPv4	HTTP	TCP	80	0.0.0.0/0

• Auto-Scaling


Subnets

Network			Edit
Availability Zones us-west-2a, us-west-2b	Subnet ID subnet-0ff9abfded5fe9472, subnet-00a7ce586a911485e		

Machine Specs

Storage (volumes)							< 1 >
<input type="text" value="Search block devices"/>							
Block device	Size (GiB)	Type	IOPS	Throughput	Delete on termination	Encrypted	
/dev/sdk	10	-	-	-	-	-	

SSH Key

Launch configuration			Edit
Launch configuration projectserver-WebAppLaunchConfig-ddAsl0EtHAXn	AMI ID ami-074251216af698218	Security groups sg-031371606be98e9b9 	
Instance type t3.medium	Key pair name -	Create time Wed Apr 06 2022 13:31:35 GMT+0200 (Eastern European Standard Time)	
Storage (volumes) /dev/sdk			
View details in the launch configuration console 