

Lesson 09 Demo 05

Updating an Existing Stack

Objective: To update an existing stack of an S3 bucket for maintaining and modifying infrastructure

Tools required: AWS Management Console

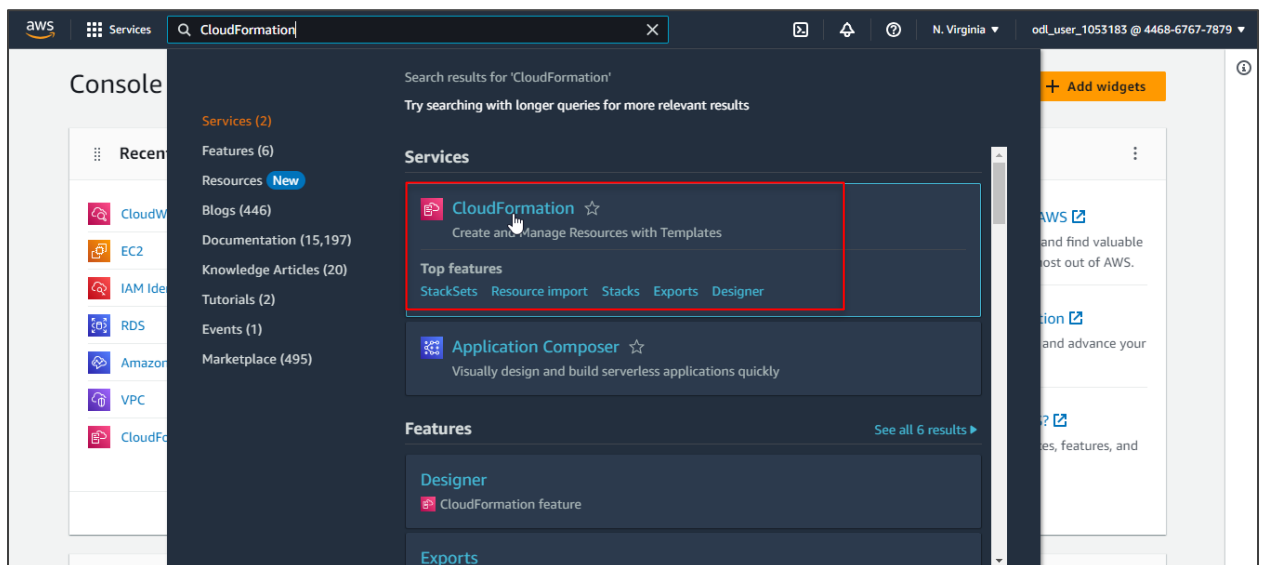
Prerequisites: None

Steps to be followed:

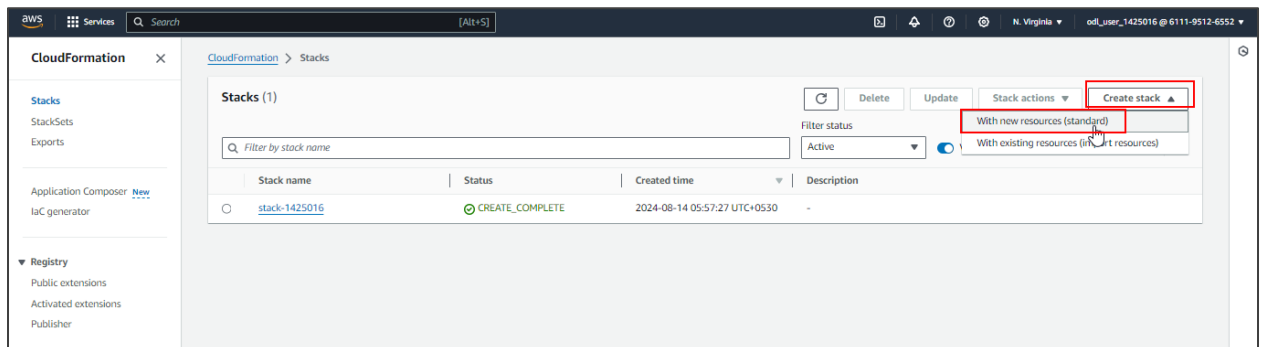
1. Create an S3 bucket stack using CloudFormation Designer
2. Update an S3 bucket from the stack

Step 1: Create an S3 bucket stack using CloudFormation Designer

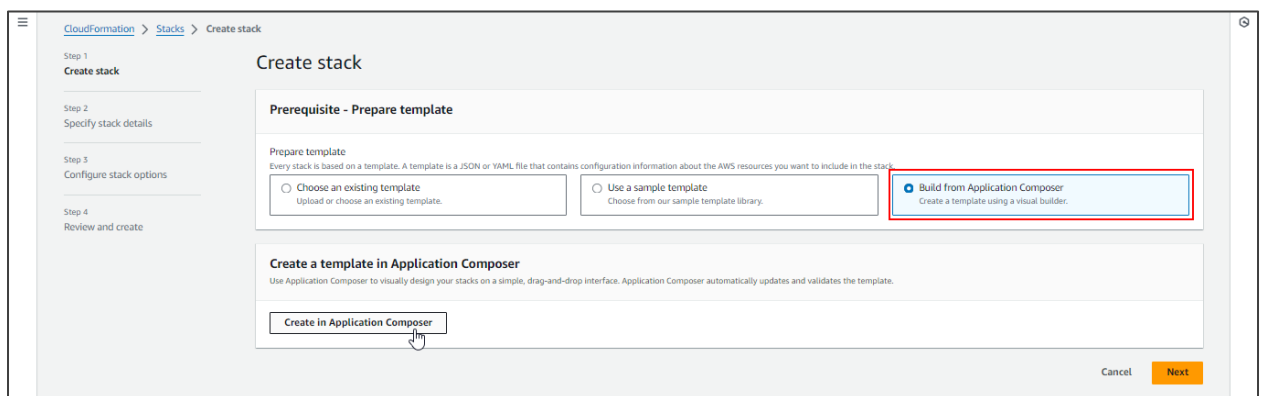
1.1 Go to the AWS Management Console and select the AWS CloudFormation service



