



Implementing Nigeria's Master Facility List

Software Design of the Health Facility Registry

June 2019





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INTRODUCTION

The Health Facility Registry (HFR) for Nigeria’s Federal Ministry of Health will be designed as an open-source web portal for displaying and exporting data on all hospitals, clinics, imaging centers, and laboratories in the country. These data will constitute Nigeria’s Master Facility List (MFL). Here we present the designs used or intended to be used to create the portal. A companion document—Implementing Nigeria’s Master Facility List: Software Requirements Specifications—provides the designs’ specifications. That and other resources that MEASURE Evaluation—funded by the United States Agency for International Development and the United States President’s Emergency Plan for AIDS Relief—has developed to support the implementation of Nigeria’s MFL are available here: <https://www.measureevaluation.org/countries/nigeria/toolkit-for-implementing-the-health-facility-registry-in-nigeria/>.

Purpose

This document provides a detailed description of the software architecture of the HFR system and will serve as a road map showing future developers how the HFR was designed and implemented. It specifies the structure and design of some of the modules discussed in the Software Requirements Specifications, cited above. It also displays some of the use cases that were transformed into sequence diagrams and use-case diagrams.

References

The user of this document may need to refer to the following publications:

Institute of Electrical and Electronics Engineers (IEEE), Inc. (1998). IEEE Standard 1016-1998, IEEE Recommended Practice for Software Requirements Specifications. New York, NY, USA: IEEE, Inc. Available at <http://www.math.uaa.alaska.edu/~afkjm/cs401/IEEE830.pdf>

Nigeria Federal Ministry of Health (FMOH). (2019). Implementing Nigeria’s Master Facility List: Software Requirements Specifications. Abuja, Nigeria: FMOH. Available at <https://www.measureevaluation.org/countries/nigeria/toolkit-for-implementing-the-health-facility-registry-in-nigeria/>

DESIGN CONSIDERATIONS

Assumptions

The user of the HFR system is aware of basic operations of a computer and web pages. The user also understands the standard terms related to the system's operation.

Constraints

The system is built to be accessible only through the Internet. It is implemented using php, JavaScript, and MySQL technologies.

System Environment

The web-based HFR system is designed to work on all operating systems and to be available without interruption from any Internet-connected laptop and desktop computer.

Design Method

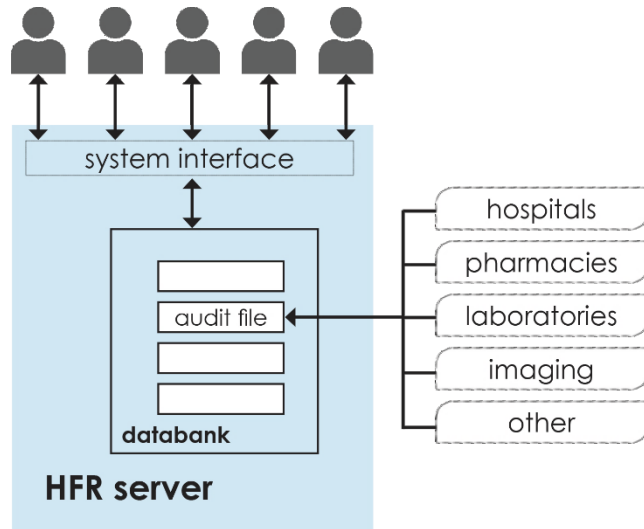
The system is designed with flexibility for further development and/or modification. It is divided into manageable processes that are grouped to submodules and modules.

ARCHITECTURE

System Design

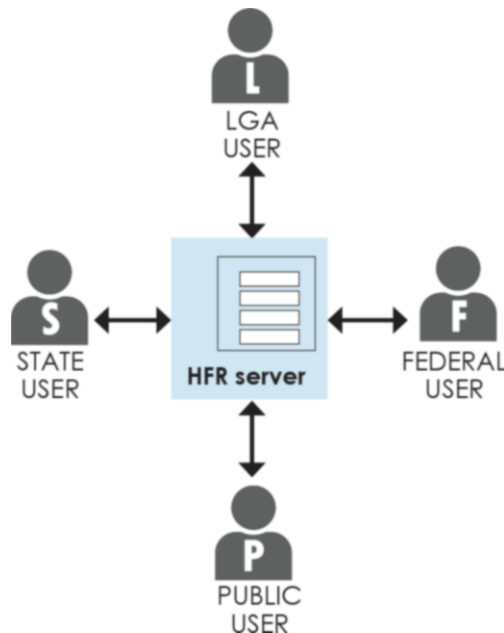
The block diagram below shows the principal parts of the system and their interactions. The system design layout is to follow the MVC (Model, View, Controller) design pattern.

Figure 1. Block diagram for HFR



The context diagram below shows the main actors interacting with the system.

Figure 2. Context diagram for HFR



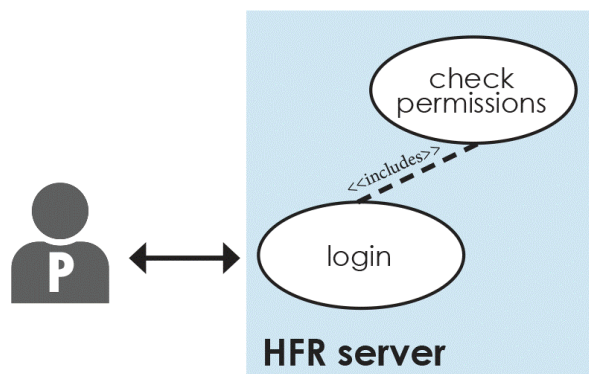
LGA = local government area

The table below breaks the context diagram down, detailing the tasks to be carried out by the actors in the system.

Table 1. Use case

| | ADMIN | CURATOR | PUBLIC USER |
|------------------------------------|-------|---------|-------------|
| Access Facilities | | | |
| View facility list | ■ | ■ | ■ |
| Download facility list | ■ | ■ | ■ |
| View mapped facilities | ■ | ■ | ■ |
| View facility statistics | ■ | ■ | ■ |
| Curate Facilities | | | |
| Add facility | ■ | ■ | |
| Update facility | ■ | ■ | |
| Request facility deletion | ■ | ■ | |
| Delete facility | ■ | | |
| Manage Users and User Roles | | | |
| Add, edit, delete users | ■ | | |
| Add, edit, delete user roles | ■ | | |
| Access Resource Documents | | | |
| View resource documents | ■ | ■ | ■ |
| Download resource documents | ■ | ■ | ■ |
| Add resource documents | ■ | | |

Figure 3. Use case diagram for checking permissions



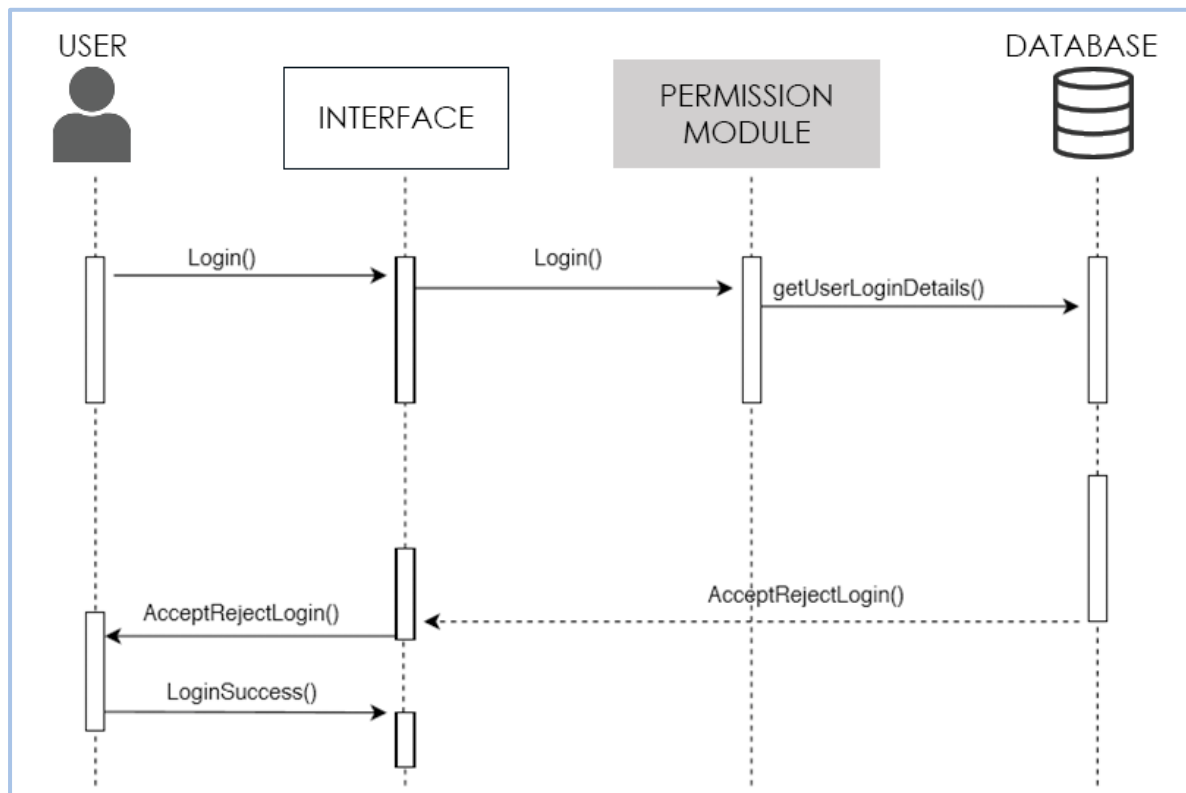
COMPONENT DESIGN

“Users with appropriate permission” in the diagram refers to the users who are given exemptions or/and users of a user group with specific permissions.

