

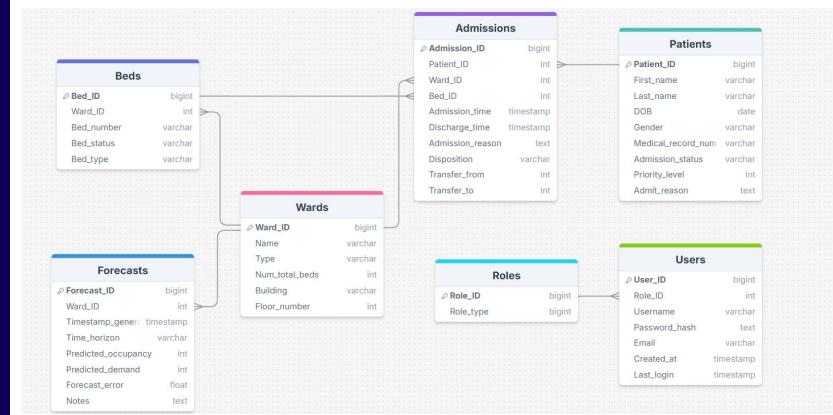


Hospital Bed Management System

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Mock Data / Schema / Hosting

- Created mock data for showcasing site in csv files
- Used GCP buckets and database
- Github pages hosting



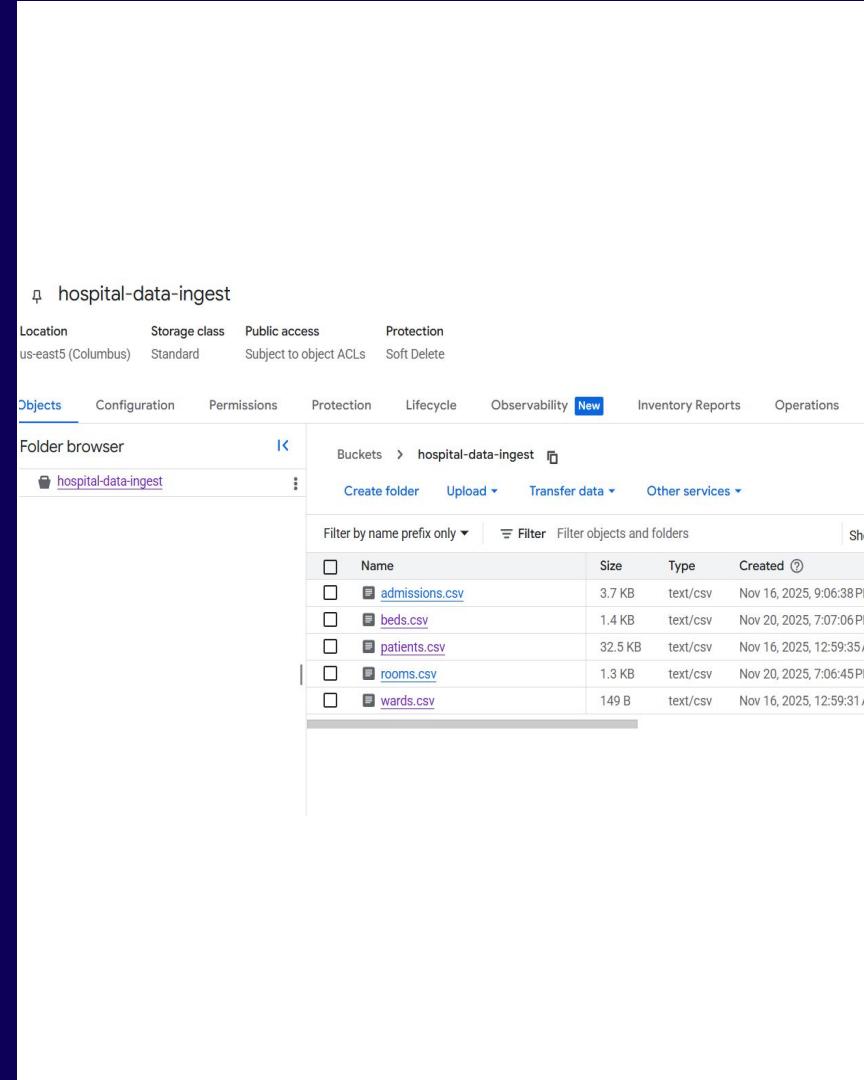
```
mysql> USE BedTest;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A
```

```
Database changed
mysql> SHOW TABLES;
+-----+
| Tables_in_BedTest |
+-----+
| admissions |
| beds |
| forecasts |
| patients |
| roles |
| users |
| wards |
+-----+
7 rows in set (0.02 sec)
```

```
mysql> DESC beds;
+-----+-----+-----+-----+-----+-----+
| Field | Type | Null | Key | Default | Extra |
+-----+-----+-----+-----+-----+-----+
| bed_id | bigint unsigned | NO | PRI | NULL | auto_increment |
| ward_id | int | YES | | NULL | |
| bed_number | varchar(20) | YES | | NULL | |
| bed_status | varchar(50) | YES | | NULL | |
| patient_id | int | YES | | NULL | |
| bed_type | varchar(50) | YES | | NULL | |
+-----+-----+-----+-----+-----+-----+
6 rows in set (0.02 sec)
```