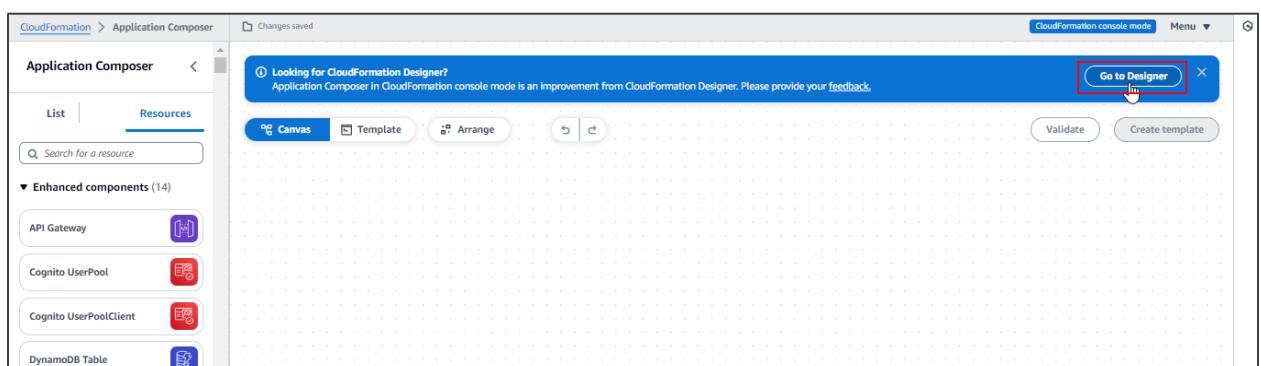
1.2 In the CloudFormation Management Console, click on **Create stack** and then select **With new resources (standard)**



1.3 In the Create stack console, choose the **Build from Application Composer** option and click **Create in Application Composer**

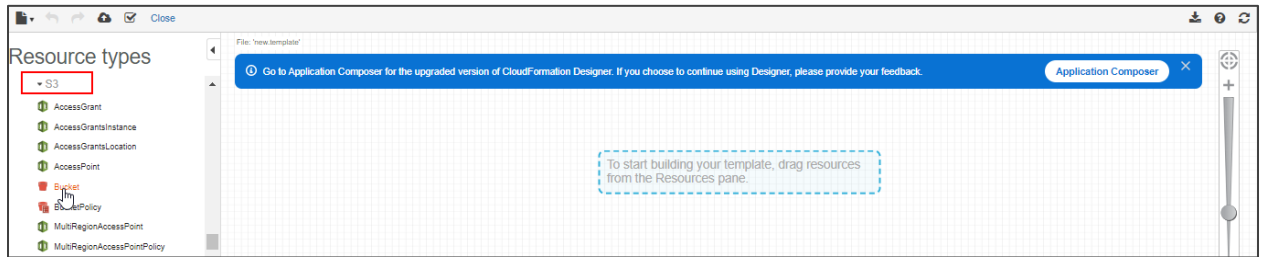


1.4 In the Application Composer, click on **Go to Designer**

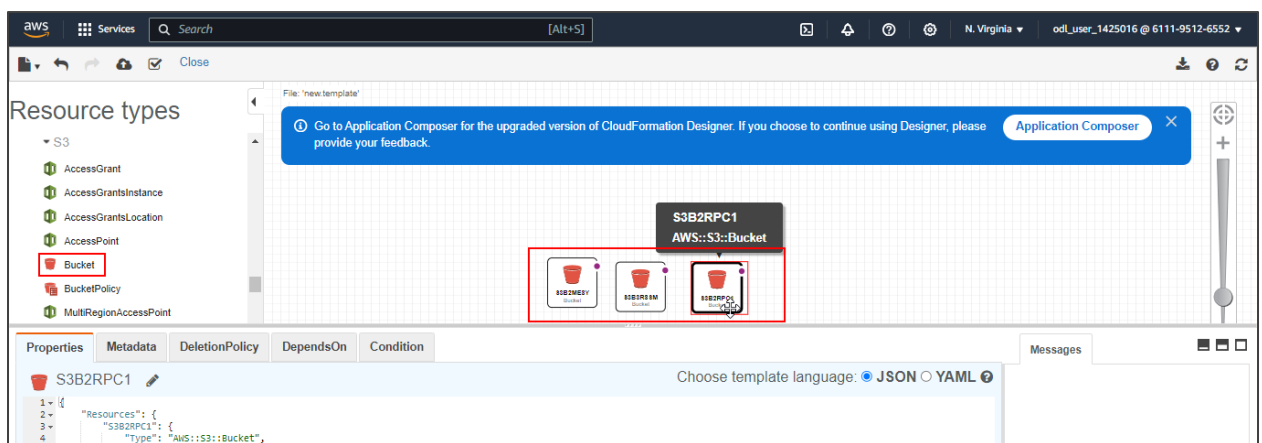


Note: Application Composer is the latest version of CloudFormation Designer. You may proceed with the Application Composer using steps similar to those of the Designer.

