Deploying WCS with CloudFormation

Overview

AWS CloudFormation allows to deploy cloud instances stacks by a certain template. Thus, a simple WCS CDN can be deployed for example. In this case, WCS update to the latest build and instance setup can be made with UserData scripts.

CloudFormation template example to deploy CDN

Below, there is the CloudFormation template example to deploy a simplest CDN of two WCS instances: Origin and Edge. The template alllows:

- to choose WCS AMI from AWS Marketplace, or Amazon Linux 2, Ubuntu 18.04 and other supported OS AMI as basic image
- to install Java 14 if necessary
- to install or update WCS to the lates build if necessary

CloudFormation example template to deploy WCS CDN of one Origin and one Edge

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WCS CDN deployment example using CloudFormation web console

1. Sign in to your AWS account, go to desired region and open CloudFormation in Services menu. Click Create Stack



2. Choose Upload a template file, click Choose file and upload the example template

Step 1 Specify template	Create stack		
Step 2 Specify stack details	Prerequisite - Prepare template		
Step 3 Configure stack options	Prepare template Every stack is based on a template. A template is a JSON or YAML file that contains configuration information about the AWS resources you want to include in the stack. Image: Template is ready Use a sample template Create template in Designer		
Step 4 Review	Specify template		
Specify template A template is a JSON or YAML file that describes your stack's resources and properties.			
	Template source Selecting a template generates an Amazon 53 URL where it will be stored.		
	Amazon S3 URL Upload a template file		
	Upload a template file Choose file Image: Choose file JSON or YAML formatted file		
	53 URL: Will be generated when template file is uploaded View in Designer		
	Cancel Next		

3. When template is uploaded, click Next

Choose file 🛧	wcs-ec2-template-origin-edge.yml	
JSON or YAML formatte	j file	
S3 URL: https://s3.e n-edge.yml	u-north-1.amazonaws.com/cf-templates-1c0pwbvffxqz0-eu-north-1/20211695zL-wcs-ec2-template-origi	View in Designer

4. Enter stack name

Step 1 Specify template	Specify stack details
Step 2 Specify stack details	Stack name
Step 3 Configure stack options	Stack name Stack name can include letters (A-Z and a-2), numbers (0-9), and dashes (-).
Step 4 Review	Parameters Parameters are defined in your template and allow you to input custom values when you create or update a stack.

5. Enter Amazon Linux 2 AMI ID for region chosen, or leave WCSAMI (in this case, AWS Marketplace WCS AMI will be used with hourly billing)



6. Enter basic part of instance name (<u>-origin</u> and <u>-edge</u> will be added respectively), choose instance type, enter Java heap size and choose SSH key to access stack

instances

InstanceName	
WCS-test	
InstanceType	
Basic EC2 instance type	
m5.xlarge	•
JavaHeapSize	
Maximum Java neap size in megabytes (2046m) or gigabytes (2g), 1024m by default	
1024m	
KevName	
Name of an existing EC2 KeyPair to enable SSH access to the instance	
tost1	

7. Set subnet Id

SubnetId SubnetId of an existing subnet in your Virtual Private Cloud (VPC)	
subnet-d2cb6fbb	

8. Enter true to automatically update WCS to the latest build

UpdateWCS Update WCS to the latest build	
true	

9. Set VPC Id

Vpcld Vpcld of your existing Virtual Private Cloud (VPC)	
vpc-5e65c237	

10. If Marketplace WCS AMI is not used, enter the license key to activate on instances and

click Next

WCSLicense WCS License key to activate (optional, if you do not use Marketplace AMI)		
	Cancel	Previous Next

11. Add tags and set permissions if necessary

Step 1 Specify template	Configure stack options			
Step 2 Specify stack details	Tags You can specify tags (key-value pairs) to apply to resources in your stack. You can add up to 50 unique tags for each stack. Learn more 🔀			
Step 3 Configure stack options Step 4 Review	Key Value Remove Add tag Permissions Choose an IAM role to perilicitly define how Cloudformation can create, motify, or delete resources in the stark. If you don't choose a role. Cloudformation uses permissions			
	based on your user credentials. Learn more C IAM role - optional Choose the IAM role for CloudFormation to use for all operations performed on the stack. IAM role name Sample-role-name Remove			

12. Set advanced stack options if necessary, then click $\ensuremath{\operatorname{\mathsf{Next}}}$

Advanced options					
You can set additional options for your st	ack, like notification options ar	nd a stack policy. Learn m	ore 🗹		
Stack policy Defines the resources that you want to p	rotect from unintentional updates d	during a stack update.			
Rollback configuration Specify alarms for CloudFormation to m more [2]	nitor when creating and updating t	the stack. If the operation brea	iches an alarm threshold, Cloud	Formation rolls it back.	Learn
Notification options					
Stack creation options					
			Cancel	Previous	Next

13. Review stack parameters

Step 1 Specify template	Review wcs-test-stack	
Step 2	Step 1: Specify template	Edit
Specify stack details Step 3 Configure stack options Step 4 Review	Template	
	Template URL https://s3.eu-north-1.amazonaws.com/cf-templates-1c0pwbvffxqz0-eu-north-1/20211695zL-wcs-ec2-template-origin-edge.yml Stack description Create WCS CDN stack Estimate cost 🕻	
	Step 2: Specify stack details	Edit
	Parameters (18) Q. Search parameters	٥

14. Click Create stack

Stack creation options		
Rollback on failure Enabled Timeout		
- Termination protection Disabled		
▶ Quick-create link	Cancel Previous Create change set Create stack	

