

DBMS Assignment

Hostel Management System

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19BCE7137

Introduction

Hostel Room allocation system is a web application which aims at computerization of the current procedure of allocating hostel rooms.

The Website is hosted using Heroku, Do visit it by [clicking here](#). [Open on Desktop only]

*Use **ID**: 19BCE7137, **Password**: 1234. Or Create new account by [signing up](#)*

Also complete Frontend and Backend Code is uploaded to GitHub. [Click Here](#).

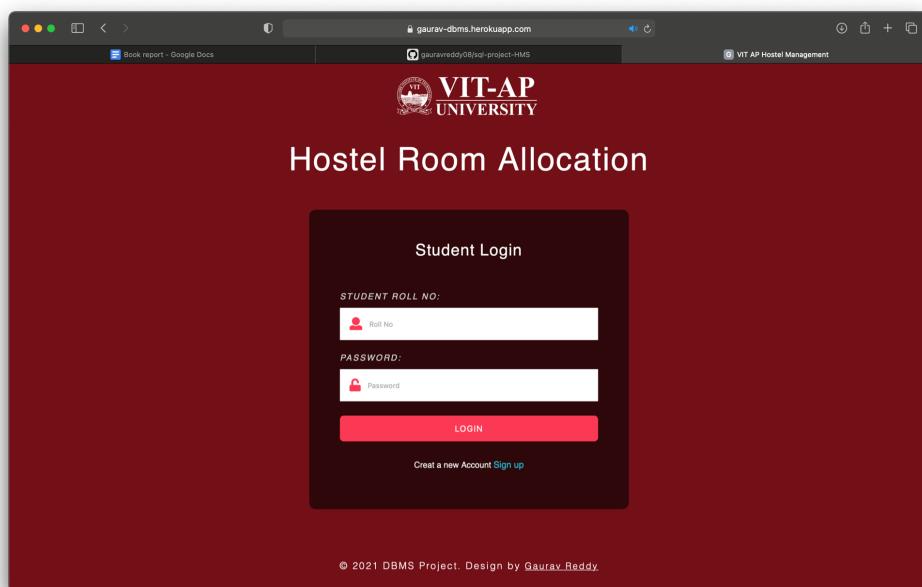
Languages Used : HTML CSS JavaScript Bootstrap PHP MySQL

Scope of the Project

Right now the website is only developed for student purposes. In future it can be expanded where **Admin** and **Hostel Manager** can also have a feature to login and allot students to the respective rooms.

Objective

- To deal with Hostel Management System in an easy and an efficient manner.
- Create a strong and private database that allows for any connection in a secret way, to prevent any outside or inside attacks.



Database Model

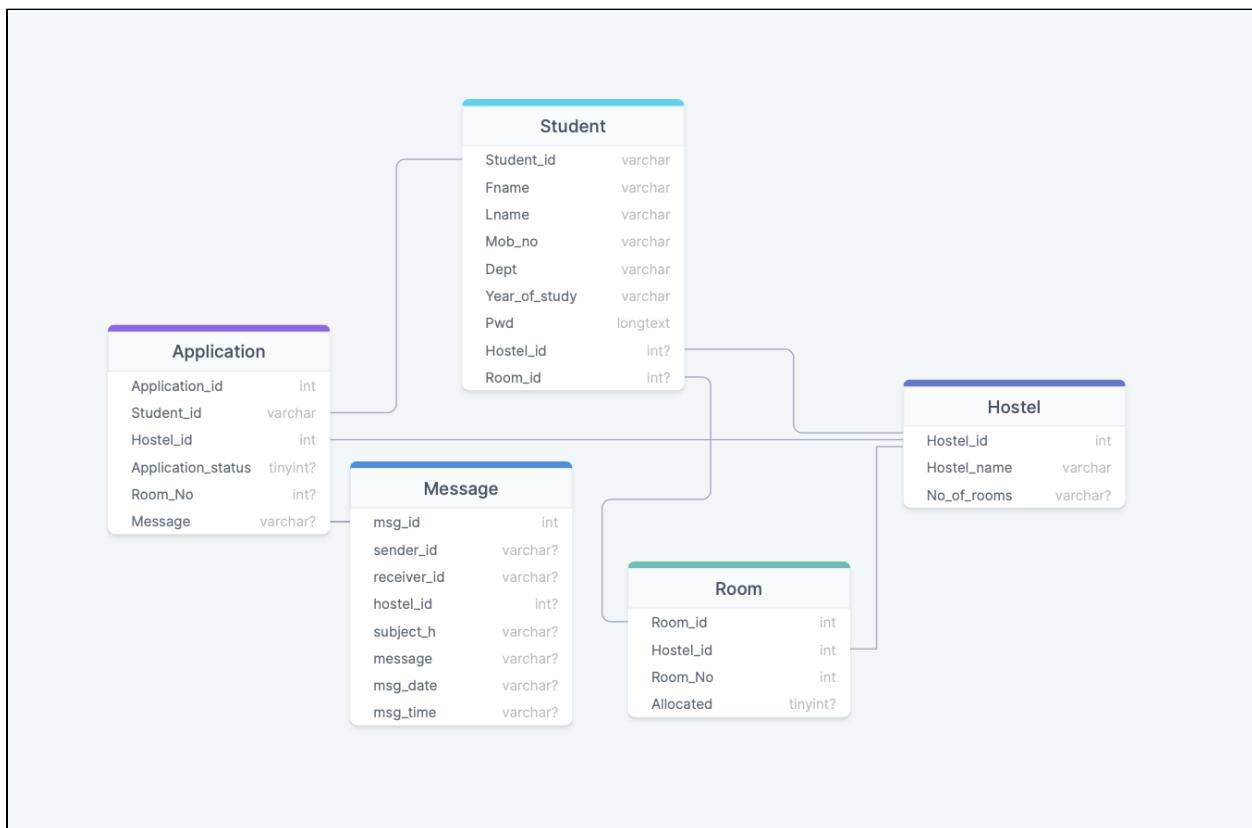
Database was hosted using remotemysql.com.