GCP / Backend

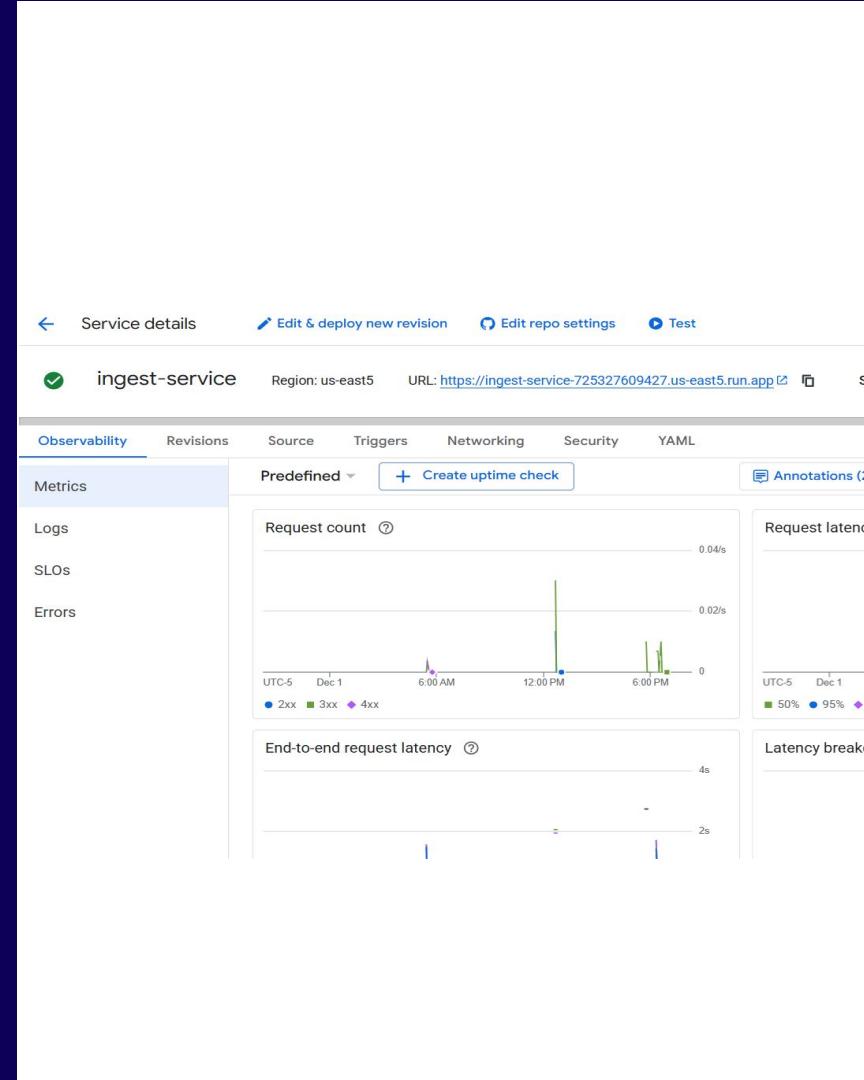
- When a CSV file (beds, patients, wards, admissions, etc.) is uploaded to your bucket, Eventarc automatically triggers your Cloud Run backend.
- The backend reads the CSV, parses each row, and inserts or updates records in MySQL (using ON DUPLICATE KEY UPDATE).
- All live hospital data (beds, wards, patients, admissions) is stored in Cloud SQL MySQL. Every dashboard view pulls real-time data directly from MySQL through REST API calls.



