

Unit 3: Pausing and Resuming Clusters

MarkLogic test, development and QA clusters are often transient. Sometimes we need them and sometimes we don't. These clusters can be paused when not needed to minimize AWS costs associated with them. When needed, they can be easily resumed.

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Let's take a look at the process of pausing and resuming a MarkLogic cluster.

Display your CloudFormation Stacks

1. Make sure that you are logged into the AWS Console.
2. Click on **Services** at the top of the page.
3. In the **Management Tools** group, select **CloudFormation** to display your previously created CloudFormation stack.



Pause your CloudFormation Stack

1. Click the checkbox in the first column to select your MarkLogic CloudFormation stack.

Create Stack

Actions

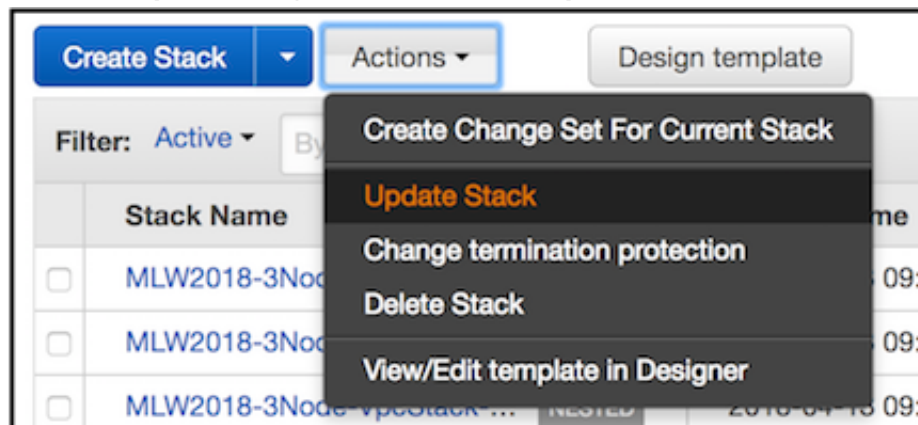
Design template

Filter: Active

By Stack Name

	Stack Name	Created Time	Status	Description
<input type="checkbox"/>	MLW2018-3Node-NodeMgrL... <div>NESTED</div>	2018-04-13 09:33:41 UTC-0500	CREATE_COMPLETE	Launch Lambda function for MarkLogic Node Manager on AWS
<input type="checkbox"/>	MLW2018-3Node-ManagedE... <div>NESTED</div>	2018-04-13 09:33:03 UTC-0500	CREATE_COMPLETE	Launch Managed ENI for MarkLogic Cluster on AWS
<input type="checkbox"/>	MLW2018-3Node-VpcStack-... <div>NESTED</div>	2018-04-13 09:32:17 UTC-0500	CREATE_COMPLETE	Create interface endpoint for a VPC using AWS Lambda
<input type="checkbox"/>	MLW2018-3Node-VpcStack-... <div>NESTED</div>	2018-04-13 09:31:36 UTC-0500	CREATE_COMPLETE	Create a VPC for MarkLogic cluster
<input checked="" type="checkbox"/>	MLW2018-3Node	2018-04-13 09:31:31 UTC-0500	CREATE_COMPLETE	Deploy a MarkLogic Cluster on AWS with a new VPC

- Click the **Options** dropdown then select **Update Stack**.



- On the **Select Template** page, click **Next** at the bottom of the page.

Choose a template A template is a JSON/YAML-formatted text file that describes your stack's resources and their properties. [Learn more.](#)

☒ Use current template

[View/Edit template in Designer](#)

- On the **Specify Details** page, scroll down the **Parameters** until you see **Nodes per Zone**.
- Update the **Nodes per Zone** value to **0**.

Number of Zones Total number of Availability Zones. 1 or 3.

Nodes per Zone → Total number of nodes per Zone. Set to 0 to shutdown/hibernate

Availability Zone

The Availability Zones for VPC subnets and instances. Accept either 1 zone or 3 zones. In the order of Subnet 1, Subnet 2 and Subnet 3 (if applicable).

- Click **Next** at the bottom of the page.
- On the **Options** page, click the **Next** button at the bottom of the page.
- On the **Review** page, check the box to acknowledge that CloudFormation might create custom IAM resources.