Entities

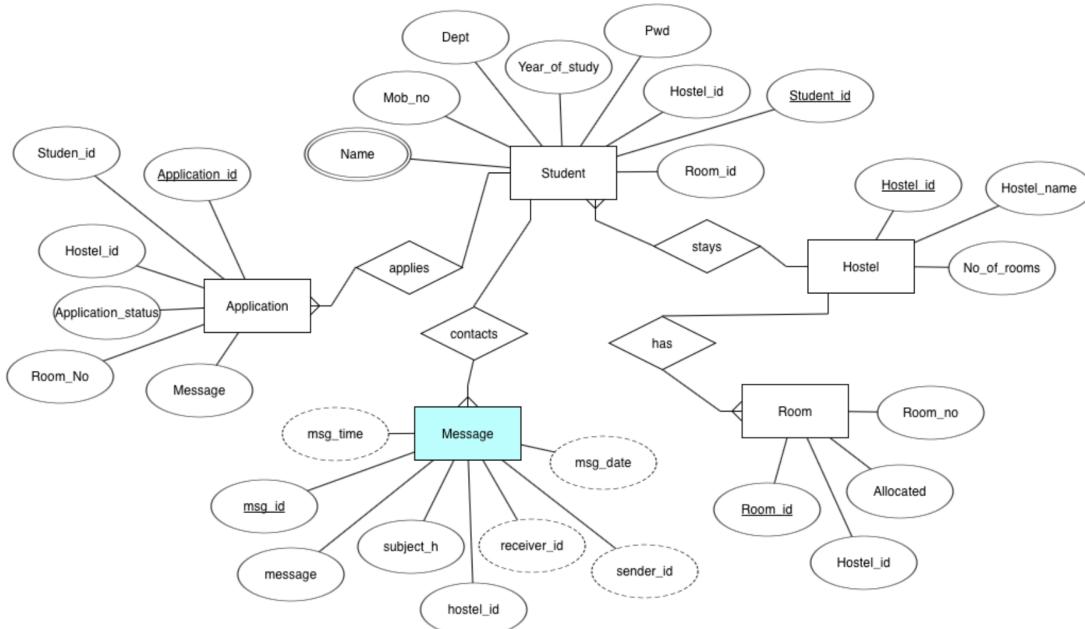
1. Application
2. Hostel
3. Message
4. Room
5. Student

All the SQL Code is attached at the end.

