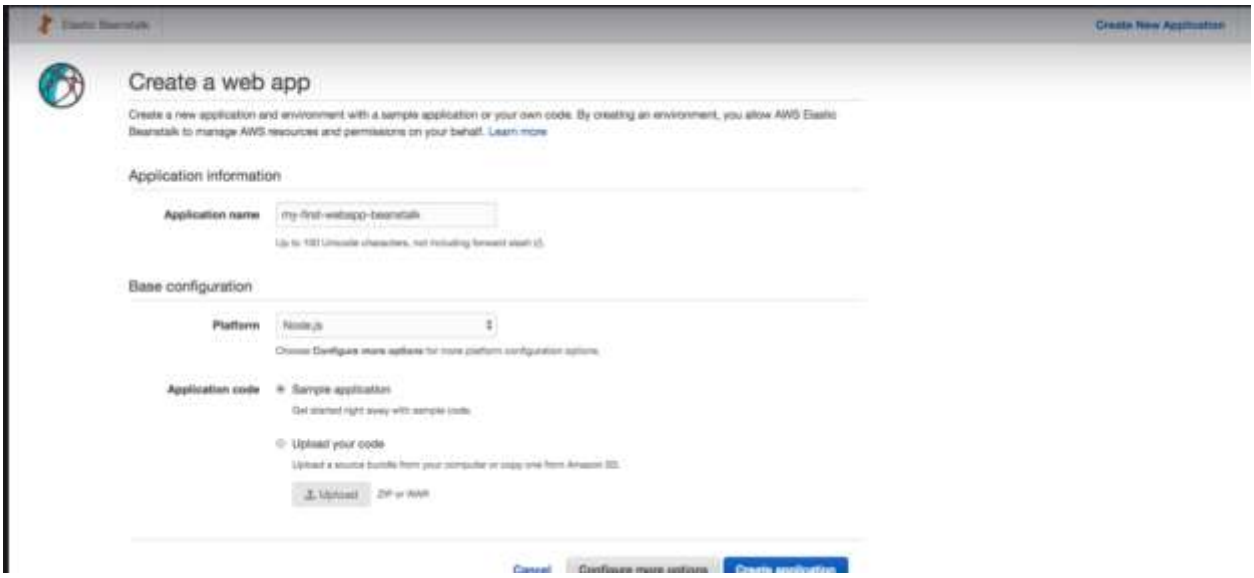
Beanstalk & CI/CD

Just in case anyone was interested I documented how I integrated AWS Elastic Beanstalk with AWS CodePipline. Although this is a document and can be difficult to understand each step, I'll try to do my best to simplify things with images and details.

I first went to AWS Elastic Beanstalk and launched a NodeJS sample platform I then went to the documentation of AWS Beanstalk here. There you will download a zip fine containing the files found in the repository you are in. I then selected create a web app shown below. This launches an EIP behind an ASG and ASG.



After launching this environment in elastic bean stalk and checking the url I instead wanted to host my own static webpage just for giggles and if I was going to implement a pipeline I waned to customize and personalize the context as much as possible to feel more dedicated and closer to the project itself.

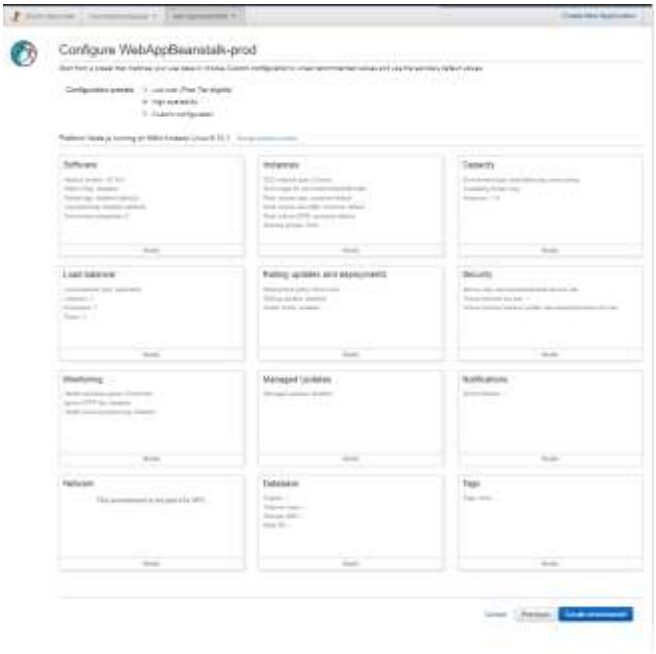
Thus I launched a new web application on the main page of Elastic Beanstalk and created the same except I went to configure more option button at the bottom which lead to the page shown below I selected modify option under rolling updates and deployments to change the deployment strategy to immutable. There are a few deployment strategies. (all at once, rolling , rolling with additional batch, and immutable).