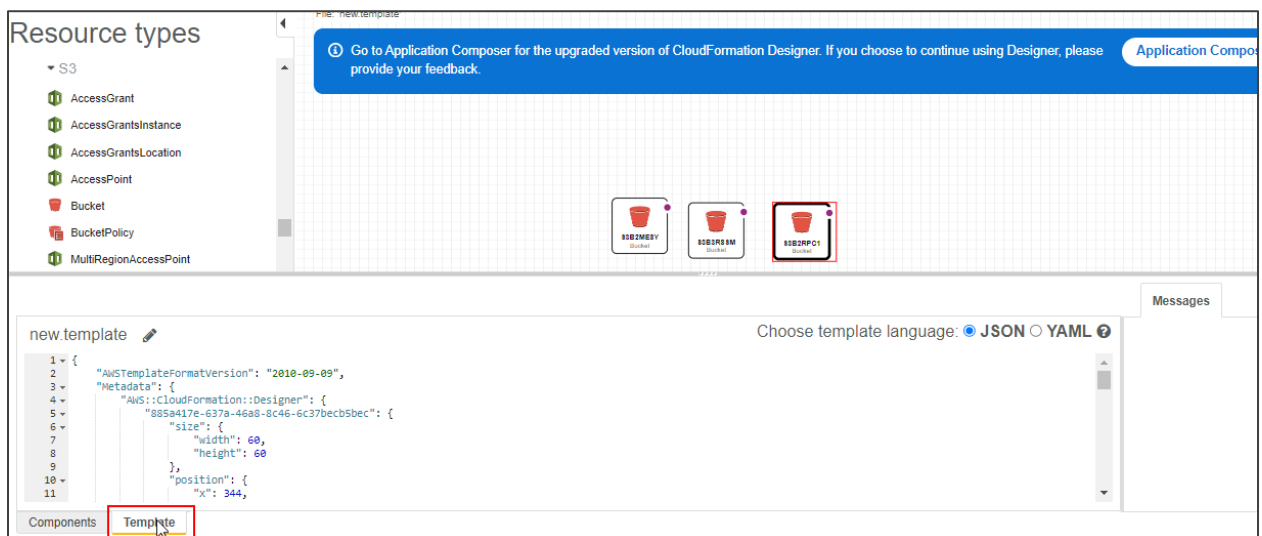
1.5 In the Template Designer, under **Resource types**, select **S3** and click **Bucket**



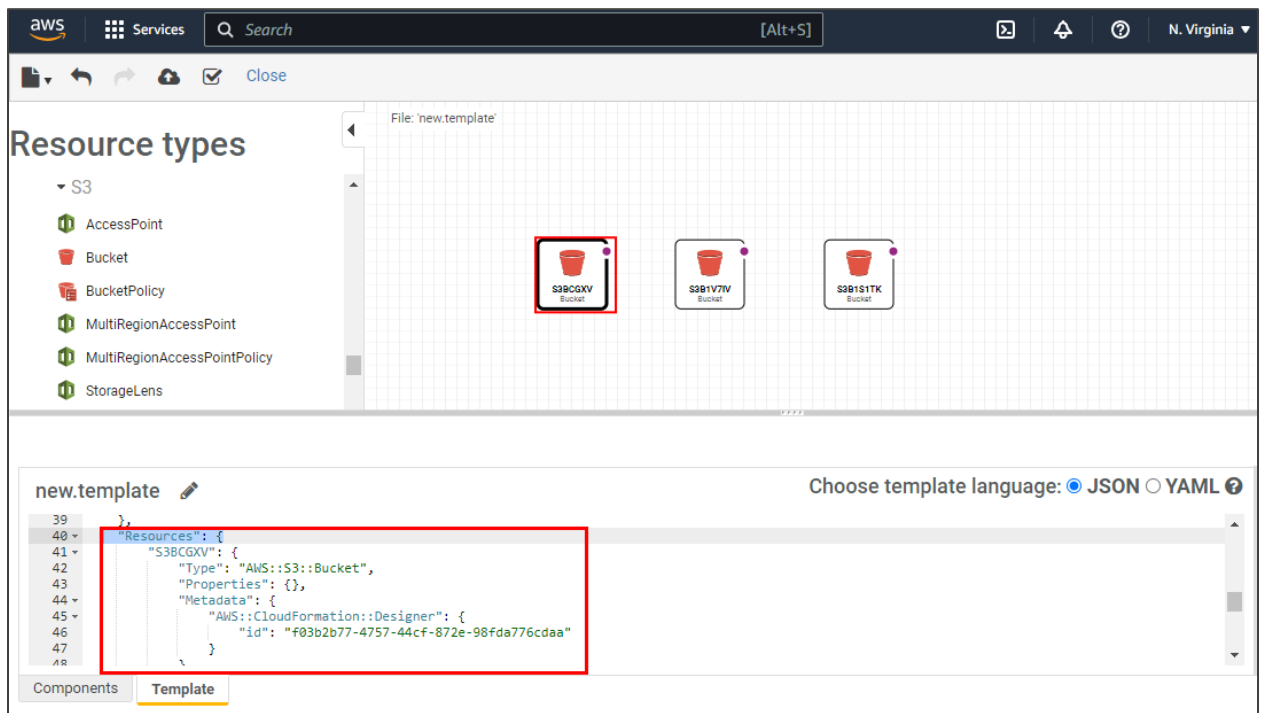
1.6 Drag and drop three buckets from the resource pane to the right pane



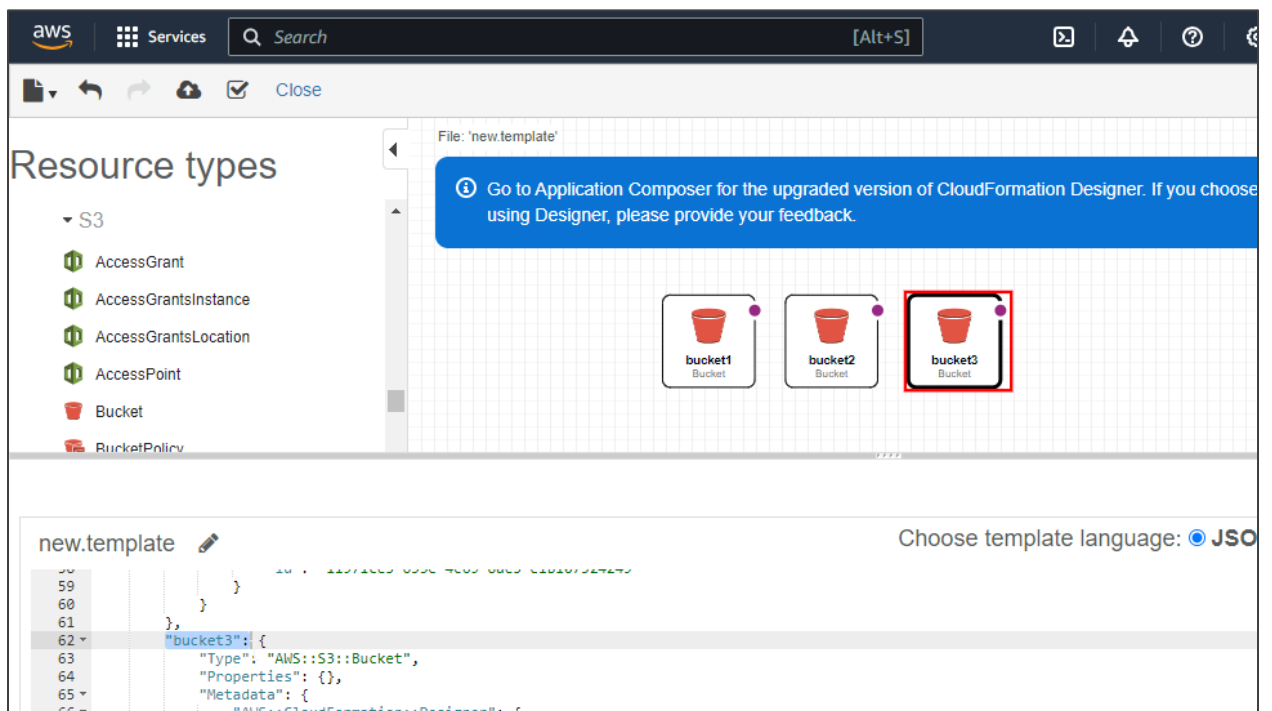
1.7 Go to the **Template** tab in the lower pane of the Template Designer



