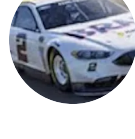


What Happens when we update a Cloud Formation Stack



andrew reichek · Jul 27, 2023 · 2 min read

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Let's create a new stack and then update it.

In AWS CloudFormation, a replacement is an update that requires deleting the current resource and recreating it with the updated configuration or properties. This typically happens when you change an immutable property of a resource, i.e., a property that cannot be modified after the resource is created.

For example, changing the instance type of an EC2 instance would require a replacement. AWS CloudFormation would automatically handle this by creating a new instance with the desired type, then deleting the old one.

Let's create a new stack and then update it.

```
rs > andrew > Downloads > us-west-security-3-micro > {} Resources > {} MyEC2Instance > {}
Parameters:
  AllowedIP:
    Type: String
    Default: 10.0.0.1/32
    Description: IP Allowed

Resources:
  MyEC2Instance:
    Type: AWS::EC2::Instance
    Properties:
      ImageId: ami-0a31b1d679a45dda9
      InstanceType: t2.micro
      SecurityGroupIds:
        - !Ref InstanceSecurityGroup

InstanceSecurityGroup:
  Type: AWS::EC2::SecurityGroup
  Properties:
    GroupDescription: Enable SSH and HTTP
    SecurityGroupIngress:
      - IpProtocol: tcp
        FromPort: 80
        ToPort: 80
        CidrIp: !Ref AllowedIP
```

Here we have a Cloudformation Stack

It includes:

- A) Allowed IP address with the default being set
- B) An EC2 instance: We hardcoded an AMI image from US-West-1 Region. Notice that the instance type is t2.micro
- C) We also enabled HTTP access in the instance by opening port 80

Prerequisite - Prepare template

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.

☒ Template is ready

☐ Use a sample template

☐ Create template in Designer

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 S3 URL, where it will be stored.

☐ Amazon S3 URL

☒ Upload a template file

Upload a template file

Choose file

us-west-security-3-micro

JSON or YAML formatted file

S3 URL: https://s3.us-west-1.amazonaws.com/cf-templates-xf9wnypo5ltm-us-west-1/2023-07-27T181812.376Z5si-us-west-security-3-micro

View in Designer

In Cloud Formation we uploaded our template.

ate stack

Specify stack details

Stack name
Stack name
ec2-micro
Stack name can include letters (A-Z and a-z), numbers (0-9), and dashes (-).

Parameters
Parameters are defined in your template and allow you to input custom values when you create or update a stack.
AllowedIP
IP Allowed
10.0.0.1/32

Cancel

Previous

Next

We named the Stack "ec2-micro"

Remember the default parameter set for AllowedIP?

Resources (2)					
Search resources					
Logical ID	Physical ID	Type	Status	Module	
InstanceSecurityGroup	ec2-micro-InstanceSecurityGroup-1886PSHEAQZRC	AWS::EC2::SecurityGroup	CREATE_COMPLETE		
MyEC2Instance	i-0b93e7ce27e134730	AWS::EC2::Instance	CREATE_COMPLETE		

Let's check what was created.

Our Ec2 instance and security group were then created in the Stack.

Our security group was created with port 80 open.

A t2.micro instance was created and check the AMI image. Does it match what we hard coded in Cloud Formation?

Now let's create a new Instance Type in Cloud Formation

We changed the AMI image and the Instance Type to a t2.small.

Everything else was left as-is.

We 'replaced the current template' and then updated the stack.

Cloud formation terminated our t2.micro instance and created a new instance. This is the t2.small.

What about our AMI image.

Did it change?

No, our AMI image didn't change. It looks as though it is the same image as our t2.micro image

Well there you have it, that is how you can replace a stack in Cloud Formation.

Don't forget to delete your resources.

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