GCP / Backend

- Cloud Run Backend REST API The server (`index.js`) exposes multiple endpoints:
 - GET `/beds` → returns every bed
 - GET `/beds/:bedNumber` → bed + patient details POST `/beds/assign` → updates bed status and creates/discharges admissions
 - GET `/wards` → ward statistics
 - GET `/patients` → all patient profiles

Any CSV upload → Eventarc → backend → SQL update Dashboard auto-refreshes data on page load and after updates This gives the hospital a real-time bed management system without manual syncing.



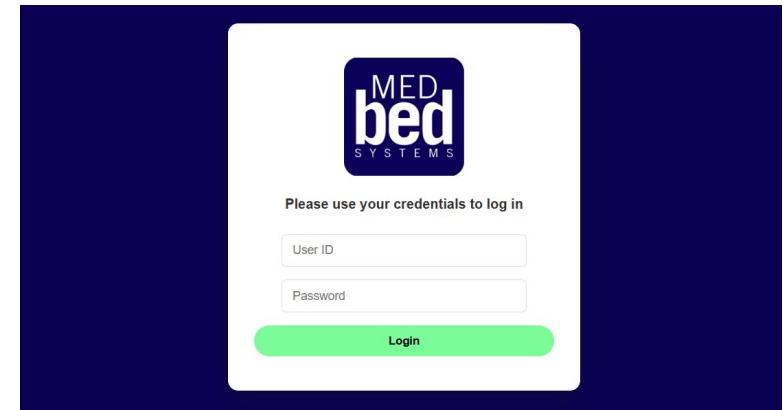
Login Page

- Firebase Authenticator
- Users added/controlled by third party (us)
- Collections created

Future:

- Add role based permissions for different types of users (Doctors, Nurses, Admin, etc.)

Search by email address, phone number, or user UID					Add user	...
Identifier	Providers	Created ↓	Signed In	User UID		
sorio@gmail.com	✉️	Nov 21, 2025		D7oA9L5vutYcxuRwa6ZiaUfc...		
jasmine@gmail.com	✉️	Nov 12, 2025	Nov 22, 2025	3s3RTM71ovU9JmuM Zwne5W...		
jacob@gmail.com	✉️	Nov 12, 2025	Nov 23, 2025	7iHzbg3lxzShEJBqOQ2SxJ0NLij1		
stella@gmail.com	✉️	Nov 12, 2025	Nov 24, 2025	fo72XQiHumTklgetNLu3iwHl9...		
marywilson@hospital.o...	✉️	Nov 12, 2025		j3w6xyeDoSyEmRNHIEZ7X5e...		