For diagrams with multiple functions, the design is the same for those functions, except for parameters/methods/classes.

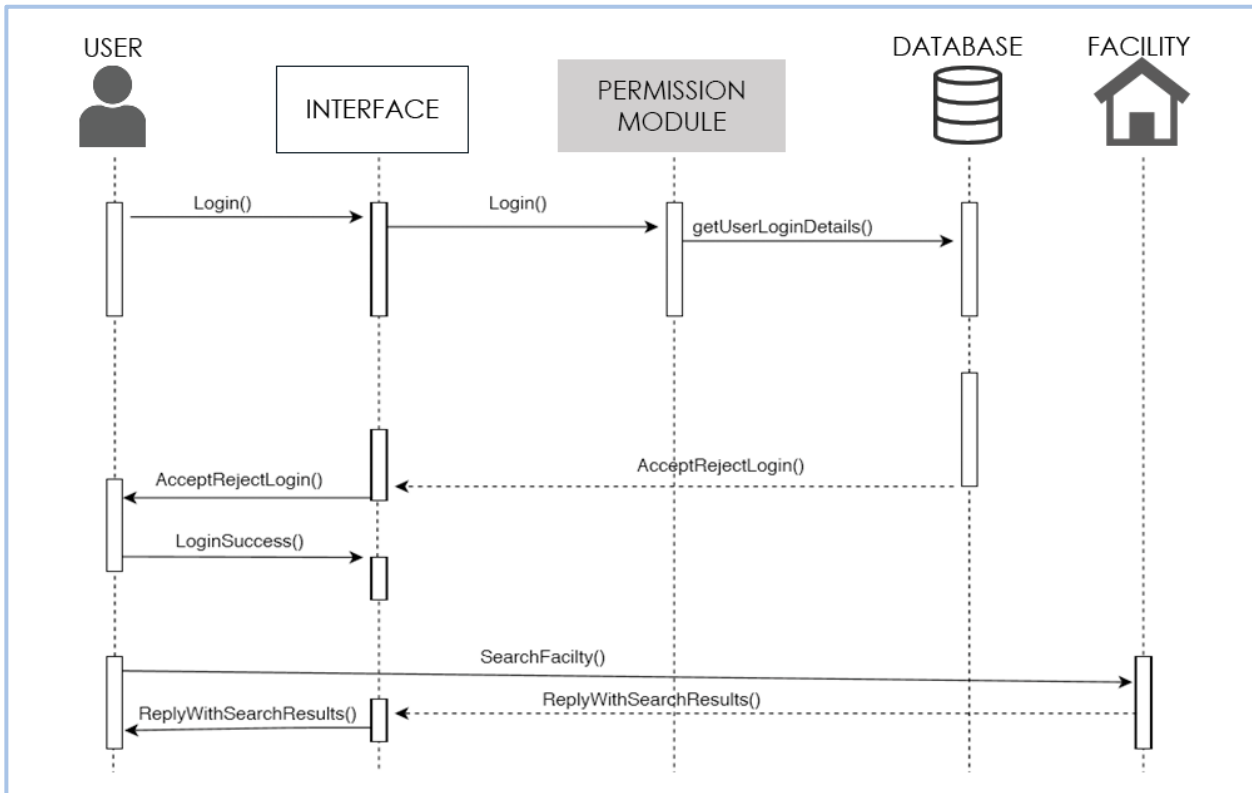
Log In

Figure 3. Sequence diagram for logging in to the HFR



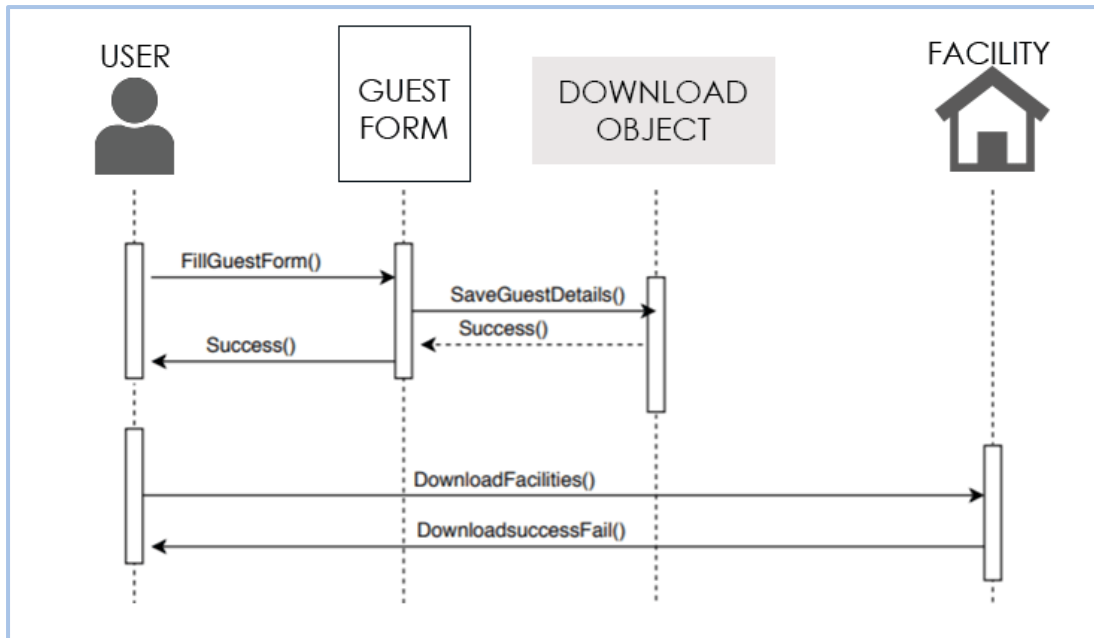
Search Facility

Figure 5. Sequence diagram for searching for a facility



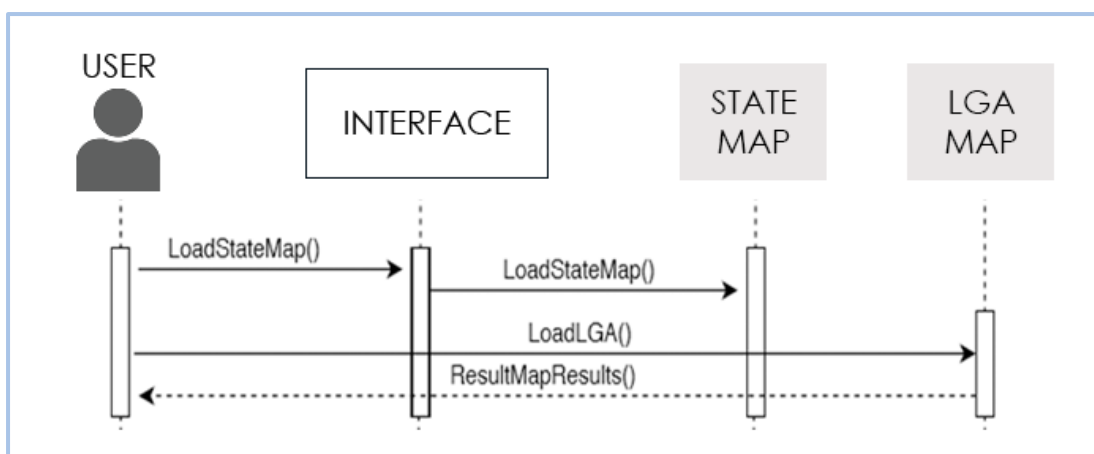