Capabilities

i The following resource(s) require capabilities: [AWS::CloudFormation::Stack]

This template contains Identity and Access Management (IAM) resources. Check that you want to create each of these resources and that they have the minimum required permissions. In addition, they have custom names. Check that the custom names are unique within your AWS account. [Learn more.](#)

☒ I acknowledge that AWS CloudFormation might create IAM resources with custom names.

- Click the **Update** button at the bottom of the page.

- You are returned to the main **Stacks** page in the **CloudFormation** group. The **Status** column changes automatically as your updates are applied to your CloudFormation stack.

<input type="button" value="Create Stack"/> <input type="button" value="Actions"/> <input type="button" value="Design template"/>				
Filter: Active By Stack Name				
	Stack Name		Created Time	Status
<input type="checkbox"/>	MLW2018-3Node-NodeMgrL... NESTED		2018-04-22 22:05:51 UTC-0500	CREATE_COMPLETE
<input type="checkbox"/>	MLW2018-3Node-ManagedE... NESTED		2018-04-22 22:05:13 UTC-0500	UPDATE_COMPLETE
<input type="checkbox"/>	MLW2018-3Node-VpcStack-... NESTED		2018-04-22 22:02:38 UTC-0500	CREATE_COMPLETE
<input type="checkbox"/>	MLW2018-3Node-VpcStack-... NESTED		2018-04-22 22:01:56 UTC-0500	UPDATE_COMPLETE
<input type="checkbox"/>	MLW2018-3Node		2018-04-22 22:01:50 UTC-0500	UPDATE_COMPLETE

Verify your Data Volumes

- Click on **Services** at the top of the page.
- In the **Compute** group, select **EC2** to display your EC2 Dashboard.
- In the **Resources** section at the top of the EC2 Dashboard,
- Note there are **0** **Running Instances**.

0 Running Instances

- Click on **Volumes**.

<input type="checkbox"/>	MarkLogicDa...	vol-014992b...	10 GiB	gp2	100 / 3000	April 22, 2018 at 10:...	us-west-2b
<input type="checkbox"/>	MarkLogicDa...	vol-0622465...	10 GiB	gp2	100 / 3000	April 22, 2018 at 10:...	us-west-2a
<input type="checkbox"/>	MarkLogicDa...	vol-0ad6504...	10 GiB	gp2	100 / 3000	April 22, 2018 at 10:...	us-west-2c

- Note the 3 MarkLogic Data volumes that were initially created as part of your CloudFormation stack remain. These will be connected to new MarkLogic instances when you resume your CloudFormation

stack.

Resume your CloudFormation Stack

1. In the **Display your CloudFormation Stacks** section above, repeat steps 1 through 3 to display your CloudFormation stack.
2. To resume your stack, repeat steps 1 through 4 in the **Pause your CloudFormation Stack** section above.
3. Enter for the **Nodes per Zone** parameter.
4. Continue with steps 6 through 10 in the **Pause your CloudFormation Stack** section.

Summary

You can pause and resume MarkLogic clusters to save on EC2 instance costs and resources. This is useful for intermittent usage such as development, test and QA purposes. Using CloudFormation templates enable you to quickly pause, resume and scale up MarkLogic clusters.

Quiz

1. AWS CloudFormation templates create:
 1. MarkLogic EC2 instances.
 2. Elastic Block Storage (EBS) for MarkLogic data and configuration.
 3. An AWS Elastic Load Balancer that distributes requests to MarkLogic Evaluator Nodes (Application Servers).
 4. All of the above.
2. You can pause an EC2 instance but cannot pause an entire MarkLogic cluster.
 1. True.
 2. False.
3. Healthy MarkLogic EC2 instances that are ready to be contacted display an Elastic Load Balancer status of:
 1. Ready.
 2. InRange.
 3. InService.
4. When viewing a CloudFormation stack, you'd select the main stack to:
 1. Update the MarkLogic CloudFormation stack parameters.
 2. Get the URL for the MarkLogic Administrative Interface on port 8001.

3. View the resources created such as the Elastic Load Balancer.
4. All of the above.

(Answers to Quiz)

- 1) 4.
- 2) 2.
- 3) 3.
- 4) 4.