DNS load balancing for HA using AWS Route 53

681 Nesvin KN April 22, 2025 Features & Functionalities, General 1616

How to implement DNS load balancing in <u>Ezeelogin cluster</u> for high availability (HA)?

Overview: This article explains how to implement DNS load balancing in an Ezeelogin cluster using AWS Route 53 to achieve high availability (HA), by directing traffic between a primary and a hot-standby secondary node based on DNS weight configuration and health checks.

In the following example we will configure the hostname **gateway.cloudweg.com** to point to the primary node (**primary.cloudweg.com/65.0.103.183**) using weights in the DNS load balancer (Route 53). In the event of failure of the primary node the traffic would be directed to the secondary node (**secondary.cloudweg.com/3.109.185.205**) which is in the hot standby mode.

The node **secondary.cloudweg.com** needs to be switched to the master state to perform read/write operations.

Refer article to switch the node states

Diagram explaining DNS weight distribution:



Scenario 1: **Primary node is in active state and secondary is in the hot standby mode**. Traffic is routed to the primary node.

Scenario 2: **Primary node is down and secondary node is in the active state**. Traffic is routed to the secondary node.

Steps to set the DNS in AWS Route 53:

Step 1: Login to AWS account and search for Route 53.

aws	Services	Q route 53	×	ב 👌 🧿 🎯 Mumbai ע manu @ 0211-6552-3905 ע
=			Search results for 'route'	Reset to default layout + Add widgets
		Services (4)	Services	0
		Features (33) Resources New	Route 53 ☆	Create application :
		Documentation (19,766)	Scalable DNS and Domain Name Registration	
		Knowledge Articles (108)	Deute 57 Decelver	Q Find applications
		Marketplace (889)	Resolve DNS queries in your Amazon VPC and on-premises network.	$\langle 1 \rangle$
		Blogs (276)		

Step 2: Select Hosted zones and create new hosted zone.

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Route 53 ×	Route 53 > Hosted zones		< 0	i
Dashboard	Hosted zones (1)	C View details Edit Delete	Create hosted zone	9
Hosted zones Health checks	Automatic mode is the current search behavior optimized for best hitter results. To change modes go	to settings.	< 1 > ©	
▼ IP-based routing CIDR collections	Hosted zone name ∇ Type ∇ Created by	▼ Record count ▼ Description	▼ Hosted zo ▼	
Traffic flow Traffic policies	0			
Policy records				

Step 3: Provide domain name in hosted zone configuration and select public hosted zone.

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=	Create	hosted zone											١
	create												0
	Hosted A hosted zo subdomains	zone configuration ne is a container that holds information s.	about how you want to route traffic for a domain, su	ch as example.com, and its									
	Domain na This is the n	ame Info	ute traffic for.										
	Valid charac	g.com	< = > ? @ [\] ^ _ ` { } .~										- 1
	Descriptio This value le	n - optional Info ets you distinguish hosted zones that ha	ive the same name.										
	The host	ed zone is used for											
	The descript	tion can have up to 256 characters. 0/25	56										- 1
	Type Inf	o dicates whether you want to route traffi	c on the internet or in an Amazon VPC.										
	Pub A pu traffi	lic hosted zone blic hosted zone determines how ic is routed on the internet.	 Private hosted zone A private hosted zone determines how traffic is routed within an Amazon VPC. 										
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Step 4: Create new record under new domain name created.