Conceptual Schema



ER Diagram



The whole Database is hosted over on a remote server, where they provide you with HOSTNAME, DBNAME, DBUSER, DBPASSWORD. We can use these credentials and link it with our web application. In my case I have hosted the Database on remotemysql.com.

yfcl0GbQcA Application	
Application_id	int(100)
Student_id	varchar(255)
Hostel_id	int(10)
Application_status	tinyint(1)
Room_No	int(10)
Message	varchar(255)

yfcl0GbQcA Message	
msg_id	int(10)
sender_id	varchar(255)
receiver_id	varchar(255)
hostel_id	int(10)
subject_h	varchar(255)
message	varchar(255)
msg_date	varchar(255)
msg_time	varchar(255)

yfcl0GbQcA Student	
Student_id	varchar(255)
Fname	varchar(255)
Lname	varchar(255)
Mob_no	varchar(255)
Dept	varchar(255)
Year_of_study	varchar(255)
Pwd	longtext
Hostel_id	int(10)
Room_id	int(10)

yfcl0GbQcA Room	
Room_id	int(10)
Hostel_id	int(10)
Room_No	int(10)
Allocated	tinyint(1)

yfcl0GbQcA Hostel	
Hostel_id	int(10)
Hostel_name	varchar(255)
No_of_rooms	varchar(255)

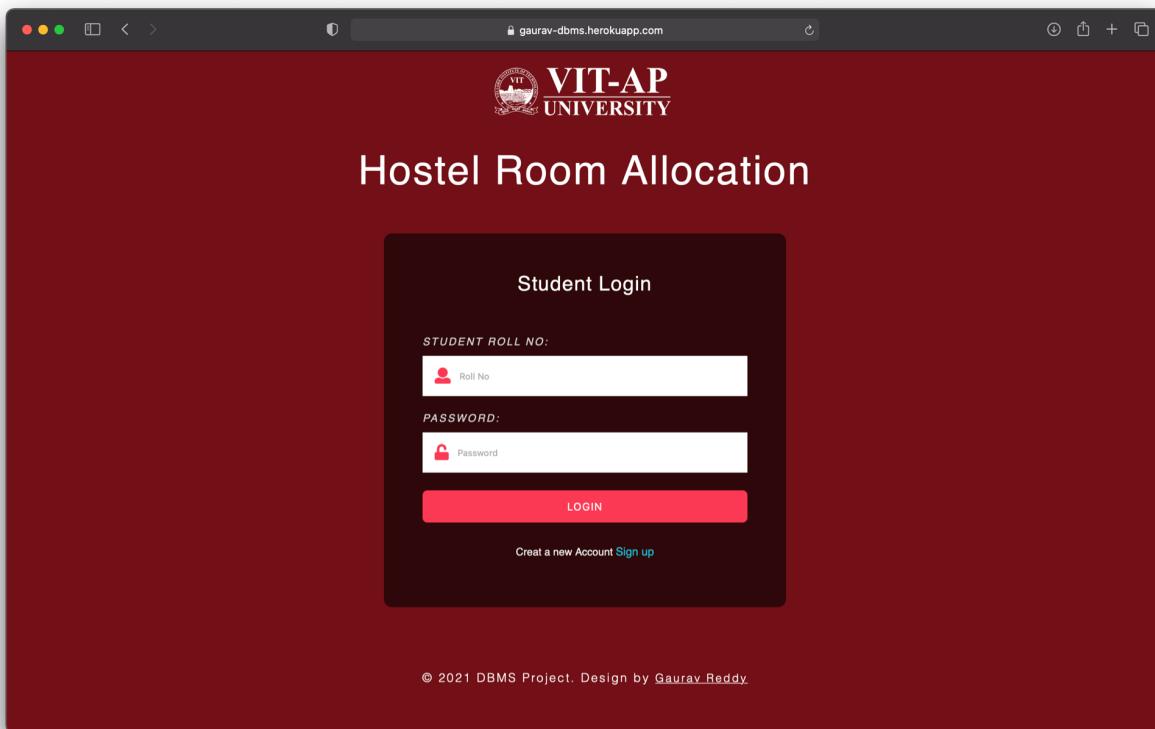
The sql queries executions and further database management is done on phpmyadmin

Breaking Down the Website

Login Page

PHP File : index.php

Database : Student



This is what a **Student** sees when they first open the [website](#). Students can also click on sign up or login with his/her credential.