Export Facility List

Figure 6. Sequence diagram for exporting facilities



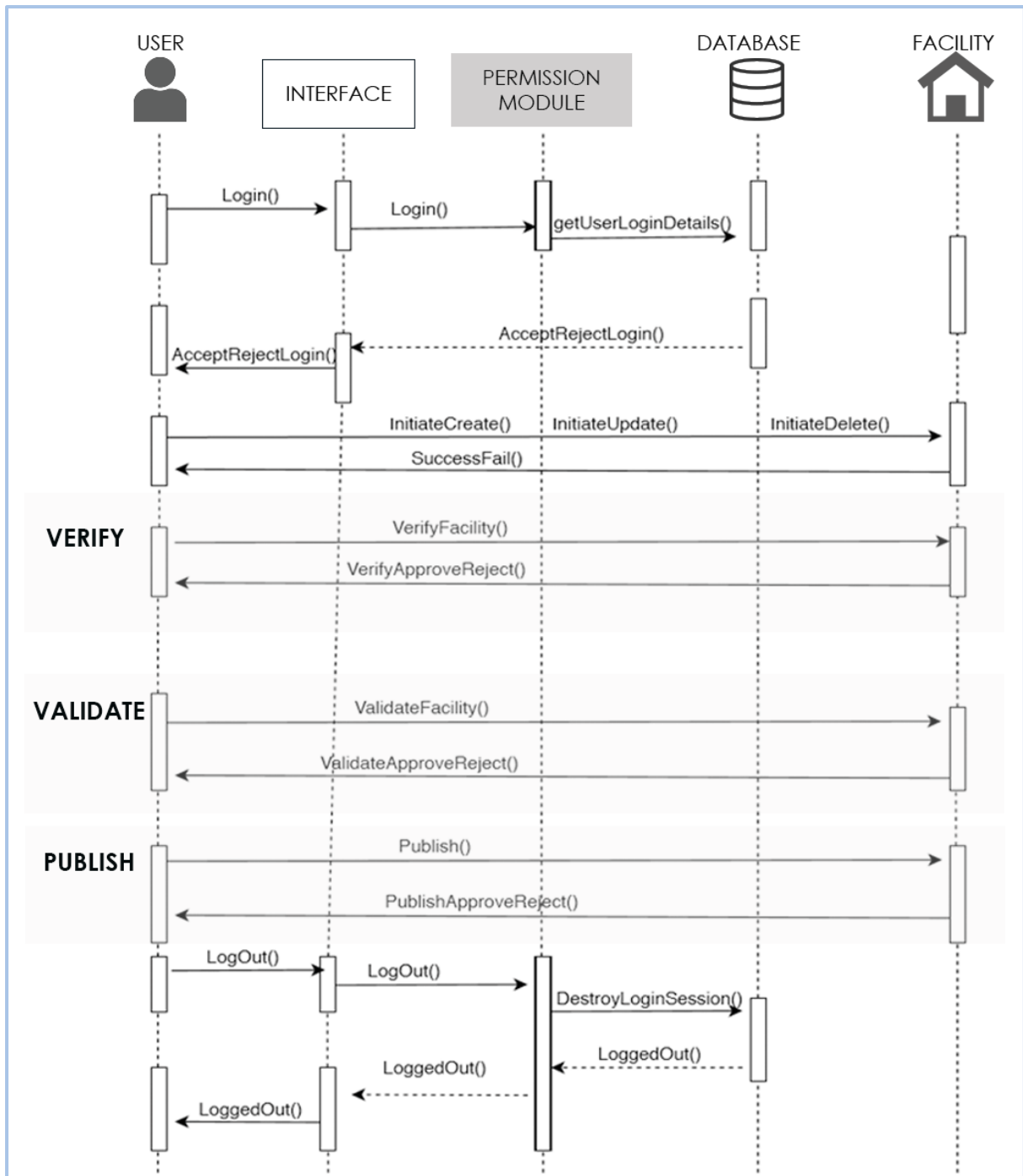
Map Facilities

Figure 7. Sequence diagram for viewing mapped facilities



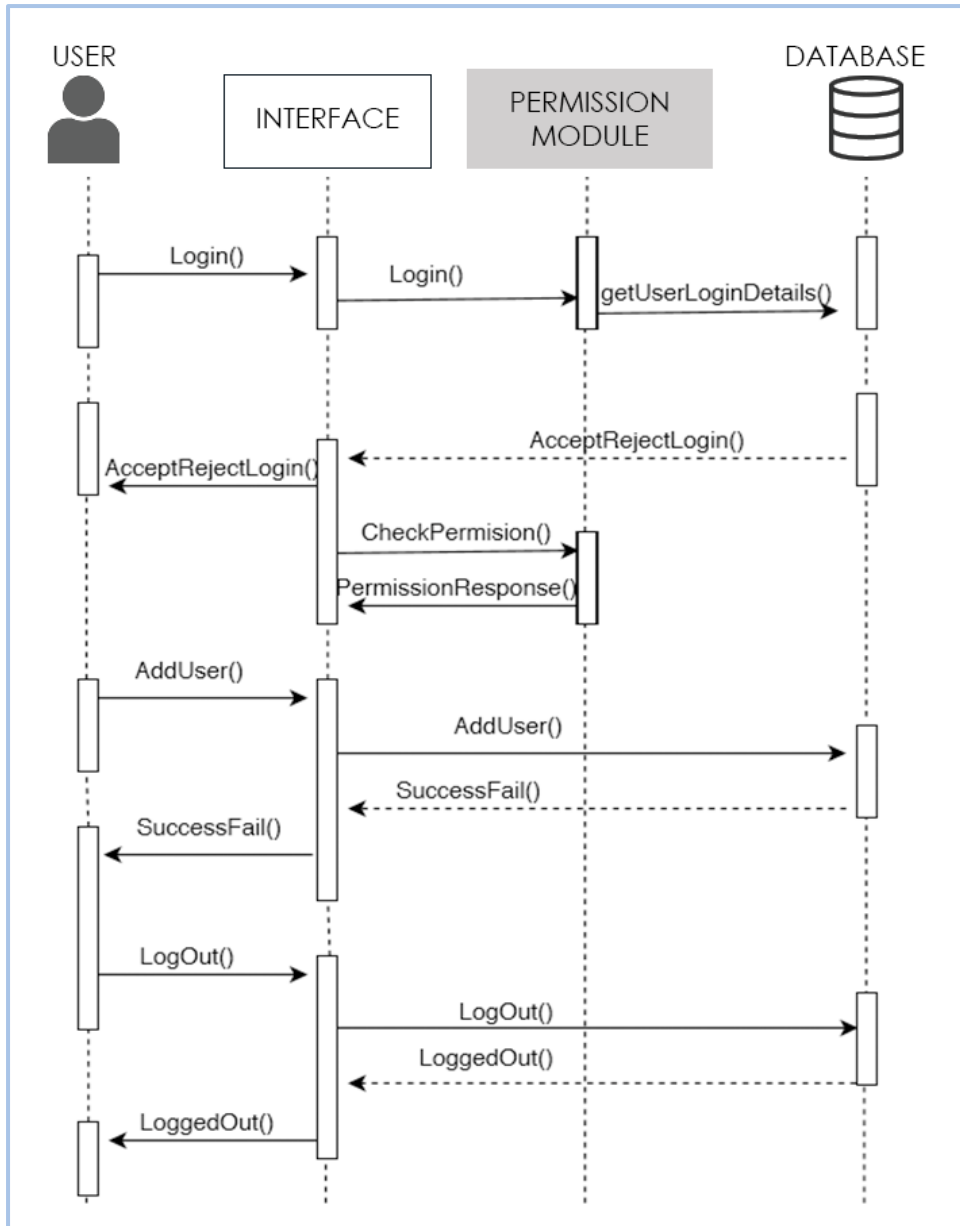
Add/Update and Delete Facility

Figure 4. Sequence diagram for adding, updating, or requesting the deletion of facilities