aws Services Q Search	[Alt+S]	छि 👃 🕐 🎯 Global ▼ manu @ 0211-6552-3905 ▼
Route 53 ×	Route 53 > Hosted zones > cloudweg.com	< ()
Dashboard	Public cloudweg.com Info	Delete zone Test record Configure query logging
Health checks	Hosted zone details	Edit hosted zone
▼ IP-based routing		
CIDR collections	Records (2) DNSSEC signing Hosted zone tags (0)	
▼ Traffic flow		
Traffic policies	Records (2) Info	Ci Dalata record Import rana file
Policy records	Automatic mode is the current search behavior optimized for best filter results. To change modes go	to settings.
▼ Domains	Eiltar racorde hu propartu or valua	
Registered domains	A muel records by property of value	
Requests	□ Record name ▼ Type ▼ Routin ▼ Differ ▼	Alias ▼ Value/Route traffic to ▼ TTL (s ▼ Health
▼ Resolver		ns-1626.awsdns-11.co.uk.
VPCs	cloudweg.com NS Simple -	No ns-757.awsdns-30.net. No ns 1302 awsdns 34 ocn 172800 -
Inbound endpoints		ns-122.awsdns-15.com.
Outbound endpoints	□ cloudwea.com SOA Simple -	No ns-1626.awsdns-11.co.uk. a 900 -
Rules	4	···· ··· ··· ··· ··· ··· ··· ··· ··· ·
CloudShell Feedback		© 2024, Amazon Web Services, Inc. or its affiliates. Privacy Terms Cookie preferences

Step 5: Provide the name of the record to be used for calling Ezeelogin. Paste the public IP of the primary node, set the TTL seconds to 0, choose the routing policy as weighted with a weight of 100, provide the record ID, and then proceed to create the record.

Services Q Search	[Alt+S]		D	Global ▼	manu @ 0211-6552-3905
▼ Record 1		Delete			(
Record name Info	Record type Info				
gatewaycloudweg.com	A – Routes traffic to an IPv4 address and	some AWS resources 🔹			
Keep blank to create a record for the root domain.					
Value Info					
65.0.103.183					
		6			
Enter multiple values on separate lines.	Deuties selies 1-6				
	1d Weighted				
Recommended values: 60 to 172800 (two days)					
Weight	Health check ID - optional Info				
DNS queries that Route 53 will respond to using that record.	Q Choose health check	C			
The weight can be a number between 0 and 255. If you specify 0, Route 53 stops rr	sponding				
to DNS queries using this record.					
Record ID Info					
<u>Au</u> .					
		Add another record			
n Berley		Cancel Create records	# 2024 A		

Step 6: Provide the same name of the record to be used for calling Ezeelogin. Paste the public IP of the secondary node, set the TTL seconds to 0, choose the routing policy as weighted with a weight of 0, provide the record ID, and then proceed to create the record.

Services Q Search	[Alt+S]	Ŀ	\$ @	ଁ	Global 🔻	manu @ 0211-6552-3905 🔻
▼ Record 1	Delete					١
Record name Info	Record type Info					0
gatewaycloudweg.com	A – Routes traffic to an IPv4 address and some AWS resources					
Keep blank to create a record for the root domain.						
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Value Info						
3.109.185.205						
	Æ					
Enter multiple values on separate lines.						
TTL (seconds) Info	Routing policy Info					
0 1 m 1h 1d	Weighted 🗸 🔹					
Recommended values: 60 to 172800 (two days)						
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0 The weight can be a number between 0 and 255. If you specify 0. Poute 53 stops responding						
to DNS queries using this record.						
Record ID Info						
gw2						
	Add another record					
	Cancel Create records					

Step 7: Create another record for primary with primary public IP.

aws	Services Q Search	[Alt+S]		Σ	\$ 0	۲	Global 🔻	manu @ 0211-6552-3905 🔻
-	▼ Record 1	Delete						G
	Record name Info	Record type Info						G
	primarycloudweg.com	A – Routes traffic to an IPv4 address and some AWS resources						
	Keep blank to create a record for the root domain.							
	Value Info							
	65.0.103.183							
		4						
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	Recommended values: 60 to 172800 (two days)							
	Weight The weight of each record that has the same name and type determines the proportion of	Health check ID - optional Info						
	DNS queries that Route 53 will respond to using that record.	Q Choose health check						
	The weight can be a number between 0 and 255. If you specify 0, Route 53 stops responding							
	to one queries using this record.							
	gw1							
		Add another record						
		Cancel Create records						

Step 8: Create another record for secondary with secondary public IP.