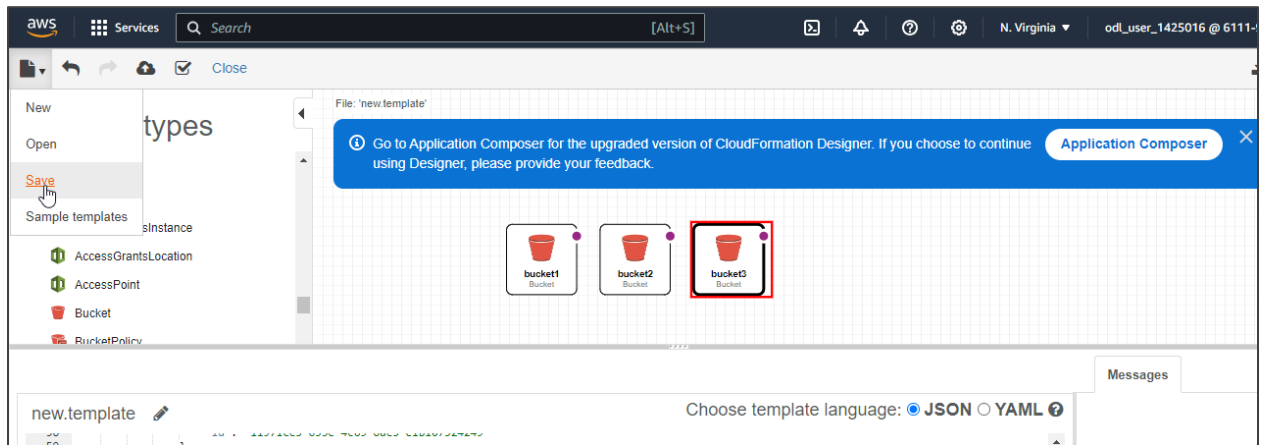
1.8 Edit the names of the buckets in the Resources section of the template



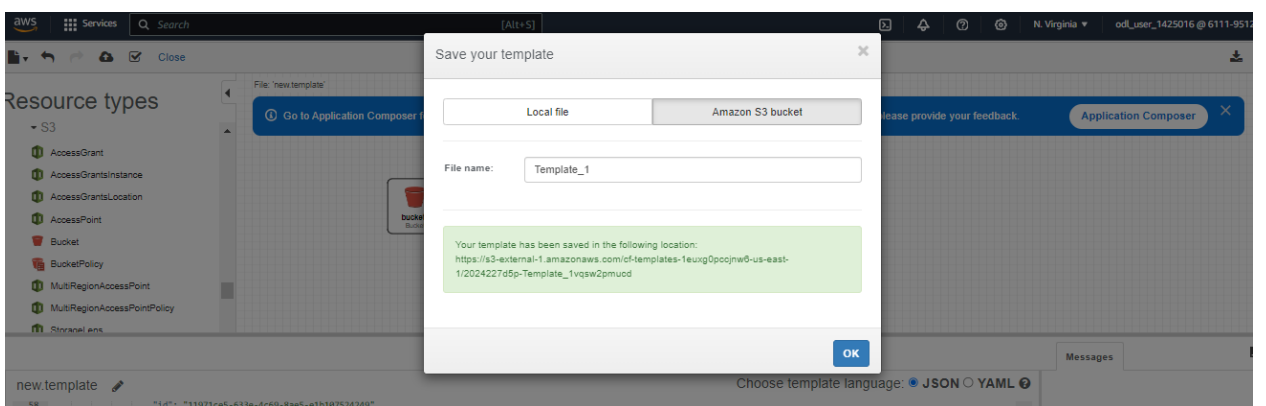
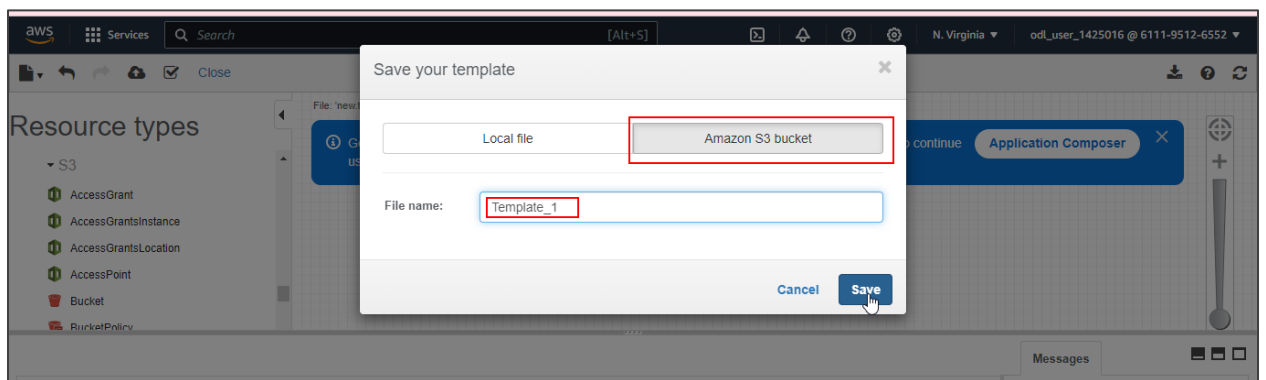
1.9 Enter desired names for the first, second, and third S3 bucket