All at once – Deploy the new version to all instances simultaneously. All instances in your environment are out of service for a short time while the deployment occurs.

Rolling – Deploy the new version in batches. Each batch is taken out of service during the deployment phase, reducing your environment's capacity by the number of instances in a batch.

Rolling with additional batch – Deploy the new version in batches, but first launch a new batch of instances to ensure full capacity during the deployment process.

Immutable- Deploy the new version to a fresh group of instances by performing a immutable update



As a project I choose immutable update to maintain availability and to have virtually no downtime although this does implement a whole new environment and therefore cost. This all depends on the needs. If downtime wasn't a concern, then all at once would be the best deployment strategy and would cost much less. After configuration I then created the prod environment. If you select the environment URL you get this a webpage that has a green screen displaying congratulations and links to the next step with elastic beanstalk.

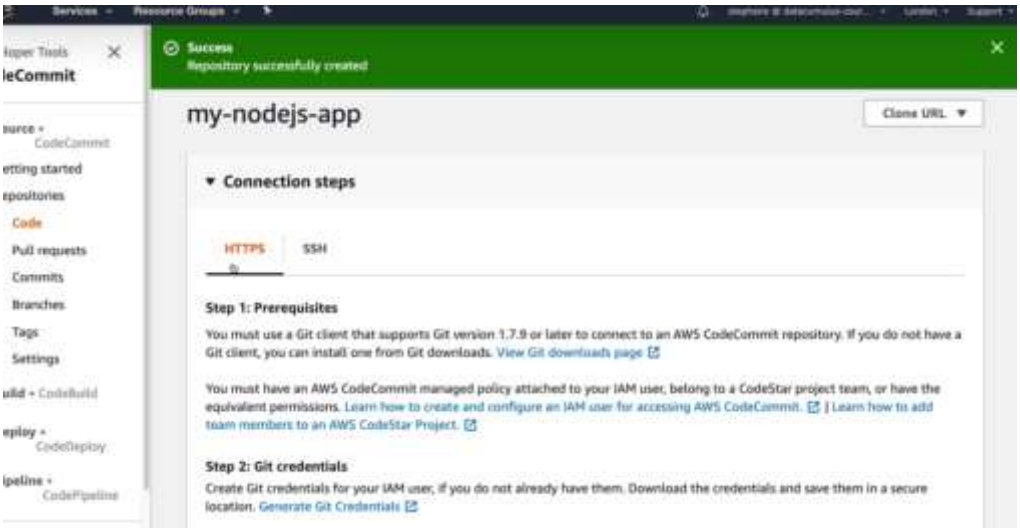
Once this is done you can use the previous zip file you downloaded from the beginning linked here to edit the index file to display what you like. Elastic beanstalk uses AWS cloud formation under the hood to create and link the architecture ie (EC2 instances, Elastic Load Balancer, Auto Scaling Groups). I am leveraging these sample templates as a launching pad to launch a static website or potentially a dynamic website.

Then within the prod-environment I selected upload and deploy.

