

AWS CloudFormation



CLARUSWAY
WAY TO REINVENT YOURSELF

Introduction to CloudFormation

What is CloudFormation?

- Create-Delete-Modify one or few AWS resources
 - Easy ✓
- Hundreds ?



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Introduction to CloudFormation

What is CloudFormation?

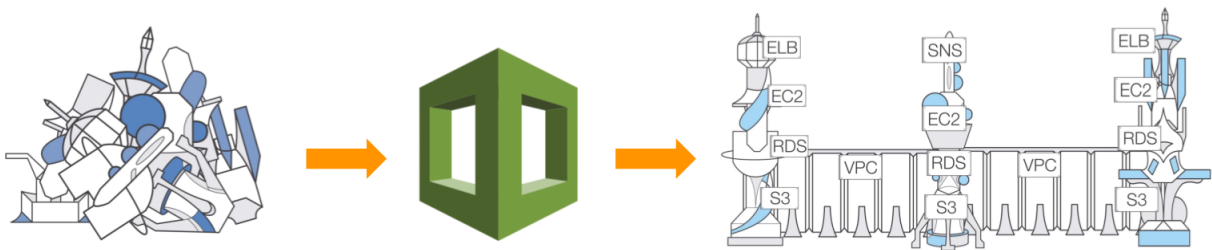


- **CloudFormation** is an **AWS service** which enables you to create, manage, configure, replicate and delete **AWS resources** easily and rapidly using **templates**.



Introduction to CloudFormation

What is CloudFormation?

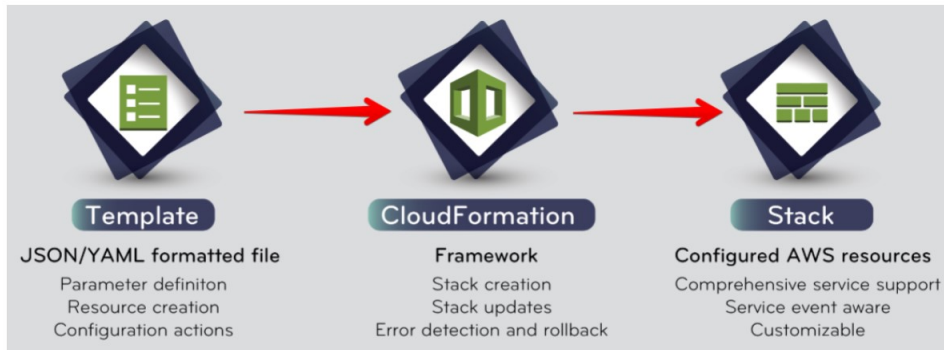


- **Provisions** and **manages** stacks of AWS resources based on **templates** you create to model your infrastructure architecture.



Introduction to CloudFormation

Templates and Stacks



- **Templates** and **Stacks** are the main components of AWS CloudFormation.



Introduction to CloudFormation

Pricing



- You **don't pay** for using **AWS CloudFormation**.
- You **pay** for the **resources you use**.



Templates

What is a Template?

```
{
  "AWSTemplateFormatVersion" : "2010-09-09",
  "Description" : "A simple EC2 instance",
  "Resources" : {
    "MyEC2Instance" : {
      "Type" : "AWS::EC2::Instance",
      "Properties" : {
        "ImageId" : "ami-0ff8a91507f77f867",
        "InstanceType" : "t1.micro"
      }
    }
  }
}
```

- A template is a **JSON** or **YAML** formatted text file which you specify the AWS resources you want to create.



Templates

What is a Template?

- You create resources, define the parameters and configure your settings with templates.
- Templates can have the extensions **.json**, **.yaml**, **.yml**, **.template**, or **.txt**.



Templates

Structure

- Template Version
- Description
- Metadata
- Parameters
- Mappings
- Conditions
- Transform
- Resources
- Outputs

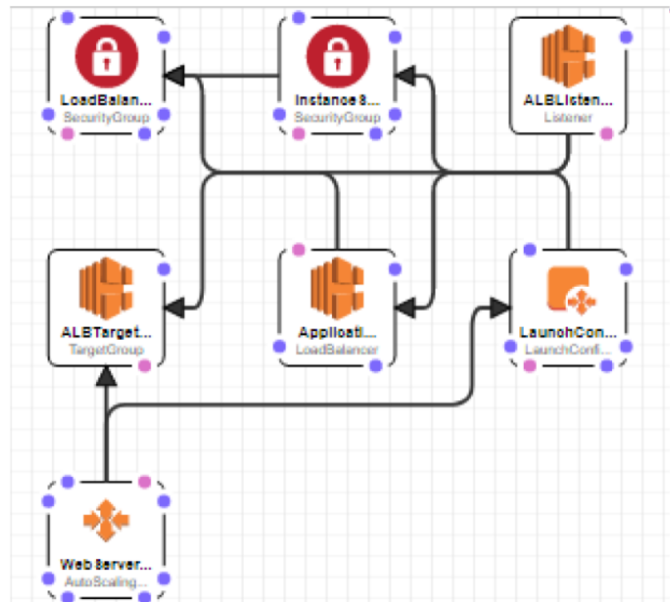
```
{
  "AWSTemplateFormatVersion" : "version date",
  "Description" : "JSON string",
  "Metadata" : {
    template metadata
  },
  "Parameters" : {
    set of parameters
  },
  "Mappings" : {
    set of mappings
  },
  "Conditions" : {
    set of conditions
  },
  "Transform" : {
    set of transforms
  },
  "Resources" : {
    set of resources
  },
  "Outputs" : {
    set of outputs
  }
}
```



Stacks

What is a Stack?