1.10 Save the template



1.11 Select the Amazon S3 bucket option, provide the file name, and click Save

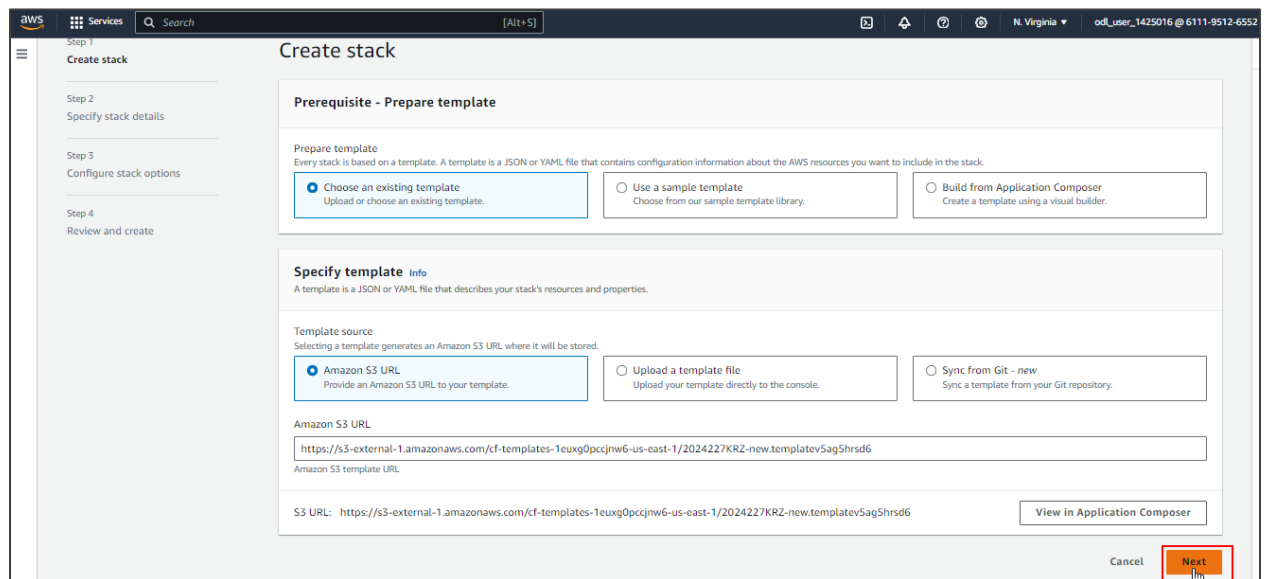


1.12 Click on the upload icon to upload the template file of the stack



You will be redirected to the Create stack page.

1.13 click Next



1.14 In the **Specify stack details** section, enter a name for the stack and click **Next**

CloudFormation > Stacks > Create stack

Step 1
[Create stack](#)

Step 2
Specify stack details

Step 3
[Configure stack options](#)

Step 4
[Review and create](#)

Specify stack details

Provide a stack name

Stack name

Stack name must be 1 to 128 characters, start with a letter, and only contain alphanumeric characters. Character count: 6/128.

Parameters

Parameters are defined in your template and allow you to input custom values when you create or update a stack.

No parameters

There are no parameters defined in your template

Cancel Previous **Next**

1.15 Keep all the default configurations in the **Configure stack options** page and click **Next**

Step 1
[Create stack](#)

Step 2
[Specify stack details](#)

Step 3
Configure stack options

Step 4
[Review and create](#)

Configure stack options

Tags - optional

Tags (key-value pairs) are used to apply metadata to AWS resources, which can help in organizing, identifying, and categorizing those resources. You can add up to 50 unique tags for each stack.

No tags associated with the stack.

[Add new tag](#)

You can add 50 more tag(s)

Permissions - optional

Specify an existing AWS Identity and Access Management (IAM) service role that CloudFormation can assume.

IAM role - optional

Choose the IAM role for CloudFormation to use for all operations performed on the stack.

IAM role name [Remove](#) [Refresh](#)

Stack failure options

Behavior on provisioning failure

Specify the roll back behavior for a stack failure. [Learn more](#)

☒ Roll back all stack resources

Roll back the stack to the last known stable state.

☐ Preserve successfully provisioned resources

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

Stack policy - optional

Defines the resources that you want to protect from unintentional updates during a stack update.

Rollback configuration - optional

Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back.

Notification options - optional

Specify a new or existing Amazon Simple Notification Service topic where notifications about stack events are sent.

Stack creation options - optional

Specify the timeout and termination protection options for stack creation.