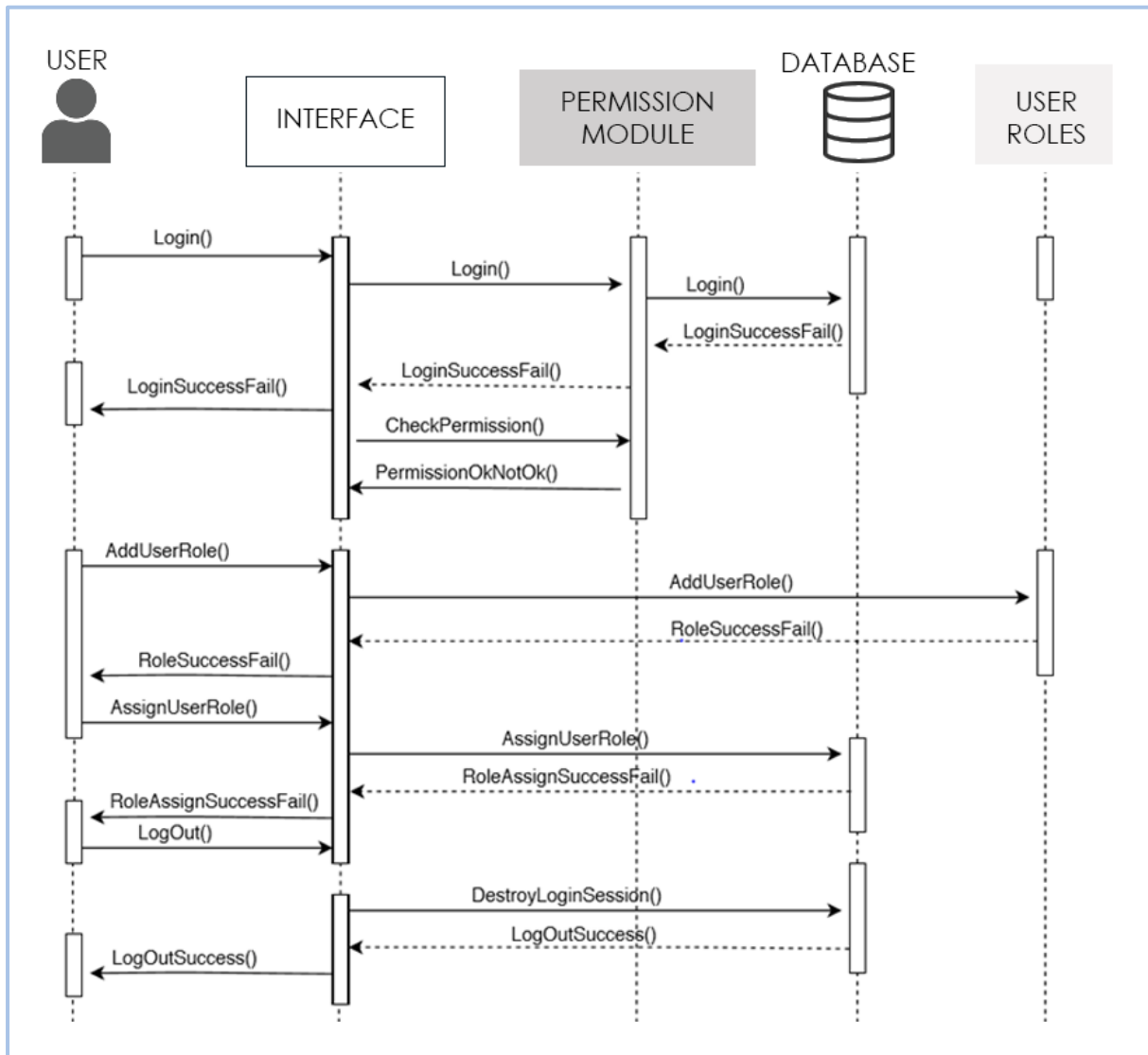
Add User

Figure 5. Sequence diagram for adding users



Manage User Roles

Figure 6. Sequence diagram for managing user roles



SOFTWARE INTERFACE DESIGN

User Interface Design

The structure principle: The UI is organized such that related things are combined and unrelated things are separated.

The simplicity principle: The UI is easy to follow. If the user makes a mistake, the system displays an error message.

The visibility principle: All system functions are available through the UI, which does not overwhelm users with too many alternatives.

The feedback principle: Through the system of messages, the design keeps users informed of actions, errors, or exceptions.

Web Pages in a Tree

The system’s web pages are presented in a tree diagram below. From the “Home” page of the HFR public portal, the user can reach following pages: “Statistics,” “Facility List,” “Data Downloads,” “About,” “Contact,” “My Account,” and “Resources.” These pages cover the HFR system’s public portal functions, and the pages are easy to navigate from the menu at the top.

From the “Home” page of the HFR administrative portal, the user can reach the following pages: “Masters,” “Hospitals and clinics,” “Facility approvals,” “Pharmaceutical premises,” “Laboratory premises,” “Radiology premises,” ”Messages,” ”Download requests,” “User feedback,” “User management,” and “Resources.”

Table 2. Pages in the HFR system

| | | | |
|--|---------------------------|-------------------------|---------------------|
| Public Access Web Pages | | | |
| • Home | • Data downloads | • Reports | • Contact us |
| • Statistics | • Resources | • About | • My profile |
| • Facilities list | | | |
| Data Entry Access Web Pages | | | |
| • Dashboard | • My requests | | |
| • Hospitals and clinics | • Resources | | |
| Verification, Validation and Publication Access Web Pages | | | |
| • Dashboard | • My requests | • Resources | |
| • Hospitals and clinics | • My approvals | | |
| Administrator Access Web Pages | | | |
| • Dashboard | • My requests | • Laboratory premises | • Download requests |
| • Masters | • My approvals | • Radiological premises | • Resources |
| • User management | • Pharmaceutical Premises | • Users feedback | • Reports |
| • Hospitals and clinics | | | |

APPENDIX. HFR DATABASE DICTIONARY

Legend




































-  Primary key
-  Primary key disabled
-  User-defined primary key
-  Unique key
-  Unique key disabled
-  User-defined unique key
-  Active trigger
-  Disabled trigger
-  Many to one relation
-  User-defined many to one relation
-  One to many relation
-  User-defined one to many relation
-  One to one relation
-  User-defined one to one relation
-  Input
-  Output
-  Input /Output
-  Uses dependency
-  User-defined uses dependency
-  Used by dependency
-  User-defined used by dependency

Table A1. Audits

Columns

| | Name | Data Type | Description/Attributes |
|---|----------------|------------------------|---|
|  | id | unsigned int(10, 0) | Audit trail identifier. System autogenerated. Identity/Auto increment |
|  | user_type | varchar(255) | Type of user performing event in system, e.g., App/user Nullable |
|  | user_id | unsigned bigint(20, 0) | References the users table Nullable |
|  | event | varchar(255) | Type of event being performed by user, e.g., update, create, delete |
|  | auditable_type | varchar(255) | Table where changes have been effected |
|  | auditable_id | unsigned bigint(20, 0) | |
|  | old_values | text | Old value before change Nullable |
|  | new_values | text | New value after change Nullable |
|  | url | text | Link to web page where changes were done from Nullable |
|  | ip_address | varchar(45) | IP address of computer where changes were done from Nullable |
|  | user_agent | varchar(255) | Browser and computer operating system where changes were done from Nullable |
|  | tags | varchar(255) | Nullable |
|  | created_at | timestamp | Time audit trail created Nullable |
|  | updated_at | timestamp | Time audit trail last updated Nullable |

Unique keys










| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A2. Contact_us

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|---|
|   | id | int(10, 0) | Contact message identifier. System autogenerated. Identity/Auto increment |
|  | full_name | varchar(100) | Name of sender |
|  | email | varchar(100) | Email of sender |
|  | subject | varchar(20) | Message subject text |
|  | message | varchar(500) | Message body text |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time last updated Nullable |

Unique keys













| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A3. Downloads

Columns







| | Name | Data Type | Description/Attributes |
|---|--------------|--------------|--|
|   | id | int(10, 0) | Download identifier. System autogenerated. Identity/Auto increment |
|  | firstname | varchar(55) | First name of person downloading data from HFR |
|  | lastname | varchar(55) | Last name of person downloading data from HFR |
|  | email | varchar(200) | Email of person downloading data from HFR |
|  | organisation | varchar(100) | Name of organization where person works |
|  | designation | varchar(55) | Designation of person downloading data from HFR |
|  | country | varchar(250) | Home country name |
|  | purpose | varchar(250) | Intended use of data being downloaded |
|  | created_at | timestamp | Time downloaded Nullable |
|  | updated_at | timestamp | Time downloaded Nullable |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A4. hs_hospital_services

Columns

| | Name | Data Type | Description/Attributes |
|---|-------------|------------|--|
|   | id | int(10, 0) | Record identifier. System autogenerated. Identity/Auto increment |
|  | service_id | int(10, 0) | Service id. References lst_hosp_services table. Nullable |
|  | hospital_id | int(10, 0) | Hospital identifier. References hs_hospitals table. Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time last updated Nullable |

Linked from




| Table | Join | Title/Name/Description |
|--|---|------------------------|
|  hs_hospitals (Hospitals) | hs_hospital_services.id = hs_hospitals.id | User-defined relation |























Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A5. hs_hospitals

Columns

| | Name | Data Type | Description/Attributes |
|---|------------------------------------|--------------|---|
|   | id | int(10, 0) | Unique identifier/primary key. System autogenerated. Identity/Auto increment References: hs_hospital_services, hs_status_tracking |
|  | unique_id | varchar(50) | Unique facility ID. Generated following the state/lga/ward ids. |
|  | registration_no | varchar(20) | Facility registration number Nullable |
|  | start_date | date | Commencement date of facility Nullable |
|  | facility_name | varchar(200) | Facility name |
|  | alt_facility_name | varchar(200) | Other facility name Nullable |
|  | state_id | int(10, 0) | State where facility is location. This ID references ou_states table. Nullable References: ou_states |
|  | lga_id | int(10, 0) | LGA ID of LGA where facility is located. References ou_lga table. Nullable References: ou_lgas |
|  | ward_id | int(10, 0) | Ward ID. References the ou_ward table. Nullable References: ou_wards |
|  | ownership_id | int(10, 0) | Level of ownership (i.e., public or private) Nullable References: lst_ownerships |
|  | ownership_type_id | varchar(45) | Ownership type (e.g., local government, state owned) Nullable |
|  | ownership_details | text | Brief description of facility ownership Nullable |
|  | facility_level_id | int(10, 0) | Facility level Nullable References: lst_level_of_care |
|  | facility_level_option_id | int(10, 0) | Nullable |
|  | facility_level_options_category_id | int(10, 0) | Nullable |
|  | house_no | varchar(11) | Nullable |
|  | street_name | varchar(100) | Information about physical address of facility Nullable |
|  | longitude | varchar(20) | Geolocation coordinate Nullable |
|  | latitude | varchar(20) | Geolocation coordinate Nullable |
|  | postal_address | varchar(100) | Information about physical address of facility Nullable |
|  | phone_number | varchar(50) | Facility phone contact Nullable |