- A stack is a single unit **composed of the AWS resources** provisioned by CloudFormation.
- All of the resources in a **stack** are defined and configured by the **related template**.

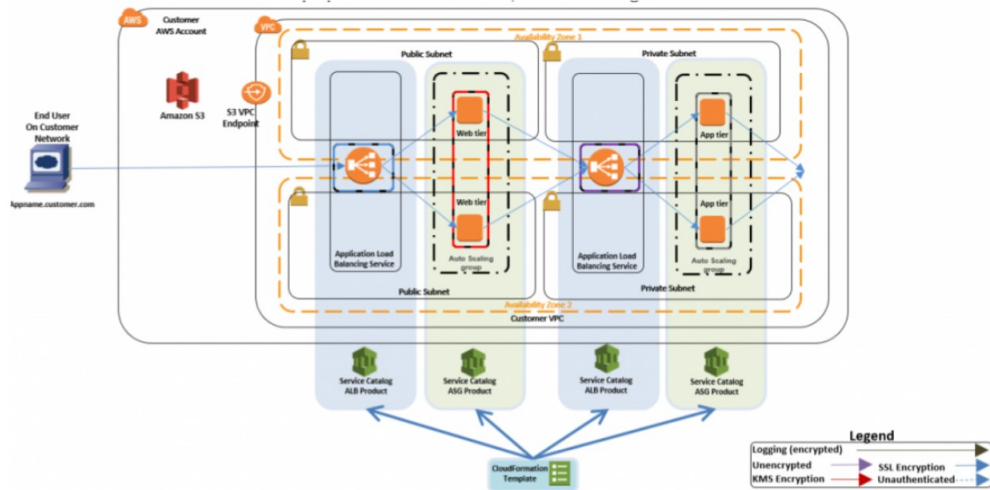




Stacks

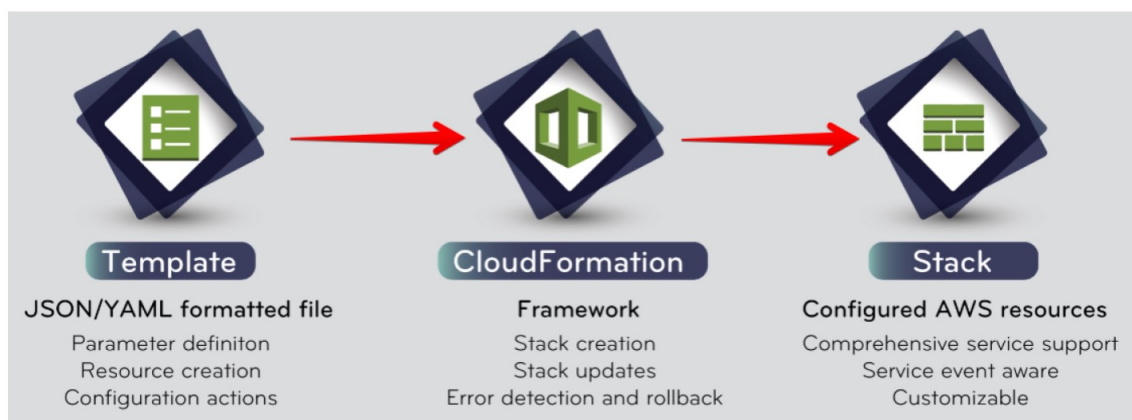
What is a Stack?

- A stack can be either **a single EC2 instance** or **a very complex VPC**.



CloudFormation's Working Process

How does it work?

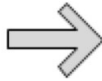


CloudFormation's Working Process

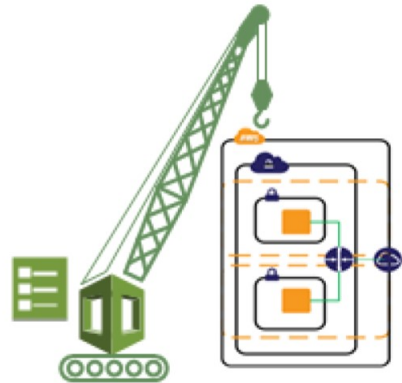
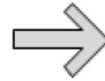
How does it work?



1 Create or use an existing template



2 Save locally or in S3 bucket



3 Use AWS CloudFormation to create a stack based on your template. It constructs and configures your stack resources.