Cancel Previous **Next**

1.16 Review the configurations and click **Submit**

Notification options

SNS topic ARN

No notification options
There are no notification options defined

Stack creation options

Timeout
-

Termination protection
Deactivated

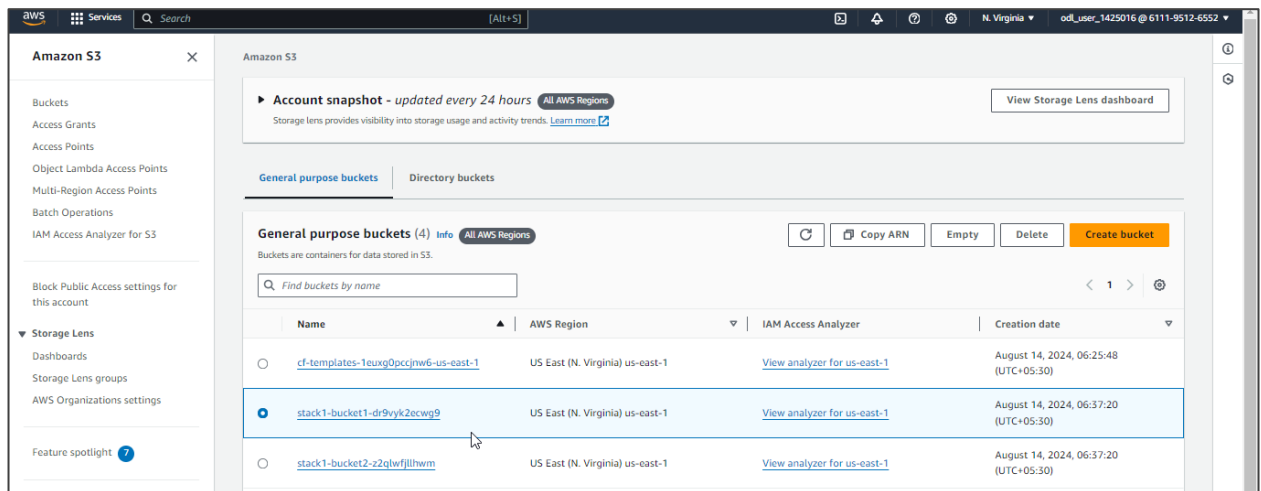
► Quick-create link

The screenshot shows the AWS CloudFormation console. On the left, the 'Stacks' list shows 'Stack1' with a status of 'CREATE_COMPLETE'. The main panel displays the 'Stack1' details page, specifically the 'Events' tab. The events table shows the following data:

Timestamp	Logical ID	Status	Detailed status	Status reason
2024-08-14 06:37:31 UTC+05:30	Stack1	CREATE_COMPLETE	-	-
2024-08-14 06:37:30 UTC+05:30	bucket2	CREATE_COMPLETE	-	-
2024-08-14 06:37:30 UTC+05:30	bucket1	CREATE_COMPLETE	-	-
2024-08-14 06:37:29 UTC+05:30	bucket3	CREATE_COMPLETE	-	-
2024-08-14 06:37:18 UTC+05:30	bucket2	CREATE_IN_PROGRESS	-	Resource creation Initiated
2024-08-14 06:37:18 UTC+05:30	bucket1	CREATE_IN_PROGRESS	-	Resource creation Initiated

The stack is successfully created using a template designed in the GUI-based CloudFormation Designer.

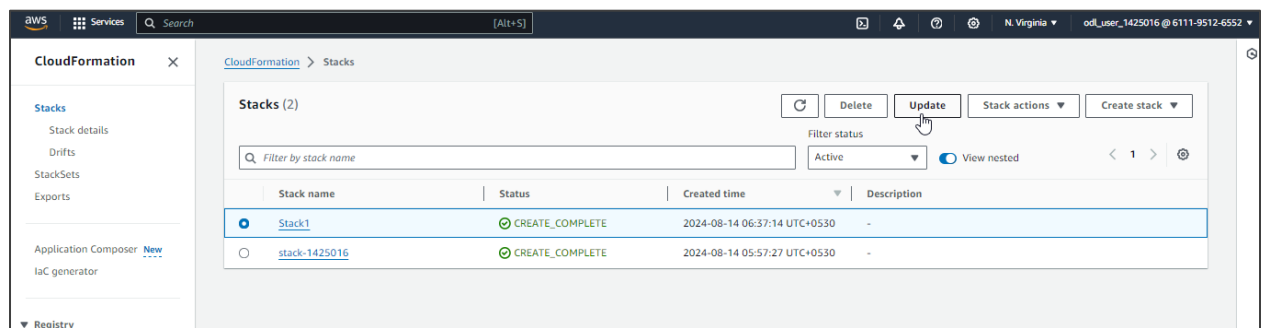
1.17 Go to the S3 bucket dashboard



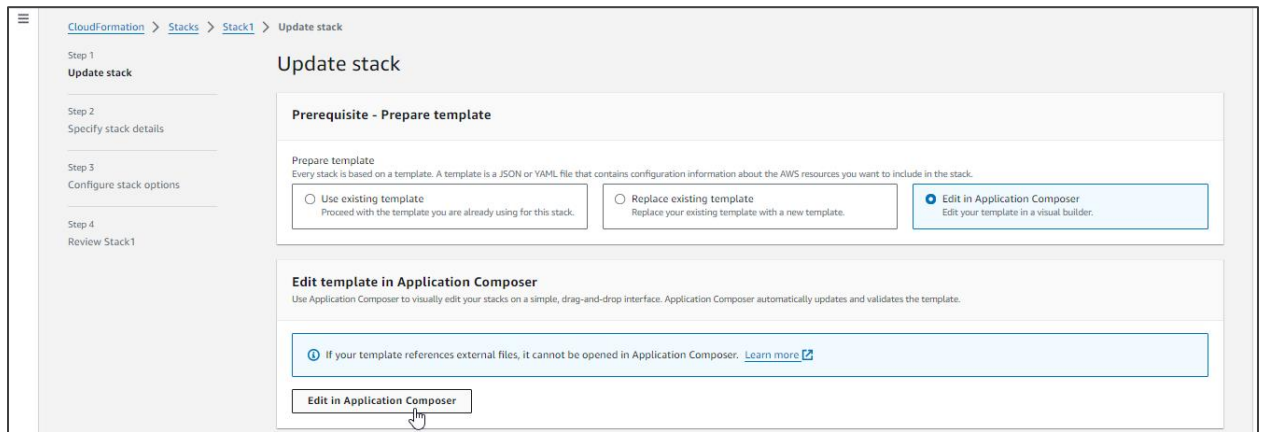
You will find that all three buckets are created.