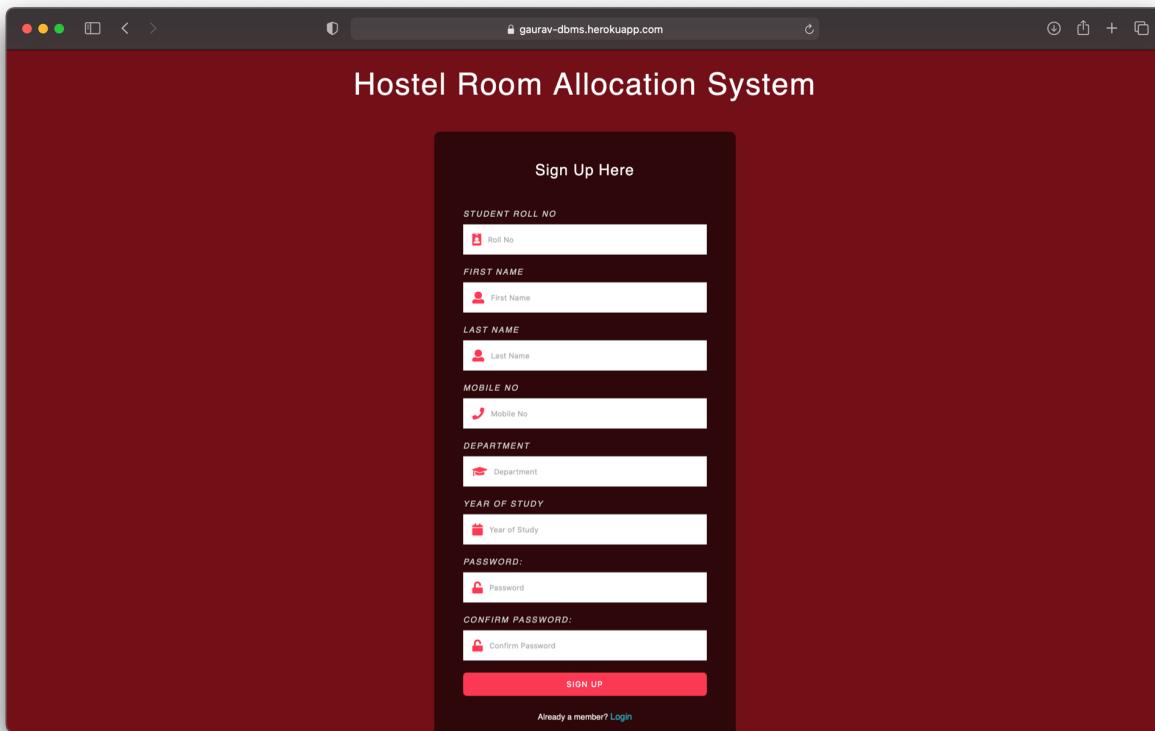
yfcI0GbQcA Student	
Student_id	: varchar(255)
Fname	: varchar(255)
Lname	: varchar(255)
Mob_no	: varchar(255)
Dept	: varchar(255)
Year_of_study	: varchar(255)
Pwd	: longtext
Hostel_id	: int(10)
Room_id	: int(10)

To this page, **Student Database** is connected. When a student tries to login with his/her credential, the backend fetches the **Student_id** and **Pwd** from the **Student Table**, and checks if the credentials are correct or incorrect.

Sign Up Page

PHP File : signup.php

Database : Student



yfcI0GbQcA Student	
Student_id	varchar(255)
Fname	varchar(255)
Lname	varchar(255)
Mob_no	varchar(255)
Dept	varchar(255)
Year_of_study	varchar(255)
Pwd	longtext
Hostel_id	int(10)
Room_id	int(10)

When you enter all the details and click on the **signup** button, Student Table stores the details.

Student_id should be unique as it's a **Primary key**.

Right now I have signed up for two users, Gaurav and Tharshith. The password is auto encrypted before getting added to the database.

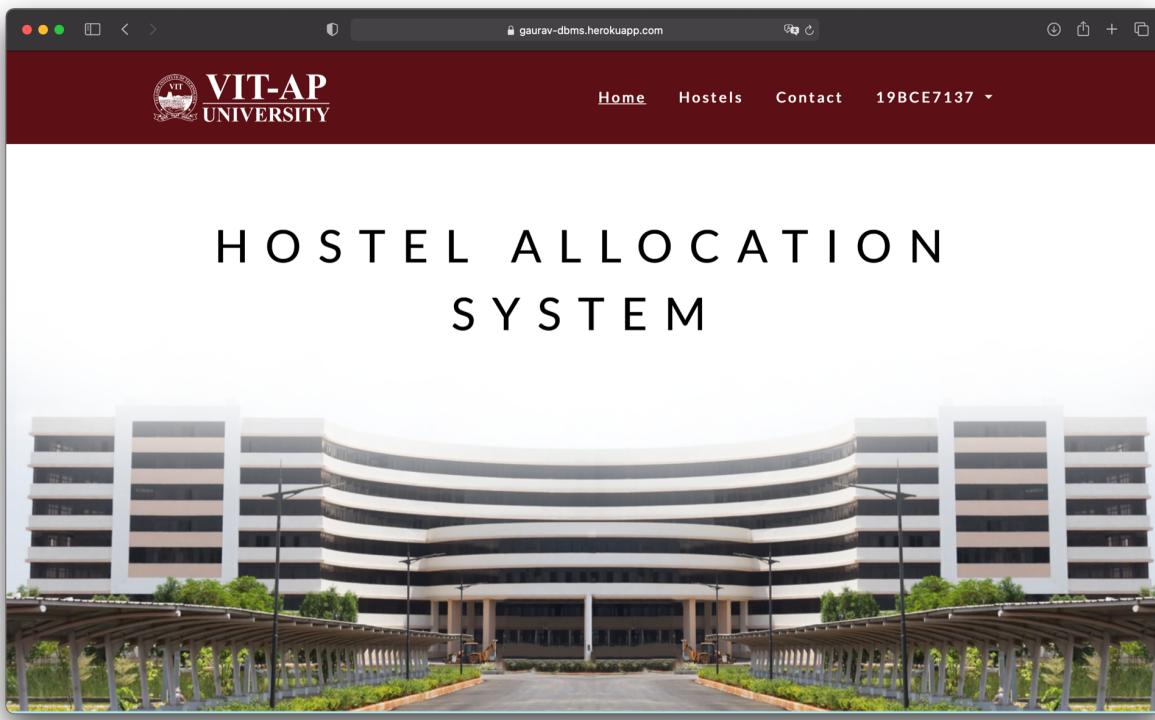
The below image shows all the data stored in the Student Table.