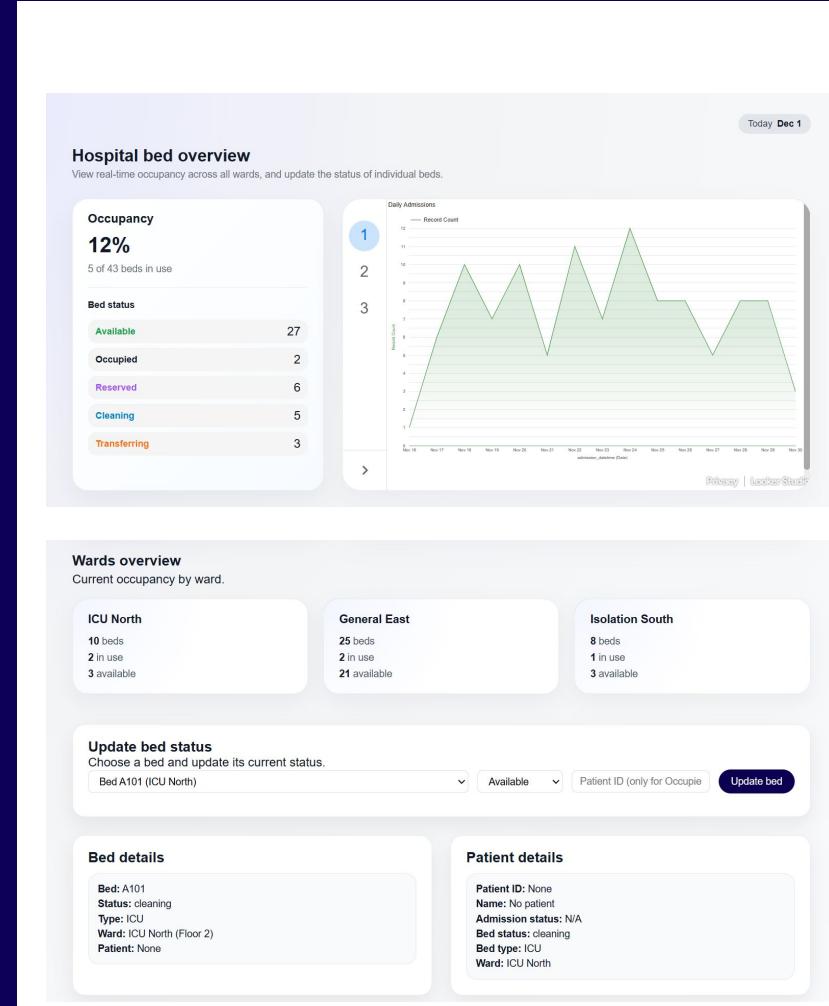


Home > users > fo72XQiHumTkl...

(default)	users	⋮	fo72XQiHumTklgetNLu3iwHl9gp1
+ Start collection	+ Add document	+ Start collection	+ Add field
users	3s3RTM71ovU9JmuM Zwne5W7oQNF1	3s3RTM71ovU9JmuM Zwne5W7oQNF1	email: "stella@gmail.com"
	7iHzbg3lxzShEJBqOQ2SxJ0NLij1	7iHzbg3lxzShEJBqOQ2SxJ0NLij1	fullName: "Stella G"
	D7oA9L5vutYcxuRwa6ZiaUfcxdU2	D7oA9L5vutYcxuRwa6ZiaUfcxdU2	role: "Nurse"
	fo72XQiHumTklgetNLu3iwHl9gp1	fo72XQiHumTklgetNLu3iwHl9gp1	