Step 2: Update an S3 bucket from the stack

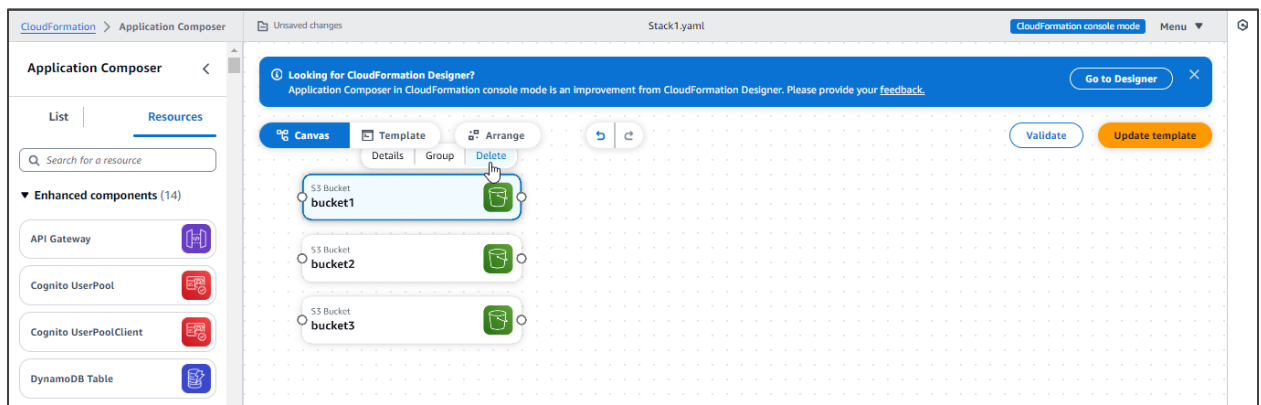
2.1 Go to the **CloudFormation** dashboard, select the stack you created, and click **Update**



2.2 Select **Edit in Application Composer** and click on **Edit in Application Composer**

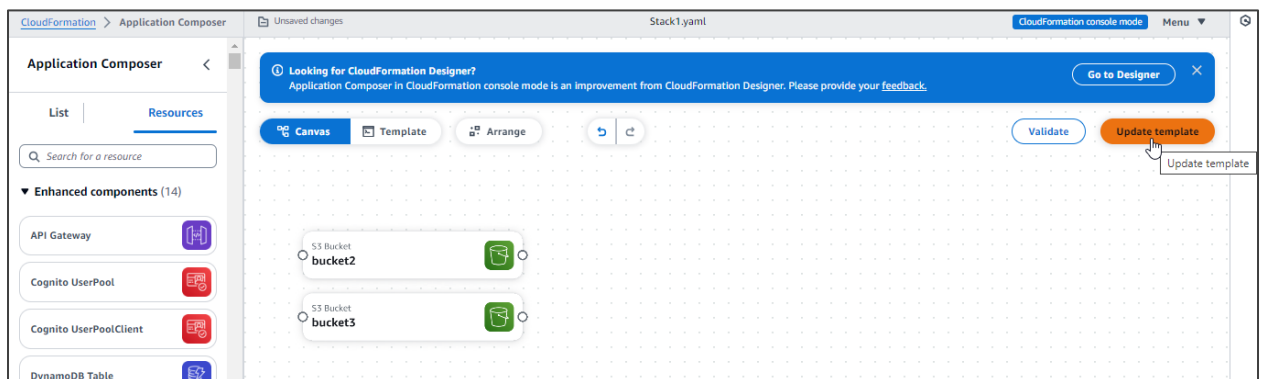


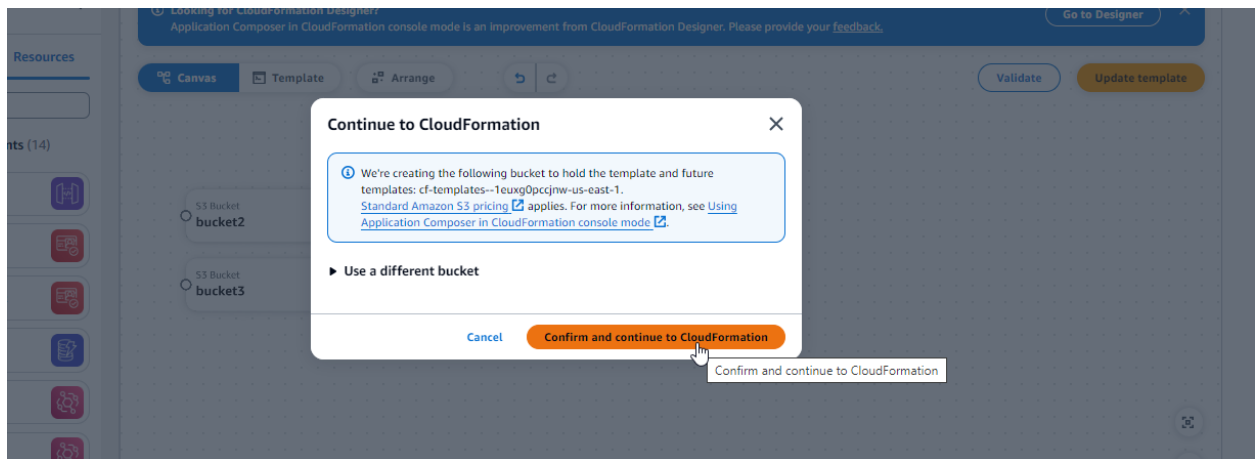
2.3 Select the first bucket and click on **Delete** to remove the bucket from the stack