15. Wait for stack creation completion

CloudFormation $>$ Stacks $>$ wcs-test-stack					
🗉 Stacks (1)	wcs-test-stack			Delete Update Stack actions V	reate stack 🔻
Q Filter by stack name	Stack info Events Resources	Outputs Parameters Template	Change sets		
Active View nested					
	Events (11)			C	
wcs-test-stack 2021-06-18 14:38:37 UTC+0700 C CREATE COMPLETE	Q. Search events				۲
	Timestamp v	Logical ID	Status	Status reason	
	2021-06-18 14:39:15 UTC+0700	wcs-test-stack	CREATE_COMPLETE	-	
	2021-06-18 14:39:13 UTC+0700	WCSEdgeInstance	⊘ CREATE_COMPLETE	-	
	2021-06-18 14:39:06 UTC+0700	WCSEdgeInstance	CREATE_IN_PROGRESS	Resource creation Initiated	
	2021-06-18 14:39:04 UTC+0700	WCSEdgeInstance	CREATE_IN_PROGRESS	-	
	2021-06-18 14:39:01 UTC+0700	WCSOriginInstance	CREATE_COMPLETE		
	2021-06-18 14:38:54 UTC+0700	WCSOriginInstance	CREATE_IN_PROGRESS	Resource creation Initiated	
	2021-06-18 14:38:52 UTC+0700	WCSOriginInstance	CREATE_IN_PROGRESS		
	2021-06-18 14:38:50 UTC+0700	WCSSecurityGroup	⊘ CREATE_COMPLETE	-	
	2021-06-18 14:38:47 UTC+0700	WCSSecurityGroup	CREATE_IN_PROGRESS	Resource creation Initiated	
	2021-06-18 14:38:42 UTC+0700	WCSSecurityGroup	CREATE_IN_PROGRESS	-	
	2021-06-18 14:38:37 UTC+0700	wcs-test-stack	CREATE_IN_PROGRESS	User Initiated	

16. Go to Outputs tab

	k	Delete Update Stack actions 🔻	Create sta	ck 🔻	
Stack info Event	s Resources Outputs Parameters Template	Chang	ie sets		
Outputs (8)					C
Q Search outputs					۲
Key 🔺	Value	∇	Description \triangledown	Export name	⊽
EdgeInstanceId	i-0a15ee908afc525a4		Instance Id of newly created WCS Edge instance	-	
EdgePrivatelp	172.31.26.94		Private IP address of the Edge instance	-	
EdgePublicIp	13.51.156.51		Public IP address of the Edge instance	-	
EdgeWebsiteURL	https://ec2-13-51-156-51.eu-north- 1.compute.amazonaws.com:8444/admin/		URL for newly created WCS Edge instance web interface. Use instance id as admin password	-	
OriginInstanceId	i-06bb1e29aa40acaee		Instance Id of newly created WCS Origin instance	-	
OriginPrivatelp	172.31.18.18		Private IP address of the Origin instance	-	
OriginPublicIp	13.51.156.202		Public IP address of the Origin instance	-	
OriginWebsiteUR L	https://ec2-13-51-156-202.eu-north- 1.compute.amazonaws.com:8444/admin/		URL for newly created WCS Origin instance web interface. Use instance id as admin password	-	

17. Open Origin and Edge web interfaces, publish the stream test to Origin using Two Way Streaming example, then play the stream on Edge

😚 Flashphoner Web	Call Server 🔹 🗙 🕂				• - • ×			
\leftrightarrow \supset \bigcirc	A Not secure ec2-13-51-156-202.eu-north-1.compute.amazonav	s.com:8444/admin/de	mo.html#	■ ☆ 🔜 👸 🖂 🏟	🗢 🔤 🐵 🕫 🖄 🕷 🏚 📴 🗄			
🕑 Demo	🛔 Security * 🖒 License	v.2.0.171-52.971-217c232d3e20312e45cb82a28d82ce42e9302df5 🔒 demo *						
Streaming	Two-way Stre	 ♥ Flashphoner Web ← → C ☆ 	Call Server 4 × +	-13-51-156-51.eu-north-1.com	npute_amazonaws.com:6444/adminiy/demo.html# 🏠 🖬 🎇 😇 🌻 🖬 🛞 🕞 🔛 🕄 🔅 🖉	×		
Player	Local	Demo	🛔 Security 👻	🔁 License	v.2.0.171-5.2.971-217c232d3e203f2e45cb82a28d82ce42a9302df5	^		
Two-Way Streaming		Streaming		Ture une				
Firewall Stream		Streamer		I WO-Wa	ay Streaming			
WebRTC as RTN		Player		Local	Payer			
Stream Recordi	se) manycon	Two-Way Streaming						
Several Stream: Recording	test Stop	Firewall Stream						
Stream Server	PUBLISHING	WebRTC as RTP						
Snapshot	{"count": 23}	Stream Record			C. Down A way			
Stream Local Snapshot		Several Stream Recording	a094	Publish	test Stop Available			
Stream Diagno:	Send payload as object	Stream Server	{"count": 23	}	PLAYING			
Screen Sharing	wss//er2.13.51.156-202 etLooth-	Snapshot			^			
Embed Player	ESTABLISHED	Stream Local Snapshot			ļ			
		Stream Diagno		Send payload as object				
		Screen Sharing		wss://ec2-13-51-156-5	-51.eu-north-1.comp Disconnect ESTABLISHED			