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| Problem Statement |

Capstone project can be broken down into two parts: the application itself, and the infrastructure that deploys and hosts it.

## The application: Random Song

Random song is a simple web app built using TypeScript, Node.js and Express. It serves as a web service that can send you a random song, using the MusixMatch API. To test out the app, simply go to the '/random' route, and you'll receive a random song object in JSON.

## Infrastructure

All of the deployment steps should be automated - they should run in a Jenkins pipeline that can be triggered whenever new code is added.

After provisioning an AWS EC2 instance, here's what need to be configured Jenkins to do:

1. Install dependencies
2. Build the application (TypeScript --> JavaScript)
3. Lint the code
4. Build a Docker image based off of my Dockerfile
5. Upload the container to the Docker Registry
6. Create the Kubernetes configuration file
7. Deploy the application to my AWS EKS cluster

In the end, the app should be deployed to the cluster and accessible to users.

## Tools that I used to build the project

* TypeScript
* Node.js
* Express
* MusixMatch API
* AWS
* Jenkins
* Docker
* Kubernetes

Source Code : https://github.com/gbhure/RandomSongApp

**System Requirements:**

Jenkins master - VM1

Build server - VM1

AWS Account

K8s – VM2, VM3