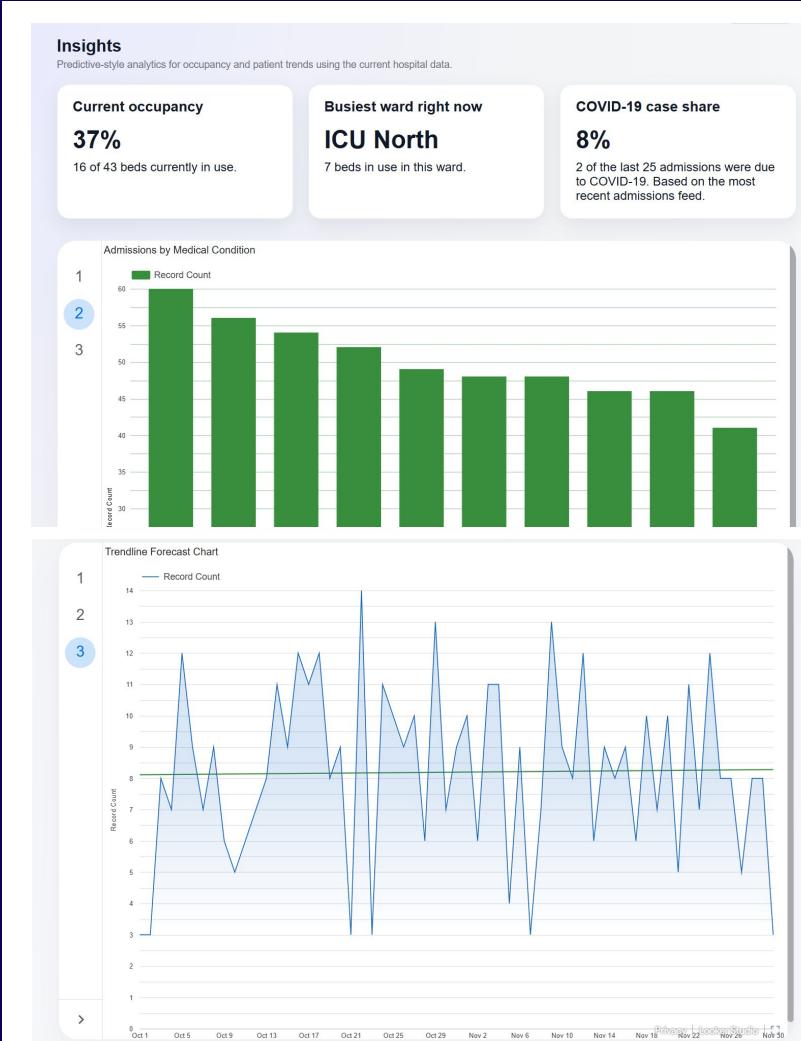
Dashboard Page

- Occupancy Summary – beds in use, statuses
- Daily Admissions Chart – Looker Studio line chart showing 2-week trends
- Wards Overview – occupancy by ward
- Bed Management – update bed status, view bed details
- Patient Details – quick access to assigned patient information



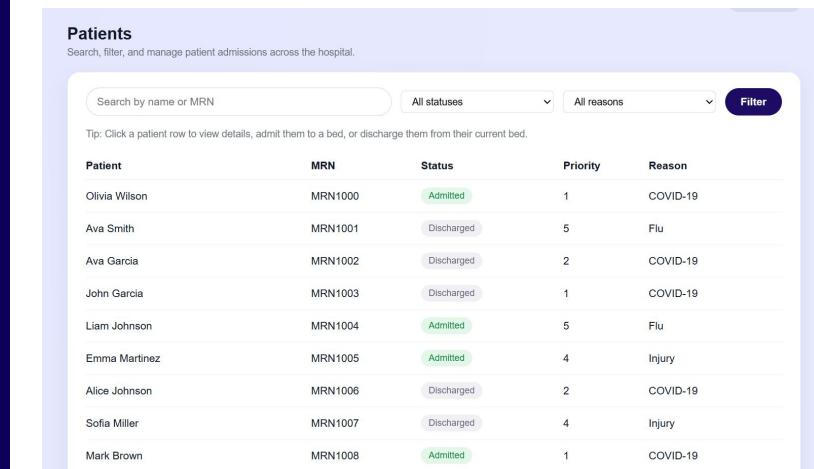
Insights Page

- Current Occupancy & Busiest Ward – real-time usage highlights
- COVID-19 Case Share – proportion of admissions related to COVID-19
- Admissions by Medical Condition – category breakdown of patient reasons
- Trendline Forecast – Looker Studio forecast showing admission patterns



