Just In Time/On-Demand AWS infrastructure for SchoolBell.chat

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ABSTRACT

This paper details the techniques and methodologies used to develop the AWS infrastructure for Schoolbell.chat on a just-in-time/on-demand basis. This article also discusses how AWS infrastructure is created. Infrastructure designers use various tools - GitHub, Terraform, AWS, Open Vidu, Kurrento Media Server, MongoDB, S3 buckets, and CloudFront, draw.io. This architecture is composed of Terraform modules, Docker files, and additional components as needed. The accompanying snapshot of the poster serves as a visual representation of the work performed throughout the course.

Keywords: AWS, Docker, Open Vidu, Kurrento Media Server, CloudFront, draw.io.

1. INTRODUCTION

SchoolBell.chat is a new venture based in Te haka's K block. SchoolBell.chat is a concept developed by Numbers New Zealand Limited to elevate the community via investment in the development of young children. It is the platform that connects students, instructors, and parents in a real-time communication environment where parents can watch their child's performance and have easy access to critical information such as attendance, crises, and behaviour (Schoolbell.chat, 2021)

The issue presently confronting SchoolBell.chat is a lack of an automated infrastructure deployment tool. This proposal document details the work performed to develop, test, and implement an automated infrastructure deployment system. Terraform, and many other services will be used to deploy the solution into AWS Cloud Services.

The automated deployment solution developed during this project will be critical for future SchoolBell.chat clients. The deployment of new client infrastructure will be streamlined and straightforward. The deployment code may be modified and rebuilt to accommodate the unique requirements of future clients. This will aid the business in the future in terms of time and money savings.

Given The Poster Created for SchoolBell.chat is seen below. This is an illustration of the project's progress and highlights.

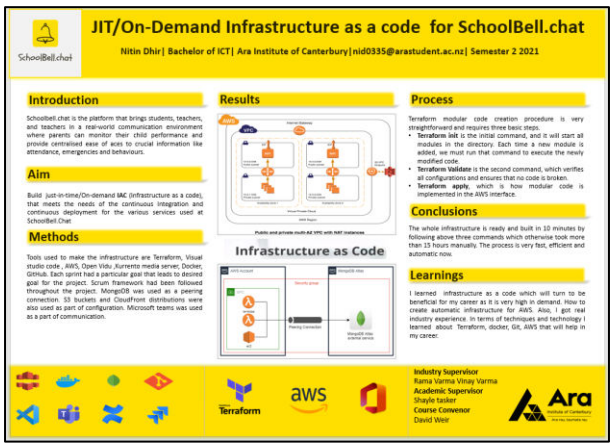

Figure 1 SchoolBell.Chat Poster

2. BACKGROUND

This project is critical for SchoolBell.chat because many school communication methods are not based on real-time communication, and SchoolBell would want to alter that. This will positively impact the lives of young New Zealanders through the SchoolBell product. According to the firm, children are the future of society, and SchoolBell.chat enables best practices in education by simplifying data management systems for education. Based on best practices, this enables efficient communication between all stakeholders, including teachers, parents, and children. Additionally, this will provide the most beneficial educational result.

This is a fascinating opportunity for SchoolBell, as their system will soon be implemented by many primary and intermediate schools around New Zealand, benefiting thousands of kids via data efficiency. Additionally, SchoolBell is attempting to expand into other areas, including Australia and India.

3.PROCESS

Terraform modular code creation procedure is very straightforward and requires three basic steps. ***Terraform init*** is the initial command, and it will start all modules in the directory. Each time a new module is added, we must run that command to execute the newly modified code. ***Terraform Validate*** is the second command, which verifies all configurations and ensures that no code is broken. Finally, ***terraform apply,*** which is how modular code is implemented in the AWS interface.

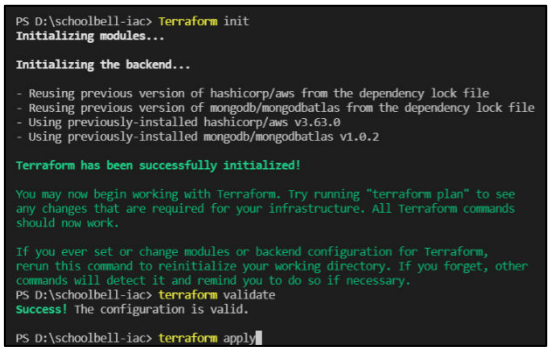

Figure 2 Process of Running Code

4.CONCLUSION

The success of this project will prove beneficial for the company because of the Cloud Infrastructure required for each customer SchoolBell.Chat product will be automatically deployed. Automated infrastructure deployment leads to consistent solution deployment – removing the risks of manual deployment errors. Automation will also save the company lots of time, money, and other resources. Also, the code we are deploying for infrastructure can be reusable in the future as per the demand.

While creating Infrastructure I learned a lot about AWS Cloud technologies while working practically on it. Also, I get familiar with other technologies like Docker, Open Vidu, KMS, which is very important. As a result, I successfully achieved the task of creating Infrastructure within a given timeframe. Infrastructure has everything that was required by the client. It is ready and can be customizable for the future (Schoolbell.chat, 2021)

5. REFERENCES

Schoolbell.chat. (2021). *About Us*. Retrieved November 11, 2021, from www.schoolbell.chat: https://www.schoolbell.chat/

SchoolBell.chat. (2021). *FAQ*. Retrieved November 11, 2021, from www.schoolbell.chat: https://www.schoolbell.chat/