| | Name | Data Type | Description/Attributes |
|---|--------------------------------|--------------|---|
|  | email_address | varchar(100) | Facility email, if available Nullable |
|  | website | varchar(255) | Facility official website (optional) Nullable |
|  | operational_days | mediumtext | Days of operation, e.g., Monday/Tuesday Nullable |
|  | operational_hours | varchar(11) | Hours of operation in a day, e.g., 8am-9pm or 24 hrs. Nullable |
|  | operational_status_id | int(10, 0) | Facility operation status. References lst_operation_status table. Nullable |
|  | regulatory_status_id | int(10, 0) | Facility regulatory status, e.g., registered, provisionally registered. References lst_regulatory_status table. Nullable |
|  | license_status_id | int(10, 0) | Facility license status, e.g., licensed, not licensed, or unknown. References lst_license_status table. Nullable |
|  | doctors | int(10, 0) | Number of doctors at facility Nullable |
|  | pharmacists | int(10, 0) | Number of pharmacists at facility Nullable |
|  | dentist | int(10, 0) | Number of dentists at facility Nullable |
|  | pharmacy_technicians | int(10, 0) | Number of pharmacy technicians at facility Nullable |
|  | nurses | int(10, 0) | Number of nurses at facility Nullable |
|  | lab_scientists | int(10, 0) | Number of lab scientists at facility Nullable |
|  | midwives | int(10, 0) | Number of midwives at facility Nullable |
|  | lab_technicians | int(10, 0) | Number of laboratory technicians at facility Nullable |
|  | nurse_midwife | int(10, 0) | Number of workers who double as both nurses and midwives Nullable |
|  | him_officers | int(10, 0) | Number of Health Information Management officers Nullable |
|  | community_health_officer | int(10, 0) | Number of community health workers Nullable |
|  | community_extension_workers | int(10, 0) | Number of community extension workers Nullable |
|  | jun_community_extension_worker | int(10, 0) | Number of junior community extension workers Nullable |
|  | dental_technicians | int(10, 0) | Number of dental technicians Nullable |
|  | env_health_officers | int(10, 0) | Number of environmental health officers Nullable |
|  | beds_accidents_emerg | int(10, 0) | Total number of beds Nullable |

| | Name | Data Type | Description/Attributes |
|--|-------------------|-------------|---|
| | beds_admission | int(10, 0) | Total number of beds Nullable |
| | beds_icu | int(10, 0) | Total number of beds Nullable |
| | onsite_laboratory | varchar(3) | If there is an onsite laboratory (Yes/No) Nullable |
| | onsite_imaging | varchar(3) | If there is onsite imaging (Yes/No) Nullable |
| | onsite_pharmacy | varchar(3) | If there is an onsite pharmacy (Yes/No) Nullable |
| | mortuary_services | varchar(3) | Available mortuary services (Yes/No) Nullable |
| | status_id | int(10, 0) | Facility status ID shows the current status of the facility, e.g., pending, approved, rejected. References lst_status table. Nullable |
| | created_by | int(10, 0) | User who created the facility (metadata) Nullable |
| | created_at | timestamp | Time created (metadata) Nullable |
| | updated_at | timestamp | Time updated (metadata) Nullable |
| | requested_by | varchar(50) | ID of user who requested the change |

Links to










| Table | Join | Title/Name/Description |
|--|---|--------------------------|
| hs_hospital_services (hs_hospital_services) | hs_hospitals.id = hs_hospital_services.id | User-defined relation |
| hs_status_tracking | hs_hospitals.id = hs_status_tracking.hospital_id | User-defined relation |
| lst_level_of_care | hs_hospitals.facility_level_id = lst_level_of_care.id | fk_hospitals_levelofcare |
| lst_ownerships | hs_hospitals.ownership_id = lst_ownerships.id | fk_hospitals_ownership |
| lst_status | hs_hospitals.status_id = lst_status.id | User-defined relation |
| ou_lgas | hs_hospitals.lga_id = ou_lgas.id | fk_hospitals_lga |
| ou_states | hs_hospitals.state_id = ou_states.id | fk_hospitals_state |
| ou_wards | hs_hospitals.ward_id = ou_wards.id | fk_hospitals_wards |

Unique keys


| Columns | Name/Description |
|---------|------------------|
| id | PRIMARY |

Table A6. hs_status_tracking

Columns

| | Name | Data Type | Description/Attributes |
|---|-------------|-------------|--|
|   | id | int(10, 0) | Hospital status unique identifier Identity/Auto increment |
|  | action | varchar(50) | References lst_status to get the action name Nullable |
|  | hospital_id | int(10, 0) | References the hs_hospitals table Nullable |
|  | user_id | int(10, 0) | References the users table to get the user who has performed this action Nullable |
|  | status_id | int(10, 0) | References the lst_status to get the status of the facility depending on approval level Nullable |
|  | note | text | Approver notes Nullable |
|  | created_at | datetime | Date approval created Nullable |
|  | update_no | int(10, 0) | Date approval last updated Nullable |

Linked from

| Table | Join | Title/Name/Description |
|--|---|------------------------|
|  hs_hospitals (Hospitals) | hs_status_tracking.hospital_id = hs_hospitals.id | User-defined relation |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A7. im_imagings

Columns

| | Name | Data Type | Description/Attributes |
|---|--------------------------|--------------|--|
|   | id | int(10, 0) | Imaging record identifier. System autogenerated. Identity/Auto increment |
|  | unique_id | varchar(50) | Imaging unique ID |
|  | registration_no | varchar(20) | Registration number Nullable |
|  | radiographers_reg_number | varchar(45) | Radiographers Council physical registration number Nullable |
|  | start_date | date | Commencement date Nullable |
|  | facility_name | varchar(500) | Facility name Nullable |
|  | alt_facility_name | varchar(500) | Other facility name Nullable |
|  | state_id | int(10, 0) | State ID from ou states table Nullable - References: ou states |
|  | lga_id | int(10, 0) | LGA ID from ou lgas table Nullable - References: ou lgas |
|  | ward_id | int(10, 0) | Ward ID from ou wards table Nullable - References: ou wards |
|  | ownership_id | int(10, 0) | Ownership ID from lst_ownerships table Nullable - References: lst_ownerships |
|  | ownership_type_id | varchar(45) | Reference to lst_ownership_type table Nullable |
|  | ownership_details | text | Brief description of facility ownership Nullable |
|  | house_no | varchar(11) | House number of facility Nullable |
|  | street_name | varchar(100) | Name of street where facility is located Nullable |
|  | longitude | varchar(20) | Longitude coordinates of facility Nullable |
|  | latitude | varchar(20) | Latitude coordinates of facility Nullable |
|  | postal_address | varchar(100) | Facility postal address Nullable |
|  | phone_number | varchar(50) | Phone number Nullable |
|  | email_address | varchar(100) | Facility email address Nullable |
|  | website | varchar(255) | Facility official website Nullable |

| | Name | Data Type | Description/Attributes |
|--|------------------------|-------------|---|
| | operational_days | mediumtext | Days of operation, e.g., Monday/Tuesday Nullable |
| | operational_hours | varchar(11) | Hours open in a day, e.g., 9am-9pm or 24 hrs. Nullable |
| | operational_status_id | int(10, 0) | Status of facility in terms of operation, e.g., operational, closed Nullable |
| | regulatory_status_id | int(10, 0) | References lst_regulatory status table, e.g., registered, registration suspended Nullable |
| | license_status_id | int(10, 0) | References lst_license_status table, e.g., licensed, not licensed, unknown Nullable |
| | laboratory_scientists | int(10, 0) | Number of lab scientists at facility Nullable |
| | laboratory_technicians | int(10, 0) | Number of lab technicians at facility Nullable |
| | quality_assurance | varchar(45) | Nullable |
| | laboratory_type | varchar(45) | Nullable |
| | radiologists | int(10, 0) | Number of radiologists at facility Nullable |
| | radiographers | int(10, 0) | Number of radiographers at facility Nullable |
| | radiography_tech | int(10, 0) | Number of radiography technicians at facility Nullable |
| | premises_type_id | int(10, 0) | Premises type, i.e., institution or standalone Nullable |
| | created_at | timestamp | Time created Nullable |
| | updated_at | timestamp | Time last updated Nullable |

Links to

| Table | Join | Title/Name/Description |
|----------------|---|------------------------|
| lst_ownerships | im_imagings.ownership_id = lst_ownerships.id | fk_imaging_ownership |
| ou_lgas | im_imagings.lga_id = ou_lgas.id | fk_imaging_lga |
| ou_states | im_imagings.state_id = ou_states.id | fk_imaging_state |
| ou_wards | im_imagings.ward_id = ou_wards.id | fk_imaging_ward |

Linked from






| Table | Join | Title/Name/Description |
|-------------|--|------------------------|
| im_services | im_imagings.id = im_services.imaging_id | fk_im_services_imaging |

Unique keys

| Columns | | Name / Description |
|--|--|--------------------|
|  id | | PRIMARY |

Table A8. im_services

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|---|
|  | id | unsigned int(10, 0) | Imaging service identifier. System autogenerated. Identity/Auto increment |
|  | imaging_id | int(10, 0) | Imaging ID. References im_imagings table. References: im_imagings |
|  | service_id | int(10, 0) | Link to lst_imaging_services table References: lst_imaging_services |
|  | created_at | datetime | Date created Nullable |
|  | updated_at | datetime | Last date updated Nullable |

