Cloud Computing - Mini Project Report
Deployment of Web App Using AWS Cloud (Project - 3)
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Submitted By:
Ayush Govind
PES1UG20CS096
VI Semester Section B
PES University

Short Description and Scope of the Project

A project using streamlit for the frontend and python based backend has been developed for CRUD operations. This application uses MySQL (MariaDB) as the database. The project has been connected to MySQL using mysql-connector. The CRUD application has been developed to facilitate day-to-day operations at RTOs. This involves maintaining records about people who have been granted learning licenses, those who have been granted permanent licenses, etc.

There is functionality to create, update, remove and delete the data of any user who chooses to register. One page has been designed to take only basic details for quick registration. Another page takes address details. There is a page to display all the information pertaining to a user. This page, however, displays the details only for users who have provided all their details, not for those who have not, since those users who have not provided all their info are unimportant.

A page has been designed for users to register for a learning license and permanent driving license. These pages can be used only for creation and viewing of records, since the entire registration history should always be maintained and never be deleted or updated. For the same purpose, any attempts to delete a user who has registered for a license are blocked. These users can be updated though as their personal details may change over time.

The Team

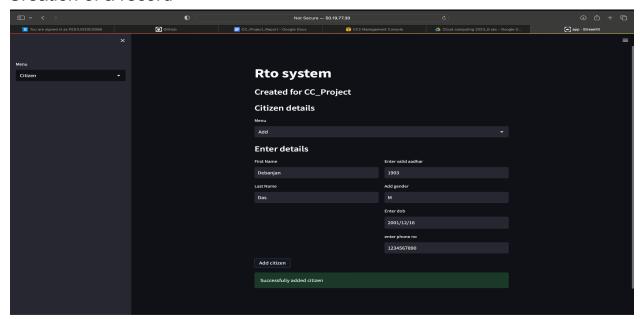| Name	SRN
Atharva S Gadad	PES1UG20CS088
Ayush Gupta	PES1UG20CS095
Ayush Govind	PES1UG20CS096
Debanjan Das	PES1UG20CS119

Methodology

In order to deploy the project onto the cloud, a set of AWS services have been utilized. Specifically, the Relational Database Service (RDS) has been employed to host the MariaDB database to handle the data storage and retrieval part of the project. In addition, an Elastic Compute Cloud (EC2) instance running AWS Linux has been used to host the Python code and Streamlit application components. To facilitate secure communication, reverse proxy, and load balancing between the EC2 instance and the RDS instance, Nginx has been utilized as a layer of abstraction.
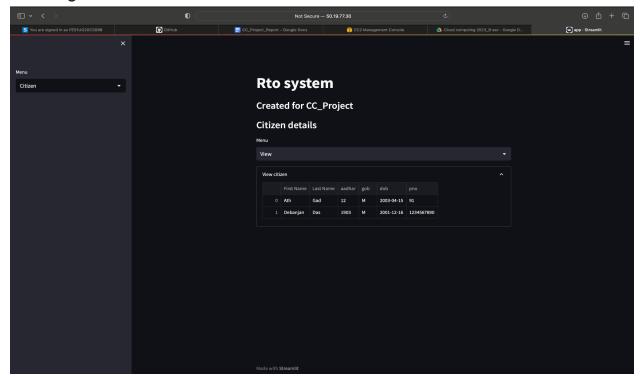
Moreover, GitHub Actions have been integrated into the project to enable automated testing, integration, and deployment. This functionality allows for the continuous integration and delivery of the codebase from the GitHub repository to the cloud infrastructure. Overall, the use of these AWS services and GitHub Actions provide a robust and scalable infrastructure for the deployment of the project onto the cloud.
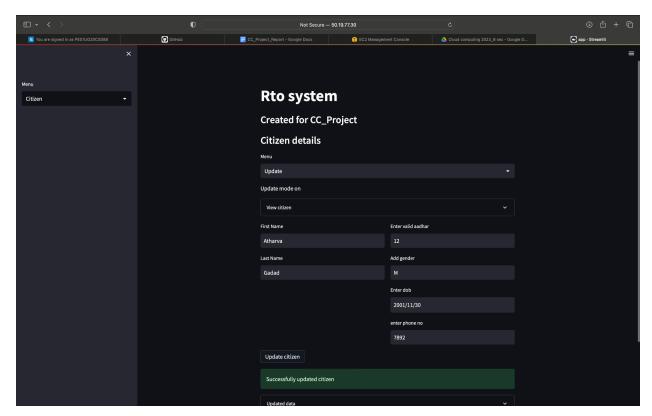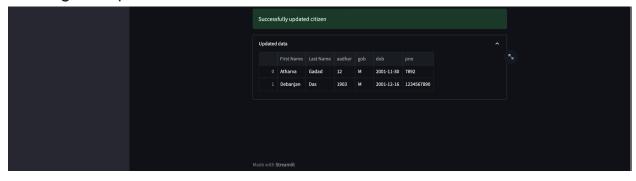
Testing