Services Q Search	[Alt+S]	۵	\$ 0 ¢	Global 🔻	manu @ 0211-6552-3905 🔻
▼ Record 1	Delete				٤
Record name Info	Record type Info				9
secondarycloudweg.com	A – Routes traffic to an IPv4 address and some AWS resources				
Keep blank to create a record for the root domain.					
Alias					
Value Info					
3.109.185.205					
Color and Male and an an annual black	1				
Enter multiple values on separate lines.	Professional and				
	Weinhted				
Recommended values: 60 to 172800 (two days)	incigined .				
Weight	Health check ID - optional Info				
The weight of each record that has the same name and type determines the proportion of DNS queries that Route 53 will respond to using that record.	Q Choose health check				
0					
The weight can be a number between 0 and 255. If you specify 0, Route 53 stops responding to DNS queries using this record.					
Berord ID Jefe					
gw2					
	Add another record				
	Consel				
	Cancel Create records				

Step 9: Created **records can be viewed under hosted zones**.

aws iii Services	Q Search			[Alt+S]						٤	I	Global ▼	manu @ 0	0211-6552	3905 🔻
Route 53	×	Route 53	> Hosted zones > cloudweg.com												< (i)
	- 11	Public (cloudweg.com 🗤							Delete zone	Test record	Configure query	ogging		9
Dashboard															
Hosted zones		► Ho	osted zone details									Edit hosted	one		
nearth checks															
 IP-based routing CIDR collections 		Record	ds (6) DNSSEC signing Host	ed zone tags	(0)										
 Traffic policies 		Reco	rds (6) Info						C	Delete record	Import zon	e file Create re	cord		
Policy records		Automa	atic mode is the current search behavior optim	zed for best filt	er results. To chai	nge modes go to sett	ngs.								
Domains		Q F	ilter records by property or value					Туре 🔻	Routing pol	•		< 1 >	0		
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Requests				1					ns-1626 awados-11 co.uk	1			1		
Resolver			cloudwea.com		NS	Simple	-	No	ns-757.awsdns-30.net.	172800	-				
VPCs									ns-1302.awsdns-34.org. ns-122.awsdns-15.com.						
Inbound endpoints			cloudweg.com		SOA	Simple	-	No	ns-1626.awsdns-11.co.uk. a.	900					
Rules			gateway.cloudweg.com		A	Weighted	100	No	65.0.103.183	0	-		g	1	
Query logging			gateway.cloudweg.com		А	Weighted	0	No	3.109.185.205	0			g		
Outposts			primary.cloudweg.com		A	Weighted	0	No	65.0.103.183	0	-		a		
			sacondary cloudwee com			Waighted	-	No	3 109 195 205	ů			9		
DNS Firewall	Controller 12		secondary.coodoweg.com		~	weighted	v	110	5.105.105.205	0	-	-	y	1	
4	•														
CloudShell Feedback	¢.									© 2024, Amazon V	Web Services, Inc. or	its affiliates. Privacy	Terms	Cookie pre	ferences

Step 10: To **change the weight**, select the **secondary record -> edit record -> change weight to 100** and save.