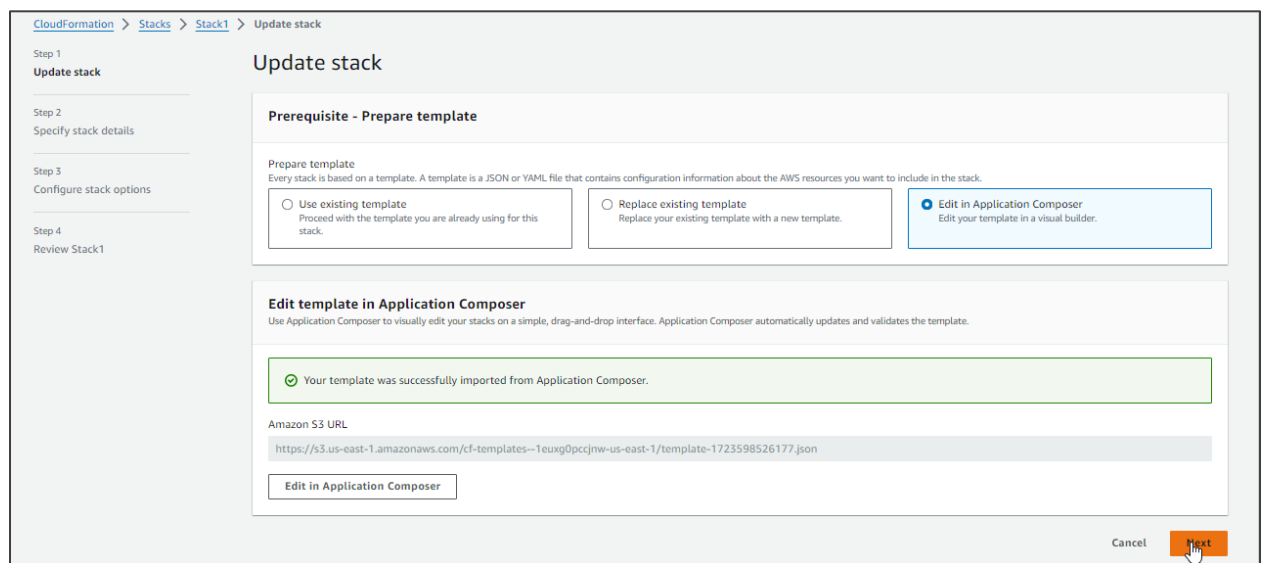
Note: You can also switch to CloudFormation Designer to perform any update operation.

2.4 After deleting the bucket, click on the **Update template** and, select the **Confirm and continue to the CloudFormation** option

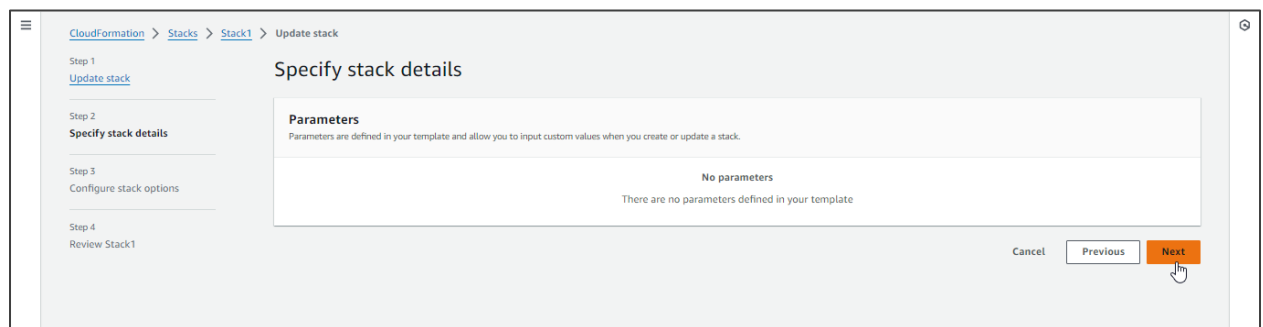




2.5 After successfully importing the updated stack template from the Application Composer, click **Next** to continue



2.6 Click **Next**



2.7 Review the configurations and click **Submit**

Retains or deletes created resources according to their attached deletion policy.

☐ Delete all newly created resources
Deletes created resources during a rollback regardless of their attached deletion policy.

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

► **Stack policy during update**
Defines the resources that you want to protect from unintentional updates during a stack update.

► **Rollback configuration - optional**
Specify alarms for CloudFormation to monitor when creating and updating the stack. If the operation breaches an alarm threshold, CloudFormation rolls it back.

► **Notification options**

Cancel Previous **Next**

After a few minutes, the status will change to **UPDATE_COMPLETE**.

CloudFormation > Stacks > Stack1

Stacks (2)

Filter status: Active

☒ View nested

Stacks

Stack1

2024-08-14 06:37:14 UTC+0530

UPDATE_COMPLETE

stack-1425016

2024-08-14 05:57:27 UTC+0530

CREATE_COMPLETE

Stack1

Delete Update Stack actions Create stack

Stack info Events Resources Outputs Parameters Template Change sets Git sync - new

Events (16)

Timestamp	Logical ID	Status	Detailed status	Status reason
2024-08-14 07:00:34 UTC+0530	Stack1	UPDATE_COMPLETE	-	-
2024-08-14 07:00:34 UTC+0530	bucket1	DELETE_COMPLETE	-	-
2024-08-14 07:00:32 UTC+0530	bucket1	DELETE_IN_PROGRESS	-	-

2.8 Navigate to the S3 bucket dashboard and refresh the page to verify the changes in the stack

The screenshot shows the Amazon S3 console interface. On the left, there is a navigation pane with options like Buckets, Access Grants, and Storage Lens. The main content area displays 'General purpose buckets (4)' with a search bar and a table of buckets. The table has columns for Name, AWS Region, IAM Access Analyzer, and Creation date. The bucket 'stack1-bucket2-z2qlwfljllhwm' is highlighted with a red box, indicating it has been successfully deleted.

Name	AWS Region	IAM Access Analyzer	Creation date
cf-templates--1euxg0pccjnw-us-east-1	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 14, 2024, 06:52:05 (UTC+05:30)
cf-templates-1euxg0pccjnw6-us-east-1	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 14, 2024, 06:25:48 (UTC+05:30)
stack1-bucket2-z2qlwfljllhwm	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 14, 2024, 06:37:20 (UTC+05:30)
stack1-bucket3-hpray8yog0b0	US East (N. Virginia) us-east-1	View analyzer for us-east-1	August 14, 2024, 06:37:20 (UTC+05:30)

This indicates that the first bucket has been successfully deleted.

By following these steps, you have successfully updated the stack by removing one S3 bucket to modify the infrastructure and maintain its efficiency.