

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 latest build if necessary

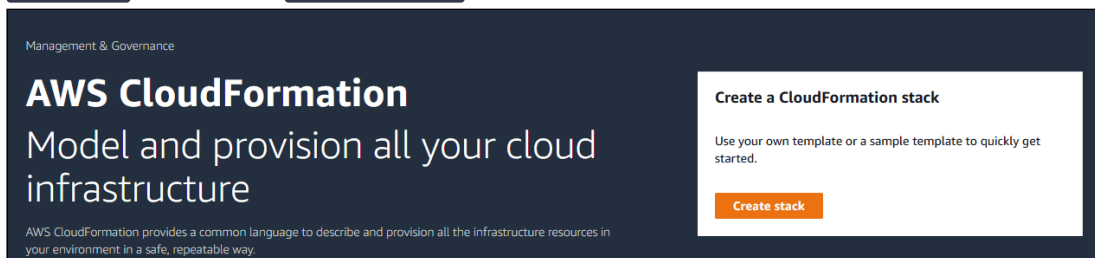


CloudFormation example template to deploy WCS CDN of one Origin and one Edge



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

The screenshot shows the 'Create stack' wizard at Step 1: Specify template. The left sidebar shows the progress: Step 1 (Specify template), Step 2 (Specify stack details), Step 3 (Configure stack options), and Step 4 (Review). The main content area is titled 'Create stack' and has a sub-section 'Prerequisite - Prepare template' with three radio buttons: 'Template is ready' (selected), 'Use a sample template', and 'Create template in Designer'. Below this is the 'Specify template' section, which includes a 'Template source' section with 'Amazon S3 URL' and 'Upload a template file' (selected) options. The 'Upload a template file' section has a 'Choose file' button and the text 'No file chosen'. At the bottom right, there are 'Cancel' and 'Next' buttons.

3. When template is uploaded, click **Next**

This screenshot shows the 'Upload a template file' section. It features a 'Choose file' button followed by the filename 'wcs-ec2-template-origin-edge.yml'. Below the filename, it says 'JSON or YAML formatted file'. The 'S3 URL' is displayed as 'https://s3.eu-north-1.amazonaws.com/cf-templates-1c0pwbvffxqz0-eu-north-1/20211695zL-wcs-ec2-template-origi-n-edge.yml'. A 'View in Designer' button is on the right. At the bottom right, there are 'Cancel' and 'Next' buttons.

4. Enter stack name

The screenshot shows the 'Specify stack details' wizard at Step 2. The left sidebar shows the progress: Step 1 (Specify template), Step 2 (Specify stack details), Step 3 (Configure stack options), and Step 4 (Review). The main content area is titled 'Specify stack details' and has a 'Stack name' section with a text input field containing 'wcs-test-stack'. Below the input field, it says 'Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-)'. There is also a 'Parameters' section with a description: '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)

This screenshot shows the 'ImageId' field. The label is 'ImageId' and the description is 'Basic instance ami (WebCallServer 5.2.944 AMI by default, mapped by region)'. The text input field contains the value 'ami-08b4d798afd78c423'.

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

instances

InstanceName Name of EC2 instance	<input type="text" value="wcs-test"/>
InstanceType Basic EC2 instance type	<input type="text" value="m5.xlarge"/>
JavaHeapSize Maximum Java heap size in megabytes (2048m) or gigabytes (2g), 1024m by default	<input type="text" value="1024m"/>
KeyName Name of an existing EC2 KeyPair to enable SSH access to the instance	<input type="text" value="test1"/>

7. Set subnet Id

SubnetId SubnetId of an existing subnet in your Virtual Private Cloud (VPC)	<input type="text" value="subnet-d2cb6fbb"/>
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8. Enter **true** to automatically update WCS to the latest build

UpdateWCS Update WCS to the latest build	<input type="text" value="true"/>
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9. Set VPC Id

VpcId VpcId of your existing Virtual Private Cloud (VPC)	<input type="text" value="vpc-5e65c237"/>
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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)	<input type="text"/>
<input type="button" value="Cancel"/> <input type="button" value="Previous"/> <input type="button" value="Next"/>	

11. Add tags and set permissions if necessary

Step 1 Specify template	<h3>Configure stack options</h3> <p>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</p> <table><tr><td><input type="text" value="Key"/></td><td><input type="text" value="Value"/></td><td><input type="button" value="Remove"/></td></tr><tr><td colspan="3"><input type="button" value="Add tag"/></td></tr></table>	<input type="text" value="Key"/>	<input type="text" value="Value"/>	<input type="button" value="Remove"/>	<input type="button" value="Add tag"/>		
<input type="text" value="Key"/>		<input type="text" value="Value"/>	<input type="button" value="Remove"/>				
<input type="button" value="Add tag"/>							
Step 2 Specify stack details							
Step 3 Configure stack options							
Step 4 Review	<p>Permissions Choose an IAM role to explicitly define how CloudFormation can create, modify, or delete resources in the stack. If you don't choose a role, CloudFormation uses permissions based on your user credentials. Learn more</p> <p>IAM role - optional Choose the IAM role for CloudFormation to use for all operations performed on the stack.</p> <table><tr><td><input type="text" value="IAM role name"/></td><td><input type="text" value="Sample-role-name"/></td><td><input type="button" value="Remove"/></td></tr></table>	<input type="text" value="IAM role name"/>	<input type="text" value="Sample-role-name"/>	<input type="button" value="Remove"/>			
<input type="text" value="IAM role name"/>	<input type="text" value="Sample-role-name"/>	<input type="button" value="Remove"/>					

12. Set advanced stack options if necessary, then click **Next**

Advanced options

You can set additional options for your stack, like notification options and a stack policy. [Learn more](#)

- Stack policy**
Defines the resources that you want to protect from unintentional updates during a stack update.
- Rollback configuration**
Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back. [Learn more](#)
- Notification options**
- Stack creation options**

Cancel Previous **Next**

13. Review stack parameters

Review wcs-test-stack

Step 1: Specify template Edit

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)

Search parameters

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

The screenshot shows the AWS CloudFormation console for the stack 'wcs-test-stack'. The 'Events' tab is selected, displaying a list of 11 events. The stack's overall status is 'CREATE_COMPLETE'. The events table is as follows:

Timestamp	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

The screenshot shows the AWS CloudFormation console for the stack 'wcs-test-stack', with the 'Outputs' tab selected. It displays 8 outputs with the following details:

Key	Value	Description	Export name
EdgeInstancecld	i-0a15ee908afc525a4	Instance Id of newly created WCS Edge instance	-
EdgePrivateIp	172.31.126.94	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	-
OriginInstancecld	i-06bb1e29aa40acaee	Instance Id of newly created WCS Origin instance	-
OriginPrivateIp	172.31.18.18	Private IP address of the Origin instance	-
OriginPublicIp	13.51.156.202	Public IP address of the Origin instance	-
OriginWebsiteURL	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

The image shows two overlapping screenshots of the Flashphoner Web Call Server interface. The left screenshot displays the 'Streaming' tab, where a stream named 'test' is being published to the Origin. The right screenshot displays the 'Player' tab, where the 'test' stream is being played back on the Edge. Both screenshots show the 'Two-way Streaming' section with a video player and a 'test' stream name.