Patients Page

- Search & Filter – find patients by name, MRN, status, or reason
- Patient Table – view MRN, status, priority level, and admission reason
- Interactive Rows – click a patient to view details or manage their admission
- Admission Management – admit to a bed or discharge from current bed



The screenshot shows a web-based application titled "Patients" with a light blue header. Below the header is a search bar labeled "Search by name or MRN" and three dropdown menus: "All statuses", "All reasons", and a "Filter" button. A tip message at the top right says: "Tip: Click a patient row to view details, admit them to a bed, or discharge them from their current bed." The main area is a table with the following columns: Patient, MRN, Status, Priority, and Reason. The data rows are:

Patient	MRN	Status	Priority	Reason
Olivia Wilson	MRN1000	Admitted	1	COVID-19
Ava Smith	MRN1001	Discharged	5	Flu
Ava Garcia	MRN1002	Discharged	2	COVID-19
John Garcia	MRN1003	Discharged	1	COVID-19
Liam Johnson	MRN1004	Admitted	5	Flu
Emma Martinez	MRN1005	Admitted	4	Injury
Alice Johnson	MRN1006	Discharged	2	COVID-19
Sofia Miller	MRN1007	Discharged	4	Injury
Mark Brown	MRN1008	Admitted	1	COVID-19

Manage Beds Page

- Bed Directory – view every bed with its ward and room
- Status Overview – see real-time statuses (available, reserved, cleaning, transferring)
- Filtering – filter beds by ward or status
- Bed Management – select a bed to update its status or view details

The screenshot shows a user interface titled "Manage beds" with a subtitle "View all beds, see which ward and room they belong to, and filter by status." Below the title is a search bar with dropdown menus for "All wards" and "All statuses", and a button labeled "Apply filters". A table lists 10 beds, each with a unique identifier, ward, room number, and current status (indicated by a colored background). The columns are labeled "Bed", "Ward", "Room", and "Status".

Bed	Ward	Room	Status
Bed A101	Ward 1	Room 101	Cleaning
Bed A102	Ward 1	Room 102	Reserved
Bed A103	Ward 1	Room 103	Reserved
Bed A104	Ward 1	Room 104	Cleaning
Bed A105	Ward 1	Room 105	Transferring
Bed A106	Ward 1	Room 106	Available
Bed A107	Ward 1	Room 107	Reserved
Bed A108	Ward 1	Room 108	Available
Bed A109	Ward 1	Room 109	Transferring

Manage Rooms Page

- Room Directory – view all rooms with ward, building, floor, and bed count
- Filtering Options – filter rooms by ward, building, or floor
- Room Details – see bed availability and room assignments
- Navigation – quick access to specific wards or buildings

The screenshot shows a user interface titled "Manage rooms" with a subtitle "Browse all rooms by ward, building, and floor." At the top, there are three dropdown filters: "All wards" (set to "All wards"), "All buildings" (set to "All buildings"), and "All floors" (set to "All floors"). A blue button labeled "Apply filters" is located to the right of the floors dropdown. Below the filters is a table with the following columns: Room, Ward, Building, Floor, and Beds. The table lists 11 rooms, all of which are in the "ICU North" ward, building "A", and floor "2", except for Room 201 which is in "General East". Each room has 1 bed.

Room	Ward	Building	Floor	Beds
Room 101	ICU North	A	2	1
Room 102	ICU North	A	2	1
Room 103	ICU North	A	2	1
Room 104	ICU North	A	2	1
Room 105	ICU North	A	2	1
Room 106	ICU North	A	2	1
Room 107	ICU North	A	2	1
Room 108	ICU North	A	2	1
Room 109	ICU North	A	2	1
Room 110	ICU North	A	2	1
Room 201	General East	R	1	1

Live Demo Link