aws Services Q Search	[Alt+5]	2	
Route 53 ×	Route 53 > Hosted zones > cloudweg.com		Value Info
Dashboard	Delete zone Test record Configure query logging		3.109.185.205
Hosted zones Health checks	Hosted zone details Edit hosted zone		Enter multiple values on separate lines.
IP-based routing CIDR collections	Records (6) DNSSEC signing Hosted zone tags (0)		TTL (seconds) Info
Traffic flow Traffic policies Delice seconds	Records (1/6) Info Create record Automatic mode is the current search behavior optimized for best fitter results. To change modes go to actitings.		Recommended values: 60 to 172800 (two days) Routing policy Info
Domains Registered domains	Q. Filter records by property or value Type V Routing pol V Alias V 1 Benard name V Tyme V Routing V Differ V Alias V Value/Bourts traffic to V T		Weight The weight of each record that has the same name and type determines the proportion of DNS queries that
Requests Resolver VPCs	Incomment Incomment <t< td=""><td></td><td>Route 53 will respond to using that record. 100 The weight can be a number between 0 and 255. If you specify 0, Route 53 stops responding to DNS queries using this record.</td></t<>		Route 53 will respond to using that record. 100 The weight can be a number between 0 and 255. If you specify 0, Route 53 stops responding to DNS queries using this record.
Inbound endpoints Outbound endpoints	Cloudweg.com SOA Simple - No ns-1626.awsdns-11.co.uk.a 90		Health check ID - optional Info
Rules Query logging	gateway.cloudweg.com A Weighted 100 No 65.0.103.183 0		
Outposts	Image: Constraint of the state of		
DNS Firewall	secondary cloudweg.com A Weighted 0 No 3.109.185.205 0		gw2
Application Recovery Controller 🖉 👻			Cancel Save

Select the primary record -> edit record -> change weight to 0 and save.

aws Services Q Search	[Alt+S]		D.	
Route 53 ×	Route 53 > Hosted zones > cloudweg.com			Value Info
Dashboard	Resilie cloudweg.com Info	Configure query logging		65.0.103.183
Hosted zones Health checks	► Hosted zone details	Edit hosted zone		Enter multiple values on separate lines.
▼ IP-based routing CIDR collections	Records (6) DNSSEC signing Hosted zone tags (0)			TTL (seconds) Info 0 Im Ih Id Communication of the 13300 (km doc)
Traffic flow Traffic policies Policy records	Records (1/6) Info C Delete record Import zone f	le Create record		Recommended values: 60 to 172800 (two days) Routing policy Info Weighted
Domains Registered domains Requests	Q. Filter records by property or value Type ▼ Routing pol ▼ Alias ▼ ■ Record name ▼ Type ▼ Routin ▼ Differ ▼ Alias ▼ Value/Ro] < 1 > ⊗	гп	Weight The weight of each record that has the same name and type determines the proportion of DNS queries that Route SX will respond to using that record.
Resolver VPCs Inbound endpoints	ns-1626. cloudweg.com NS Simple - No ns-737.av ns-1022. ns-122av	wsdns-11.co.uk. /sdns-30.net. 1 /sdns-34.org. 1 /sdns-15.com.	17:	O O The weight can be a number between 0 and 255. If you specify 0, Route 53 stops responding to DNS queries using this record.
Outbound endpoints Rules	Cloudweg.com SOA Simple - No ns-1626.	wsdns-11.co.uk. a 9	θO	Q Choose health check
Query logging	gateway.cloudweg.com A Weighted 100 No 65.0.103.	183 0	0	C
Outposts	A Weighted 0 No 3.109.189	.205 0	D I	
	primary doudweg.com A Weighted O No 65.0.103.	183 0	C	aw1
DNS Firewall 🗹 Application Recovery Controller 🖸 🧅	secondary.cloudweg.com A Weighted 0 No 3.109.18:	.205 0	•	Cancel Save

Step 11: Click on health checks and create new health check for both primary and secondary.

aws Services	Q Se	earch		[Alt+S]				D 4	0	୍ତ ଗ	obal 🔻	manu @ 0211-6552	-3905 🔻
Dashboard	•	Create health check	Delete health chec	Edit health check								2	0
Hosted zones	4	T Filter by keyword								« <	1 to 4 o	of 4 health checks	> >>
Health checks		Name	-	Status	Description	~	Alarms	~	ID			~	
IP-based routing		0											
CIDR collections		0											
Traffic flow													
Traffic policies Policy records													

Provide a **name for the primary health check** settings, **select the protocol**, paste the **public IP of the primary node**, and then save the settings.