Links to












| | Table | Join | Title/Name/Description |
|---|----------------------|--|------------------------|
|  | im_imagings | im_services.imaging_id = im_imagings.id | fk_im_services_imaging |
|  | lst_imaging_services | im_services.service_id = lst_imaging_services.id | fk_im_services_ |

Table A9. lb_certifications

Columns

| | Name | Data Type | Description/Attributes |
|---|--------------------|------------|---|
|  | id | int(10, 0) | Record unique identifier. System autogenerated. Identity/Auto increment |
|  | certificate_id | int(10, 0) | Certificate identifier. References lst_certificates table. References: lst_certificates |
|  | laboratory_id | int(10, 0) | Laboratory to which this certification record is tagged References: lb_laboratories |
|  | certification_date | date | Date of certification Nullable |
|  | expiration_date | date | Certificate date of expiry Nullable |
|  | created_at | datetime | Date created (metadata) Nullable |
|  | updated_at | datetime | Date updated (metadata) Nullable |

Links to

| | Table | Join | Title/Name/Description |
|---|------------------|--|-----------------------------------|
|  | lb_laboratories | lb_certifications.laboratory_id = lb_laboratories.id | fk_certification_laboratory |
|  | lst_certificates | lb_certifications.certificate_id = lst_certificates.id | fk_certification_lab_certificates |

Unique keys










| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A10. lb_equipments

Columns

| | Name | Data Type | Description/Attributes |
|---|---------------|------------|---|
|   | id | int(10, 0) | Unique record identifier. System autogenerated. Identity/Auto increment |
|  | laboratory_id | int(10, 0) | Laboratory to which this equipment is attached. References lb_laboratories table. References: lb_laboratories |
|  | equipment_id | int(10, 0) | Equipment identifier. References the lst_equipments table. References: lst_equipments |
|  | created_at | datetime | Date created (metadata) Nullable |
|  | updated_at | datetime | Date update (metadata) Nullable |

Links to

| | Table | Join | Title/Name/Description |
|---|-----------------|---|-----------------------------|
|  | lb_laboratories | lb_equipments.laboratory_id = lb_laboratories.id | fk_equipments_laboratory |
|  | lst_equipments | lb_equipments.equipment_id = lst_equipments.id | fk_equipments_lst_equipment |

Unique keys


| | Columns | Name/Description |
|---|---------|------------------|
|  | id | PRIMARY |

Table A11. Ib_laboratories

Columns

| | Name | Data Type | Description/Attributes |
|---|---------------------------|---------------|--|
|   | id | int(10, 0) | Unique record identifier Identity/Auto increment |
|  | unique_id | varchar(50) | Laboratory unique identifier |
|  | registration_no | varchar(20) | Laboratory registration number Nullable |
|  | medical_laboratory_number | varchar(100) | Medical laboratory number Nullable |
|  | start_date | date | Laboratory commencement date Nullable |
|  | facility_name | varchar(3000) | Name of laboratory Nullable |
|  | alt_facility_name | varchar(100) | Alternative laboratory name Nullable |
|  | state_id | int(10, 0) | State identifier. References the ou_states table. Nullable References: ou_states |
|  | lga_id | int(10, 0) | LGA identifier. References the ou_lgas table. Nullable References: ou_lgas |
|  | ward_id | int(10, 0) | Ward identifier. References the ou_wards table. Nullable References: ou_wards |
|  | ownership_id | int(10, 0) | Level of ownership, i.e., public or private Nullable References: lst_ownerships |
|  | ownership_type_id | varchar(45) | Ownership type, e.g., local government, state owned Nullable |
|  | ownership_details | text | Brief description of laboratory ownership Nullable |
|  | facility_level_id | int(10, 0) | Facility level Nullable |
|  | house_no | varchar(11) | House number of facility Nullable |
|  | street_name | varchar(100) | Street name of facility Nullable |
|  | longitude | varchar(20) | Geocoordinates, longitude Nullable |
|  | latitude | varchar(20) | Geocoordinates, latitude Nullable |
|  | postal_address | varchar(100) | Lab physical address Nullable |
|  | phone_number | varchar(50) | Facility phone contact Nullable |

| | Name | Data Type | Description/Attributes |
|--|-------------------------|--------------|---|
| | email_address | varchar(100) | Facility email Nullable |
| | website | varchar(255) | Facility official website Nullable |
| | operational_days | mediumtext | Operational days of the week Nullable |
| | operational_hours | varchar(11) | Hours open in a day Nullable |
| | operational_status_id | int(10, 0) | Lab operational status, e.g., operational, closed Nullable |
| | registration_status_id | int(10, 0) | Lab registration status Nullable |
| | accreditation_status_id | int(10, 0) | Shows if facility is accredited or not (Yes/No) Nullable |
| | license_status_id | int(10, 0) | Lab is licensed or not (Yes/No) Nullable |
| | laboratory_scientists | int(10, 0) | Number of laboratory scientists Nullable |
| | laboratory_technicians | int(10, 0) | Number of lab technicians available Nullable |
| | quality_assurance | varchar(45) | Facility is enrolled for external quality assurance program or not (enrolled/not enrolled) Nullable |
| | premises_type_id | int(10, 0) | References to lst_premises_type, i.e., institution or standalone Nullable |
| | created_at | timestamp | Time created (metadata) Nullable |
| | updated_at | timestamp | Time last updated (metadata) Nullable |

Links to

| Table | Join | Title/Name/Description |
|----------------|---|---------------------------|
| lst_ownerships | lb_laboratories.ownership_id = lst_ownerships.id | fk_laboratories_ownership |
| ou_lgas | lb_laboratories.lga_id = ou_lgas.id | fk_laboratories_lga |
| ou_states | lb_laboratories.state_id = ou_states.id | fk_laboratories_state |
| ou_wards | lb_laboratories.ward_id = ou_wards.id | fk_laboratories_ward |

Linked from






| Table | Join | Title/Name/Description |
|-------------------|---|-----------------------------|
| lb_certifications | lb_laboratories.id = lb_certifications.laboratory_id | fk_certification_laboratory |
| lb equipments | lb_laboratories.id = lb equipments.laboratory_id | fk equipments_laboratory |

Unique keys

| Columns | | Name/Description |
|--|--|------------------|
|  id | | PRIMARY |

Table A12. Ist_accreditation_status

Columns






| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|---|
|   | id | unsigned int(10, 0) | Unique accreditation identifier Identity/Auto increment |
|  | status | varchar(255) | Status name, e.g., accredited, not accredited |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A13. lst_certificates

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|---------------|--|
|  | id | int(10, 0) | Certificate identifier. Autogenerated |
|  | name | varchar(100) | Certificate name |
|  | type | tinyint(3, 0) | Certificate type (1 is national, 2 is international) |
|  | created_at | timestamp | Time created Default: CURRENT_TIMESTAMP |
|  | updated_at | timestamp | Time last updated Nullable |

Linked from

| Table | Join | Title/Name/Description |
|---------------------|---|-----------------------------------|
| ← lb_certifications | lst_certificates.id = lb_certifications.certificate_id | fk_certification_lab_certificates |

Unique keys








| Columns | Name/Description |
|---|------------------|
|  id | PRIMARY |

Table A14. lst_equipments

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|--|
|   | id | int(10, 0) | Equipment identifier |
|  | name | varchar(100) | Equipment name Nullable |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Linked from

| Table | Join | Title/Name/Description |
|---|---|-----------------------------|
|  lb_equipments | lst_equipments.id = lb_equipments.equipment_id | fk_equipments_lst_equipment |

Unique keys







| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A15. Ist_facility_types

Columns







| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Facility type identifier. System autogenerated. |
|  | name | varchar(50) | Facility type name |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable Default: CURRENT_TIMESTAMP |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A16. lst_hosp_service_category

Columns






| | Name | Data Type | Description/Attributes |
|---|-----------------|-------------|---|
|   | id | int(10, 0) | Hospital service category identifier. System autogenerated. |
|  | service_type_id | int(10, 0) | Service type ID. References lst_service_types. Nullable |
|  | description | varchar(50) | Service category description |
|  | created_at | datetime | Date created (metadata) Nullable |
|  | updated_at | datetime | Date updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A17. Ist_hosp_service_types

Columns







| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Hospital service type identifier. System autogenerated. |
|  | name | varchar(50) | Service type name Nullable |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A18. Ist_hosp_services

Columns






| | Name | Data Type | Description/Attributes |
|---|---------------------|--------------|--|
|   | id | int(10, 0) | Hospital service identifier. System autogenerated. Identity/Auto increment |
|  | service_category_id | int(10, 0) | Links to service category table. Hospital service falls under a service Category. |
|  | name | varchar(100) | Service category name |
|  | created_at | datetime | Date created (metadata) Nullable |
|  | updated_at | datetime | Date updated (metadata) Nullable |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A19. lst_imaging_services

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|--|
|   | id | int(10, 0) | Imaging service identifier. System autogenerated Identity / Auto increment |
|  | name | varchar(100) | Imaging service name |
|  | created_at | datetime | Date created (metadata) Nullable |
|  | updated_at | datetime | Date updated (metadata) Nullable |

