



CloudFormation and Creation Policy

We have talked so far about the different types of resources and architectures in AWS, but we have not really delved deeply into the many novel ways in which our cloud infrastructure can be created and managed. Two ways in which resources can be created, configured and managed within AWS are the AWS Management Console and AWS CLI, both of which have been discussed in an earlier background section. However, there is another method: **CloudFormation**.

CloudFormation is an **IaC(Infrastructure as Code)** service which allows us to automate the provisioning of AWS resources using code. This is done by writing a **CloudFormation Template**, a single JSON file that describes all the AWS resources that need to be created and the relations between them, non-technical readers may imagine this file as a sort of code version of the architecture diagrams that have been sprinkled throughout the book. Said templates can then be fed into CloudFormation, spinning up and configuring the described infrastructure on our behalf, saving us the hassle of individually creating and configuring AWS resources and figure out what's dependent on what, immensely simplifying the process of deploying and managing infrastructure on AWS.

CloudFormation also has an attribute called **CreationPolicy** which can be used to setup certain third party software and ensure certain components are running before the resources mentioned in the template are spun up. This is because the resources utilizing the CreationPolicy attribute may be forcefully restrained from reaching the **"Completed"** stage until AWS CloudFormation verifies that certain conditions such as a specified number of success signals or timeout period has been met.