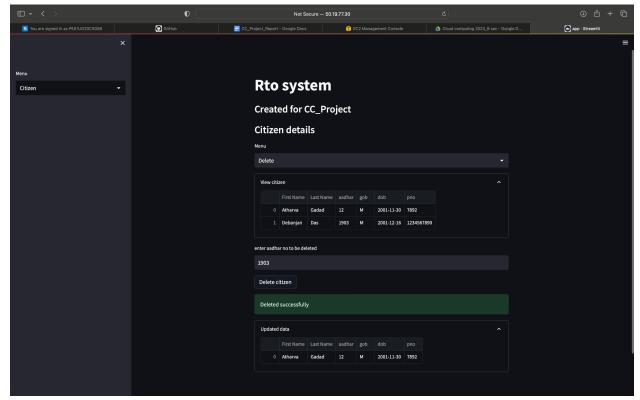## Creation of a record

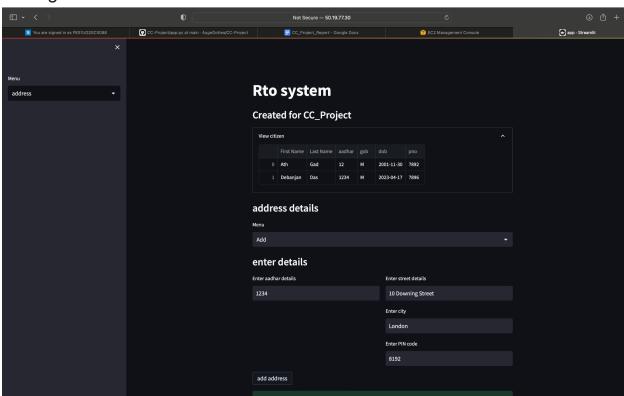## Reading Records

Updating Records

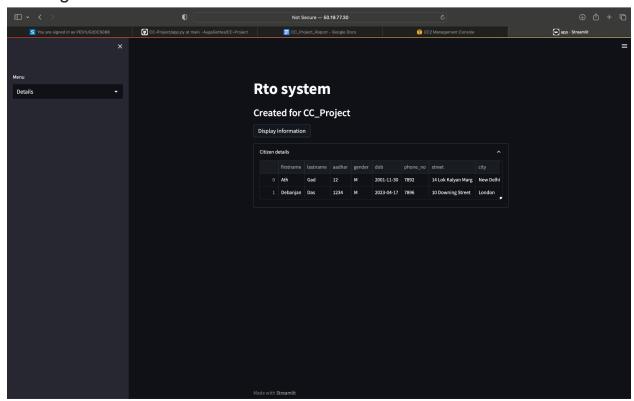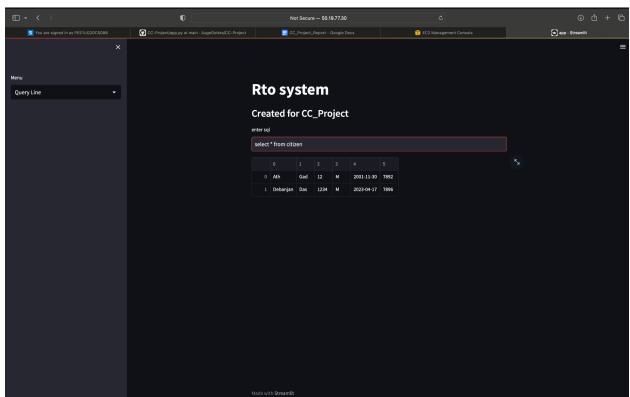Viewing the updated records,

