

**EXP 05 : -Create a simple cloud software application for Library book reservation system for SIMATS library using any Cloud Service Provider to demonstrate SaaS.**

## **Aim**

To design, develop, and deploy a **cloud-based Library Book Reservation System** for the **SIMATS Library** and provide it as **Software as a Service (SaaS)** using a cloud service provider, enabling users to search and reserve books online through a web browser without installing any software.

## **Procedure**

1. **Requirement Analysis**  
Identified the need for an online system for the SIMATS Library to allow users to view available books and reserve them remotely.
2. **Application Design**  
Designed a simple web interface to display book details such as book title, author, availability status, and reservation option.
3. **Application Development**  
Developed the application using **Python (Flask)** for backend logic and **HTML** for the user interface.
4. **Cloud Service Provider Selection**  
Selected **Google Cloud Platform** as the cloud service provider.
5. **Cloud Environment Setup**  
Configured the cloud environment using **Cloud Run** to host the web application.
6. **Application Deployment**  
Deployed the Library Book Reservation System on the Google Cloud platform and obtained a public HTTPS URL.
7. **Testing**  
Tested the application by accessing it through a web browser, viewing book listings, and performing book reservation operations.
8. **SaaS Verification**  
Verified that the application is accessible online without local installation, confirming the SaaS delivery model.

**Output : -**

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### Library Book Reservation

- Reservations
- + Reservations
- All Reservations
- Reservation Histor...
- Users
- Books

### Reservations

User Name: K.Raja Sujith

Book: The Midnight Library x

Requested Date: 20-Jan-2026

Status: Confirmed x v

Expected Availability: 20-Jan-2026

Confirmation Number: 123

Notes: none

Reservation Date: 20-Jan-2026 23:07:43

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### Library Book Reservation

- Reservations
- + Reservations
- All Reservations
- Reservation Histor...
- Users
- Books

### All Reservations

Reservation ID	7	Reservation ID	6
Book	The Midnight Library	Book	
User Name	K.Raja Sujith	User Name	K.Raja Sujith
Requested Date	20-Jan-2026	Requested Date	09-Jan-2026
Status	Confirmed	Status	Confirmed
Expected Availability	20-Jan-2026	Expected Availability	10-Jan-2026
Confirmation Number	123	Confirmation Number	123

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Reservations>

Reservation Histor...>

+ Reservation History

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krishnamraja...

All Reservation Histories

Reservation

Action

Action Date

Changed By

Details

Previous Status

Current Status

	Created	09-Jan-2026 13:05:00	Eva Brown	Reservation canceled by user request	Expired	Pending
	Created	09-Jan-2026 11:20:00	David Green	New reservation created for user 456	Confirmed	Canceled
	Updated	09-Jan-2026 10:45:00	Carol White	Book returned successfully	Confirmed	Expired
	Expired	09-Jan-2026 09:15:00	Bob Clark	Reservation updated to new due date	Confirmed	Canceled
	Created	09-Jan-2026 08:30:00	Alice Lee	Book reserved for student 123	Confirmed	Confirmed

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Library Book Reservation

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Library Book Reservation

All Users

Reservations

Reservation Histor...

Users

Users

All Users

User Types

Books

User ID	Name	Email	Phone Number	Library Card Number	Registration Date	User Type	Status	Last Login
U005	Mia Clark	miacl@university.edu	+19202061077	LC123460	12-Jan-2026	Visitor	Inactive	09-Jan-2026 18:30:
U004	Jordan Lee	jordanlee@email.com	+17313522550	LC123459	10-Jan-2026	Student	Active	09-Jan-2026 16:05:
U003	Taylor Reed	taylormail@email.com	+17743053738	LC123458	08-Jan-2026	Staff	Inactive	09-Jan-2026 13:40:
U002	Sam Patel	sampatel@email.com	+17656888768	LC123457	05-Jan-2026	Student	Active	09-Jan-2026 10:22:
U001	Alex Turner	alexturner@email.com	+19127589961	LC123456	01-Jan-2026	Staff	Active	09-Jan-2026 08:15:

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Library Book Reservation

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Library Book Reservation

All Books

Reservations

Reservation Histor...

Users

Books

Books

All Books

ISBN	Title	Author	Publisher	Publication Year	Category	Total Copies	Available Copies	Date Added
978-0-54321-876-5	Whispers in the Rain	Sophia Kim	Foglight Editions	2021	Science	3	1	09-Jan-2026
978-1-23456-789-0	The Midnight Library	Marion Chesney	Sunrise Press	2023	Fiction	5	3	09-Jan-2026

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