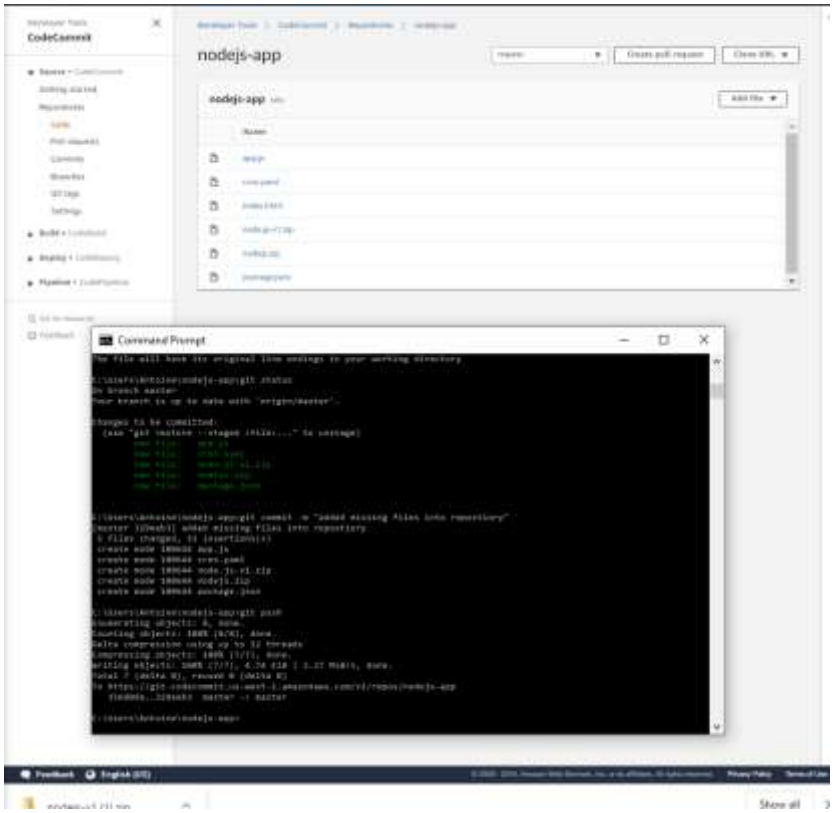
You can use this to deploy your own contents to beanstalk and have it launch your application for you.

Now that we have 2 web environments one test and the other production. It is time to try to integrate them with a form of CI/CD in with AWS CodeCommit.

You then go to CodeCommit and crate a repository. After creating the repository you have the option of connecting on premise to CodeCommit. Connection step can be found here.

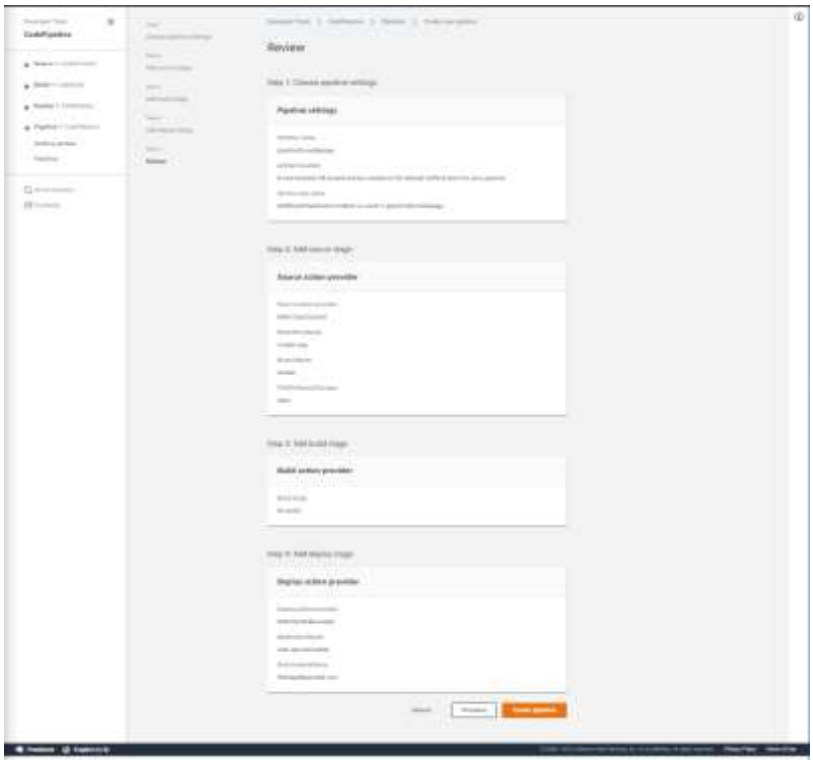


Make sure to read through the connection steps. In short you must install git and then go to IAM and create git credentials and save them to your computer very important do not loose them or share them. You will then open a command line and then type $ git clone {http webpage made to click}. Used https because its much easier for us to use could ssh but we would like to see the webpage afterward. You will then use the zip files and use git push to push the contents to the repository



I'm using windows PowerShell but as you can see, I was successfully able to push files to my commit repository. Tip if your mis typed the password go to control panel and users and clear password cache. Had that issue and took me forever to figure out.

That cool we just linked our computer to CodeCommit. Now to the Code pipeline. Go to CodePipeline dashboard and create a pipeline.



Once you create the build then codepipline will define to deploy the code from the source ie code commit aka the files zipped in the beginning and edited by you and re uploaded/pushed to the code commit repository. And there is how I completed the code pipeline integrated with beanstalk to automate deployments.