The Bootcamp Baseline

Our SaaS Bootcamp is intended to demonstrate the concepts an architect should consider when designing and building a Software as a Service (SaaS) solution on AWS. For this reason, in order to accelerate the learning path to focus on SaaS best practices and design considerations, we will have the bootcamp executor provision a series of baseline infrastructure in AWS to streamline the delivery of this bootcamp and focus on our learning objectives. As a result the user is expected to provision a **CloudFormation** template which will orchestrate the provisioning of multiple nested stacks which will be responsible for the creation of a baseline network, compute, and storage environment to support the different lab activities. This environment includes a **VPC** with multiple subnets, a number of security settings, a couple of **S3** buckets and an **Elastic Container Service** setup that we'll use to run our microservices.

Note: If you are attending this bootcamp at an AWS led event, it is expected that the AWS Event Engine will be responsible for orchestrating the bootcamp baseline, and this step will be considered redundant, and you should start the bootcamp with Lab 1.

Lab 10 – Provision Bootcamp Baseline

Overview

For this prerequisite lab, we're going to provision the baseline infrastructure in a **CloudFormation** template. For the purposes of this bootcamp, we will not be demonstrating the corresponding concepts or best practices for this baseline infrastructure, as it suits as a framework for the subsequent labs in this bootcamp. This baseline will create the footprint of our multi-tenant system, and AWS infrastructure landscape.

Warning: It is strongly recommended for a bootcamp executor to provision this infrastructure in an AWS Account that will not be leveraged for their organizations systems in testing, development, or production. One approach is to provision a linked account using AWS Organizations, which allows one to provision AWS accounts under a master billing account so the security remains isolated from the corresponding billing. It is expected that the bootcamp will create a significant amount of resources and some in which there is a wide-net of IAM Policies or insecure API endpoints to demonstrate the value of integrating and resolving application issues and showcasing insecure challenges to demonstrate the value of building a robust approach to security in a real-world SaaS application. **DO NOT RUN THIS IN PRODUCTION**

Part 1 – Create the Baseline Infrastructure

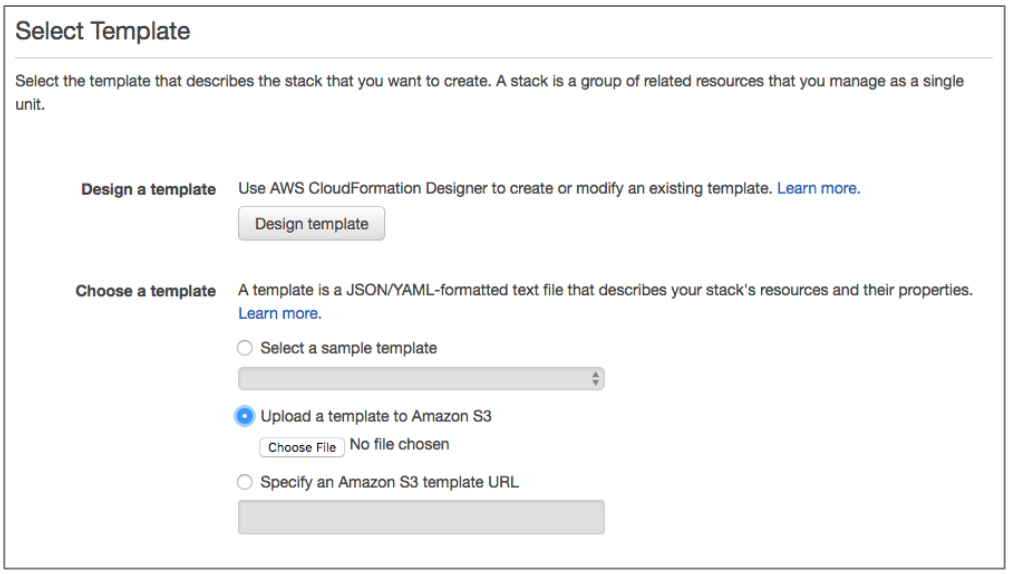
Our goal for this lab is to provision the baseline infrastructure in this step using CloudFormation.

Step 1 – We have prepared a **CloudFormation** template to build the baseline infrastructure within our AWS environment.

Download the **saas-bootcamp-baseline-master.template** file to your computer from the GitHub repository for this bootcamp at templates/saas-bootcamp-baseline-master.template. You can right-click on the "**Raw**" button in GitHub and select "**Save Link As**".

Step 4 – Navigate to the CloudFormation service in the AWS console and select the "**Create Stack**" button at the upper left of the page.

Step 5 – After you have selected create stack you'll be presented with a screen of option for selecting a template to be provisioned. The screen will appear as follows:

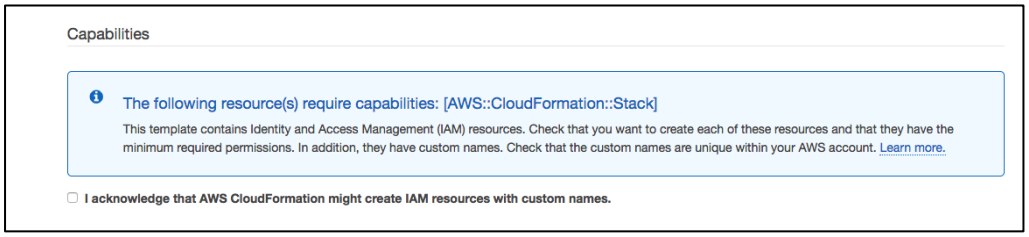


Here you'll see multiple approaches to uploading a template file. Select the "**Upload a template to Amazon S3**" option. Then, select the "Choose File" button and select the template file you downloaded in Step 3. Finally, select the "**Next**" button to move to the next step in the creation process.

Step 6 – The CloudFormation service will now prompt you for a stack name. Enter "**module-saas-bootcamp-base**" for the stack name and leave the other parameters with their default values.

Warning: It is important to ensure that the CloudFormation Stack Name matches the name provided above, as many of the custom scripts will be orchestrated transparently using this Stack Name as a hard coded value. **DO NOT BE CREATIVE WITH THE STACK NAME, USE NAME PROVIDED ABOVE – CASE SENSITIVE.**

Select the "**Next**" button to initiate the creation of the user management service and select "**Next**" once more on the options page. Finally, review the summary. At the bottom of the page, select the "**I acknowledge that AWS CloudFormation might create IAM resources with custom names**" checkbox.



The last step is to select the "**Create**" button at the bottom right of the summary page to trigger the execution of the stack. You'll see a number of Stacks start to execute and be in the CREATE_IN_PROGRESS status. Highlighting individual rows in the stacks table will allow you to view the events being triggered by that stack.

Recap: This was the last step in verifying that all the elements of the baseline infrastructure were created properly. Once the Stack Name labeled "**module-saas-bootcamp-baseline**" has been marked as CREATED_COMPLETE (you may need to refresh the browser using the recycle icon), we are prepared to start the bootcamp and Lab1.