Linked from






| Table | Join | Title/Name/Description |
|---|---|-------------------------|
|  im_services | lst_imaging_services.id = im_services.service_id | fk_im_services_services |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A20. lst_level_of_care

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Level of care unique identifier Identity/Auto increment |
|  | name | varchar(20) | Level of care name |
|  | created_at | timestamp | Date created (metadata) Default: CURRENT_TIMESTAMP |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Linked from







| Table | Join | Title/Name/Description |
|--|---|--------------------------|
|  hs_hospitals (Hospitals) | lst_level_of_care.id = hs_hospitals.facility_level_id | fk_hospitals_levelofcare |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A21. lst_level_of_care_options

Columns







| | Name | Data Type | Description/Attributes |
|---|------------------|---------------------|--|
|   | id | unsigned int(10, 0) | Level of care identifier Identity/Auto increment |
|  | level_of_care_id | unsigned int(10, 0) | Link to level of care |
|  | description | varchar(255) | Level of care description |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A22. lst_level_of_care_options_category

Columns






| | Name | Data Type | Description/Attributes |
|---|--------------------------|-------------|--|
|   | id | int(10, 0) | Category identifier Identity/Auto increment |
|  | level_of_care_options_id | int(10, 0) | References lst_level_of_care_options table. Nullable |
|  | name | varchar(50) | Category name Nullable |
|  | created_at | timestamp | Date created (metadata) Nullable |
|  | updated_at | timestamp | Date updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A23. Ist_license_status

Columns







| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|--|
|   | id | unsigned int(10, 0) | License identifier. System autogenerated Identity / Auto increment |
|  | status | varchar(50) | License status name |
|  | created_at | timestamp | Time created (metadata) Nullable |
|  | updated_at | timestamp | Time updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A24. Ist_operational_status

Columns







| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|--|
|   | id | unsigned int(10, 0) | Operational status identifier. System autogenerated. Identity/Auto increment |
|  | category | int(10, 0) | Category ID Nullable |
|  | status | varchar(50) | Status name |
|  | created_at | timestamp | Time created (metadata) Nullable |
|  | updated_at | timestamp | Time updated (metadata) Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A25. Ist_outlet_category

Columns







| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Outlet category identifier. System autogenerated. Identity/Auto increment |
|   | name | varchar(45) | Outlet category name |
|  | created_at | datetime | Date created Nullable |
|  | updated_at | datetime | Date updated Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id, name | PRIMARY |

Table A26. lst_ownership_types

Columns






| | Name | Data Type | Description/Attributes |
|---|--------------|---------------------|---|
|   | id | unsigned int(10, 0) | Ownership identifier. System autogenerated. Identity/Auto increment |
|  | ownership_id | unsigned int(10, 0) | Ownership identifier. References lst_ownerships table. |
|  | type | varchar(255) | Ownership type name |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A27. lst_ownerships

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Ownership identifier. System autogenerated. |
|  | name | varchar(20) | Ownership name Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Linked from

| Table | Join | Title/Name/Description |
|----------------------------|--|---------------------------|
| ← hs_hospitals (Hospitals) | lst_ownerships.id = hs_hospitals.ownership_id | fk_hospitals_ownership |
| ← im_imagings | lst_ownerships.id = im_imagings.ownership_id | fk_imaging_ownership |
| ← lb_laboratories | lst_ownerships.id = lb_laboratories.ownership_id | fk_laboratories_ownership |
| ← pharmacies | lst_ownerships.id = pharmacies.ownership_id | fk_pharmacy_ownership |

Unique keys







| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A28. Ist_premises_type

Columns






| | Name | Data Type | Description/Attributes |
|---|------------|-------------|---|
|   | id | int(10, 0) | Premises type identifier. System autogenerated. Identity / Auto increment |
|  | name | varchar(45) | Premises type name, i.e.. institution or standalone Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A29. Ist_registration_status

Columns






| | Name | Data Type | Description/Attributes |
|---|------------|-------------|--|
|   | id | int(10, 0) | Registration status identifier Identity/Auto increment |
|  | status | varchar(45) | Status name Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A30. Ist_regulatory_status

Columns





| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|--|
|   | id | unsigned int(10, 0) | Regulatory status identifier Identity/Auto increment |
|  | status | varchar(50) | Regulatory status name |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A31. Ist_status

Columns

| | Name | Data Type | Description/Attributes |
|---|--------|-------------|--|
|   | id | int(10, 0) | Status identifier. System autogenerated. |
|  | status | varchar(45) | Status name, e.g., pending, approved |
|  | action | varchar(20) | Action name, e.g., create, update |

Linked from







| Table | Join | Title/Name/Description |
|--|---|------------------------|
|  hs_hospitals (Hospitals) | Ist_status.id = hs_hospitals.status_id | User-defined relation |

Unique keys


| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A32. model_has_permissions

Columns

| | Name | Data Type | Description/Attributes |
|---|---------------|------------------------|--------------------------------|
|   | permission_id | unsigned int(10, 0) | References: permissions |
|   | model_type | varchar(255) | |
|   | model_id | unsigned bigint(20, 0) | |

Links to

| Table | Join | Title/Name/Description |
|---|--|---|
|  permissions | model_has_permissions.permission_id = permissions.id | model_has_permissions_permission_id_foreign |

Unique keys









| Columns | Name/Description |
|---|------------------|
|  permission_id, model_type, model_id | PRIMARY |

Table A33. model_has_roles

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|------------------------|--------------------------|
|   | role_id | unsigned int(10, 0) | References: roles |
|   | model_type | varchar(255) | |
|   | model_id | unsigned bigint(20, 0) | |

Links to









| Table | Join | Title/Name/Description |
|---|---|---------------------------------|
|  roles | model_has_roles.role_id = roles.id | model_has_roles_role_id_foreign |

Unique keys

| Columns | Name/Description |
|---|------------------|
|  role_id, model_type, model_id | PRIMARY |

Table A34. Notifications






Columns

| | Name | Data Type | Description/Attributes |
|---|-----------------|------------------------|--|
|  | id | char(36) | Notification ID. System autogenerated. |
|  | type | varchar(255) | Notification type ID |
|  | notifiable_type | varchar(255) | |
|  | notifiable_id | unsigned bigint(20, 0) | |
|  | data | text | Notification text |
|  | read_at | timestamp | Time read (metadata) |
|  | created_at | timestamp | Time created (metadata) |
|  | updated_at | timestamp | Time updated (metadata) |


Link

Table A35. ou_geopolitical_zones

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|--------------------------------|
|   | id | int(10, 0) | Identity/Auto increment |
|  | name | varchar(100) | Nullable |
|  | created_at | timestamp | Nullable |
|  | updated_at | timestamp | Nullable |

Linked from











| | Table | Join | Title/Name/Description |
|---|-----------|---|------------------------|
|  | ou_states | ou_geopolitical_zones.id = ou_states.geopolitical_zone_id | fk_state_geozone |

Unique keys

| | Columns | Name/Description |
|---|---------|------------------|
|  | id | PRIMARY |

Table A36. ou_lgas






Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|---|
|   | id | int(10, 0) | Local Government Area identifier |
|   | state_id | int(10, 0) | State identifier. References ou_states table. References: ou_states |
|  | name | varchar(100) | State name |
|  | state_code | varchar(2) | State code |
|  | lga_code | varchar(2) | LGA code |
|  | map_code | varchar(5) | Map code |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Links to

| Table | Join | Title/Name/Description |
|---|--|------------------------|
|  ou_states | ou_lgas.state_id = ou_states.id | fk_lga_states |

Linked from

| Table | Join | Title/Name/Description |
|--|--|------------------------|
|  hs_hospitals (Hospitals) | ou_lgas.id = hs_hospitals.lga_id | fk_hospital_s_lga |
|  im_imagings | ou_lgas.id = im_imagings.lga_id | fk_imaging_lga |
|  lb_laboratories | ou_lgas.id = lb_laboratories.lga_id | fk_laboratorie_s_lga |
|  ou_wards | ou_lgas.id = ou_wards.lga_id | fk_wards_lga |
|  pharmacies | ou_lgas.id = pharmacies.lga_id | fk_pharmacy_lga |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  id, state_id | PRIMARY |

Table A37. ou_states

Columns

| | Name | Data Type | Description/Attributes |
|--|----------------------|-------------|--|
| | id | int(10, 0) | State identifier. System autogenerated |
| | name | varchar(50) | State name |
| | short_code | varchar(2) | State short code Nullable |
| | num_code | varchar(2) | Nullable |
| | geopolitical_zone_id | int(10, 0) | Zone ID. Link to ou_geopolitical_zones. Nullable References: ou_geopolitical_zones |
| | created_at | timestamp | Time created Nullable |
| | updated_at | timestamp | Time updated Nullable |

Links to







| Table | Join | Title/Name/Description |
|-----------------------|---|------------------------|
| ou_geopolitical_zones | ou_states .geopolitical_zone_id = ou_geopolitical_zones.id | fk_state_geozone |