Deleting Records
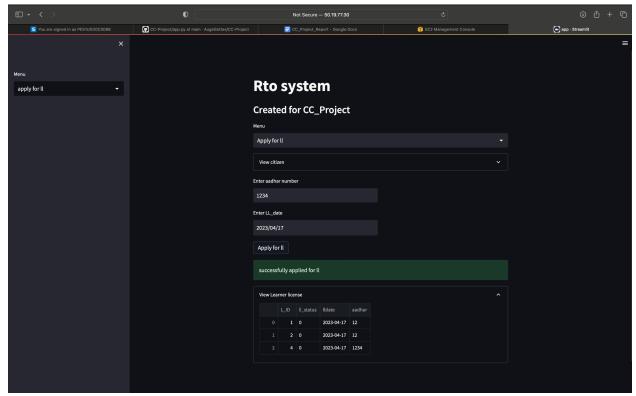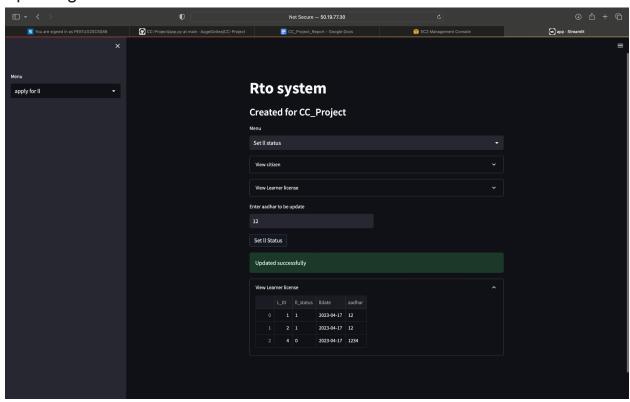

Adding addresses

Viewing details about users

Custom Queries

Apply for LL

Updating status for LL

View all LL

Application for DL

View all DL

Not Secure — 50.19.77.30

Rto system

Created for CC_Project

Menu

View

View citizen

	First Name	Last Name	aadhar	gob	dob	pno
0	Ath	Gad	12	M	2001-11-30	7892
1	Debanjan	Das	1234	M	2023-04-17	7896

View Learner license

	L_ID	ll_status	lldate	aadhar
0	1	1	2023-04-17	12
1	2	1	2023-04-17	12
2	4	0	2023-04-17	1234

View Dl

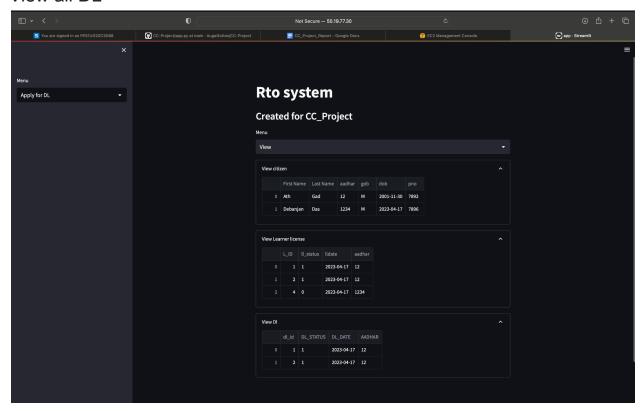|	dl_id	DL_STATUS	DL_DATE	AADHAR
0	1	1	2023-04-17	12
1	2	1	2023-04-17	12

Menu

Apply for DL

Results and Conclusions

- RDS works as expected integrating flawlessly with the front end
- EC2 works as expected, hosting the streamlit-python app
- Nginx helps form a layer between RDS and EC2 and forwards the requests appropriately
- Github actions work as expected, providing for continuous integration and delivery