aws Services Q Search		[Alt+S]		D Q	0 0	Slobal 🔻 man	u @ 0211-6552-3905 👻 🌔
Step 1: Configure health check	Configure health check			0			
Step 2: Get notified when health check fails	Route 53 health checks let you track the heal outage occurs.	th status of your resources, such as t	veb servers or mail servers, and take action	n when an			
	Name	primary	0				
	What to monitor	Endpoint	0				
		 Status of other health checks (calculated health check)				
		 State of CloudWatch alarm 					
	Monitor an endpoint						
	Multiple Route 53 health checkers will try to e Learn more	stablish a TCP connection with the fo	healthy.				
	Specify endpoint by	IP address O Domain na					
	Protocol	HTTPS	• 0 🚽				
	IP address *	65.0.103.183	0				
	Host name	www.example.com	0				
	Port*	443	0				
	Path	/ images		0			
	Advanced configuration						
	URL	https://65.0.103.183:443/ 🚯					
CloudShell Feedback			e	2024, Amazon Web Service	s, Inc. or its affiliates.	Privacy Terr	ns Cookie preferences

Provide a **name for the secondary health check** settings, **select the protocol**, paste the **public IP of the secondary node**, and then save the settings.

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Step 1: Configure health check	Configure health check		0			
Step 2: Get notified when health check fails	Route 53 health checks let you track the heal outage occurs.	th status of your resources, such as web servers or mail servers, and	take action when an			
	Name	secondary 🗲 🖸				
	What to monitor	Endpoint				
		Status of other health checks (calculated health check)				
		State of CloudWatch alarm				
	Monitor an endpoint					
	Multiple Route 53 health checkers will try to e Learn more	istablish a TCP connection with the following resource to determine wi	hether it's healthy.			
	Specify endpoint by	IP address Domain name				
	Protocol	HTTPS • 0	-			
	IP address *	3.109.185.205	-			
	Host name	www.example.com				
	Port *	443				
	Path	/ images	0			
	Advanced configuration					
	URL	nttps://3.109.185.205.443/ 😈				

Step 12: The health check settings have been created, and their status can be viewed in the health checks tab.

aws Servic	s QS	earch					[Alt+S]			۶.	¢	0	۲	Global 🔻	manu @ C	211-6552-3905	•		
Dashboard	^	Creat	e health check	Delete he	ealth cheo	ck Edit health cl	heck									C 0			
Hosted zones	•	T Filler by keyword												\ll $<$ 1 to 4 of 4 health checks $>$ \gg					
Health checks			Name		-	Status		Description	~	Alarms	-	ID				-			
IP-based		0															1		
CIDR collections			primary			16 minutes ago	Unhealth	/ https://65.0.103.183:443/		No alarms configured.		9787bo	:ee-d752-49	987-bf43-2c	f37d30afd7		-		
OIDIT CONCLIONS			secondary			16 minutes ago	now Healthy	https://3.109.185.205:443/		No alarms configured.		bdb985	518-1c8e-40	011-9697-70	8a3d85238	6			
Traffic flow						_													
Policy records																			
Domains																			
Registered		Info	Monitoring	Alarms	Tags	Health checkers	Latency									880	Ī		
Pending request	5	No h	No health check selected.																
Resolver VPCs	L	No h	No health check selected.																
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Outbound endpoints																			
Rules																			
Query logging																			
Outposts	-																		
CloudShell Fee	back									© 2024, Amazon W	/eb Servi	ces, Inc. or i	ts affiliates.	Privacy	Terms	Cookie preferenc	es		

Step 13: Now gateway server can be access with gateway.cloudweg.com and according to the weight distribution the primary or secondary node can be accessed.

Related Articles:

Install slave / secondary node for high availability in jump server

Cluster (Master-Slave) explained in Ezeelogin

Switching node states in Ezeelogin Cluster

Create load balancer in AWS for Ezeelogin Cluster

Online URL:

https://www.ezeelogin.com/kb/article/dns-load-balancing-for-ha-using-aws-route-53-681.html