Software Platform as a Service Utilizing AWS CloudFormation

About Paramount Group, LLC (PMG)

Paramount Group is a physician network and independent provider association (IPA) in Omaha, NE.

Background

Opti9 created a SPA (Software Platform as Service) that utilized AWS services including CloudFormation, RDS, S3, CloudFront, API Gateway, Lambda, and Cognito to provide them with easy access and modification of their data. Additionally, an automated system was developed which ingested all incoming files from the outside world while automatically processing it into one location: where they can be used later on by our client in order for them to make better business decisions based off this information. This challenge was met by utilizing CloudFormation, Lambda, and S3.

The Web Challenge

In order to solve the web challenge, Opti9 leveraged CloudFormation templates for their AWS environment. The team set up an RDS database and created networking structures including Subnets and VPCs using infrastructure as code concepts which allowed them automate web stacks with automated releases in a timely manner while also following best practices by creating pipelines that have automatic gates controlled through manual gate controls alongside tests done on each deployment release before releasing it out into production.

AWS Tools used for Web

RDS and API Gateway allowed us to quickly develop and release microservices that allowed us to interface with the database for quick data retrieval to display on the SPA. S3, CloudFront allowed us a place to quickly deploy our Single Page Application and create distributions for hosting the Web Application. Cognito was used to integrate and allow easy access to user accounts. Lambda was used to create micro functions that used API gateway as an interface. The lambda functions interacted with the RDS Database.

Data Solution

One of the key solutions we created was an automated data processor that allowed us to flow and ingest all customer information into our system. This went through more processing before being stored in AWS's S3 buckets, which were used as triggers for Lambda functions--when any item was placed inside these trigger locations it would automatically process said items by doing whatever manipulation or analysis was needed on them; then placing those processed pieces back onto RDS databases so they could easily be accessed.

AWS Tools for Data Solution

CloudFormation was used to create the infrastructure utilizing the philosophy infrastructure as code which set up the S3 buckets, and Lambda functions for processing.

Lambda Functions were created to handle and ingest the data into the system, process and manipulate as needed, and then to be placed in the RDS instances for viewing on the Web Application at a later time.

Benefits

When we used CloudFormation to automate the infrastructure, it allowed us greater flexibility and ideation. Being able build on a constant basis has really helped our workflow evolve more quickly than before with an iterative process that is improving based off feedback from customers like yourself who are eager for new features or functionality!

AWS also had the tools to easily meet their challenge that they presented us and did not have to go out and create a custom solution that would have taken more time, but instead we could easily utilize the tools that we were already familiar with at our disposable.

PMG has already given great feedback from internal and external users on how great the platform that we created has benefited them. Users have stated how they never thought it was possible to see the type of data that we display on their web application. This was only possible because of the solutions we came up with and implemented in AWS large array tool belts.

When PMG is ready to add more features, we know we can be quick and swift in getting those new items to them, because we know we have the development environment, and easily release cycles to develop the requests and get them into a timely manner. There should be full confidence in knowing that their environment is ready to meet their requests.