Linked from


| Table | Join | Title/Name/Description |
|--------------------------|---|------------------------|
| hs_hospitals (Hospitals) | ou_states .id = hs_hospitals.state_id | fk_hospitals_state |
| im_imagings | ou_states .id = im_imagings.state_id | fk_imaging_state |
| lb_laboratories | ou_states .id = lb_laboratories.state_id | fk_laboratories_state |
| ou_lgas | ou_states .id = ou_lgas.state_id | fk_lga_states |
| pharmacies | ou_states .id = pharmacies.state_id | fk_pharmacy_state |

Table A38. ou_wards





Columns

| | Name | Data Type | Description/Attributes |
|---|------------|--------------|--|
|   | id | int(10, 0) | Ward identifier. System autogenerated |
|  | name | varchar(255) | Ward name |
|  | lga_id | int(10, 0) | LGA ID. References ou_lgas table. Nullable References: ou_lgas |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Links to

| | Table | Join | Title/Name/Description |
|---|---------|-------------------------------------|------------------------|
|  | ou_lgas | ou_wards.lga_id = ou_lgas.id | fk_wards_lga |

Linked from

| | Table | Join | Title/Name/Description |
|---|--------------------------|--|------------------------|
|  | hs_hospitals (Hospitals) | ou_wards.id = hs_hospitals.ward_id | fk_hospitals_wards |
|  | im_imagings | ou_wards.id = im_imagings.ward_id | fk_imaging_ward |
|  | lb_laboratories | ou_wards.id = lb_laboratories.ward_id | fk_laboratories_ward |
|  | pharmacies | ou_wards.id = pharmacies.ward_id | fk_pharmacy_ward |

Unique keys








| | Columns | Name/Description |
|---|---------|------------------|
|  | id | PRIMARY |

Table A39. Permissions

Columns

| | Name | Data Type | Description/Attributes |
|---|------------|---------------------|--|
|   | id | unsigned int(10, 0) | Permission identifier. System autogenerated. Identity / Auto increment |
|  | name | varchar(255) | Permission name |
|  | guard_name | varchar(255) | |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Linked from

| | Table | Join | Title/ Name/Description |
|---|-----------------------|--|---|
| ← | model_has_permissions | permissions.id = model_has_permissions.permission_id | model_has_permissions_permission_id_foreign |
| ← | role_has_permissions | permissions.id = role_has_permissions.permission_id | role_has_permissions_permission_id_foreign |

Unique keys

| | Columns | Name/Description |
|---|---------|------------------|
|  | id | PRIMARY |

Table A40. Pharmacies

Columns

| | Name | Data Type | Description/Attributes |
|--|------------------------|--------------|--|
| | id | int(10, 0) | Pharmacy identifier. System autogenerated. Identity/Auto increment |
| | unique_id | varchar(50) | Pharmacy unique ID |
| | registration_no | varchar(20) | Corporate affairs registration number Nullable |
| | pharmacists_reg_number | varchar(45) | Pharmacists Council of Nigeria registration number Nullable |
| | start_date | date | Pharmacy commencement date Nullable |
| | facility_name | varchar(500) | Pharmacy name Nullable |
| | alt_facility_name | varchar(500) | Pharmacy alternative name Nullable |
| | state_id | int(10, 0) | State ID. References the ou_states table. Nullable References: ou_states |
| | lga_id | int(10, 0) | LGA ID. References the ou_lgas table. Nullable References: ou_lgas |
| | ward_id | int(10, 0) | Ward ID. References the ou_wards table. Nullable References: ou_wards |
| | ownership_id | int(10, 0) | References the ownership table Nullable References: ownerships |
| | ownership_type_id | varchar(45) | References the ownership_type table Nullable |
| | ownership_details | text | Ownership description Nullable |
| | house_no | varchar(11) | House number of pharmacy Nullable |
| | street_name | varchar(100) | Pharmacy street name Nullable |
| | longitude | varchar(20) | Longitude coordinates Nullable |
| | latitude | varchar(20) | Latitude coordinates Nullable |
| | postal_address | varchar(100) | Pharmacy postal address Nullable |
| | phone_number | varchar(50) | Pharmacy phone number Nullable |
| | email_address | varchar(100) | Pharmacy email Nullable |
| | website | varchar(255) | Pharmacy official website Nullable |

| | Name | Data Type | Description/Attributes |
|--|-----------------------|-------------|---|
| | operational_days | mediumtext | Days of week operational Nullable |
| | operational_hours | varchar(11) | Hours of operation in a day Nullable |
| | operational_status_id | int(10, 0) | References lst_operation_status Nullable |
| | regulatory_status_id | int(10, 0) | References lst_regulatory_status Nullable |
| | license_status_id | int(10, 0) | References lst_license_status Nullable |
| | premises_type_id | int(10, 0) | References lst_premises_type Nullable |
| | outlet_category_id | int(10, 0) | References lst_outlet_category Nullable |
| | pharmacists | int(10, 0) | Number of pharmacists Nullable |
| | pharmacy_technicians | int(10, 0) | Number of pharmacy technicians Nullable |
| | created_at | timestamp | Time created Nullable |
| | updated_at | timestamp | Time updated Nullable |

Links to




| Table | Join | Title/Name/Description |
|----------------|--|------------------------|
| lst_ownerships | pharmacies.ownership_id = lst_ownerships.id | fk_pharmacy_ownership |
| ou_lgas | pharmacies.lga_id = ou_lgas.id | fk_pharmacy_lga |
| ou_states | pharmacies.state_id = ou_states.id | fk_pharmacy_state |
| ou_wards | pharmacies.ward_id = ou_wards.id | fk_pharmacy_ward |

Unique keys

| Columns | Name/Description |
|---------|------------------|
| id | PRIMARY |

Table A41. Population

Columns








| | Name | Data Type | Description/Attributes |
|---|------------|------------|------------------------|
|   | state_id | int(10, 0) | State identifier |
|  | population | int(10, 0) | Total state population |

Unique keys

| Columns | Name/Description |
|--|------------------|
|  state_id | PRIMARY |

Table A42. Resources

Columns





| | Name | Data Type | Description/Attributes |
|---|-------------|--------------|---|
|   | id | int(10, 0) | Resource identifier Identity/Auto increment |
|  | filename | varchar(500) | Resource name/File name Nullable |
|  | description | varchar(100) | Brief resource description Nullable |
|  | format | varchar(45) | Resource format, e.g., PDF, Excel Nullable |
|  | created_at | datetime | Date created Nullable |
|  | updated_at | datetime | Date updated Nullable |

Unique keys



| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A43. role_has_permissions

Columns

| | Name | Data Type | Description/Attributes |
|---|---------------|---------------------|---|
|   | permission_id | unsigned int(10, 0) | Permission identifier References: permissions |
|   | role_id | unsigned int(10, 0) | Role ID. Maps to roles table. References: roles |

Links to








| Table | Join | Title/ Name/Description |
|---|---|--|
|  permissions | role_has_permissions .permission_id = permissions.id | role_has_permissions_permission_id_foreign |
|  roles | role_has_permissions .role_id = roles.id | role_has_permissions_role_id_foreign |

Unique keys



| Columns | Name/Description |
|--|------------------|
|  permission_id, role_id | PRIMARY |

Table A44. Roles

Columns

| | Name | Data Type | Description/Attributes |
|---|-------------|---------------------|--|
|   | id | unsigned int(10, 0) | Role identifier. System autogenerated. Identity/Auto increment |
|  | name | varchar(255) | Role name |
|  | guard_name | varchar(255) | |
|  | description | varchar(255) | Role description Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Linked from

| Table | Join | Title/Name/Description |
|--|--|--------------------------------------|
|  model_has_roles | roles.id = model_has_roles.role_id | model_has_roles_role_id_foreign |
|  role_has_permissions | roles.id = role_has_permissions.role_id | role_has_permissions_role_id_foreign |

Unique keys




| Columns | Name/Description |
|--|------------------|
|  id | PRIMARY |

Table A45. Users

Columns

| | Name | Data Type | Description/Attributes |
|---|----------------|---------------------|--|
|   | id | unsigned int(10, 0) | User identifier. System autogenerated. Identity/Auto increment |
|  | firstname | varchar(50) | User first name |
|  | lastname | varchar(50) | User last name |
|   | username | varchar(50) | Username |
|  | organisation | varchar(100) | Organization where user is currently employed Nullable |
|  | job_title | varchar(100) | User's job title Nullable |
|   | email | varchar(255) | User's email |
|  | mobile | varchar(45) | User's mobile phone number Nullable |
|  | password | varchar(255) | User password (encrypted) |
|  | status | varchar(15) | User status, i.e., active, deactivated Nullable |
|  | state_id | int(10, 0) | Assigned user state. References the ou_states table. Nullable |
|  | lga_id | int(10, 0) | Assigned LGA. References the ou_lgas table. Nullable |
|  | remember_token | varchar(100) | Login token. Generated for each user on every login attempt and sent to user's email. Nullable |
|  | created_at | timestamp | Time created Nullable |
|  | updated_at | timestamp | Time updated Nullable |

Unique keys

| Columns | Name/Description |
|--|--------------------|
|  id | PRIMARY |
|  username | username_UNIQUE |
|  email | users_email_unique |

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