There are columns like **Hostel_id** and **Rood_id** which hold no data. These were included as they can be used in future by **Hostel Admin** to allot students their respective rooms.

Home Page

PHP File : home.php

Database : None



Finally after **logging in** with our credentials we will be seeing the **home page**.

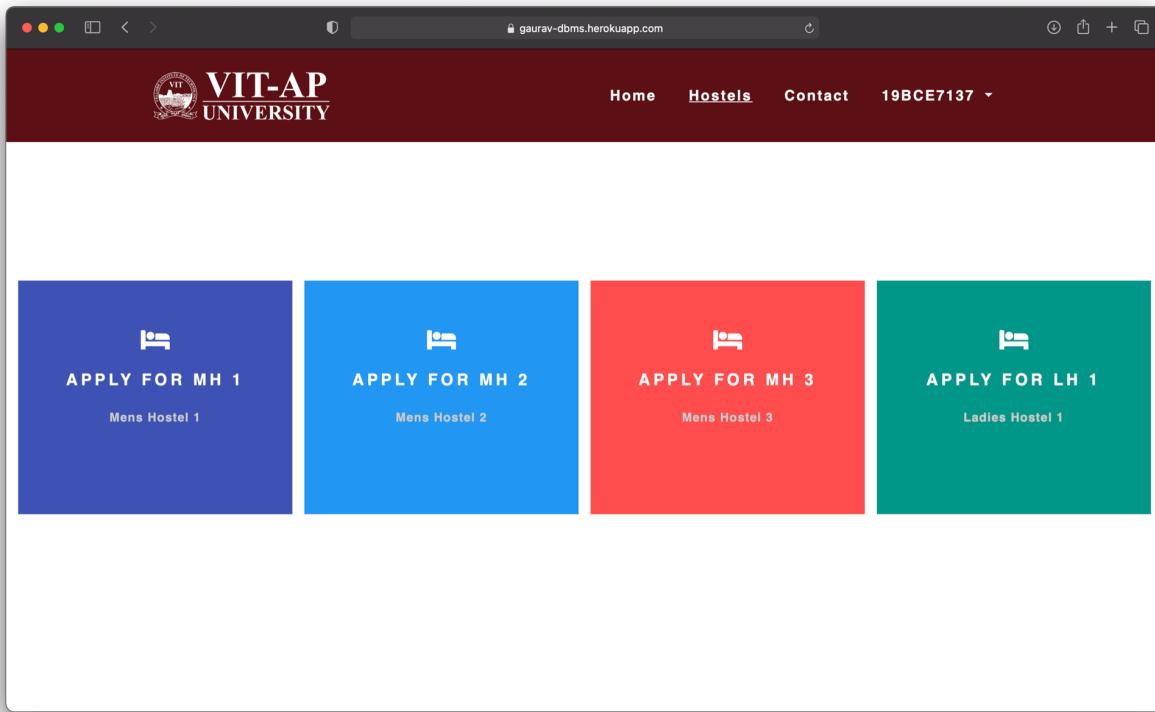
In the Home Page, we can see at the top-right side that our **Student_id** is fetched from the DATABASE-Student Table.

All the .php code is attached at the end of the document.

Hostels Page

PHP File : services.php

Database : Application

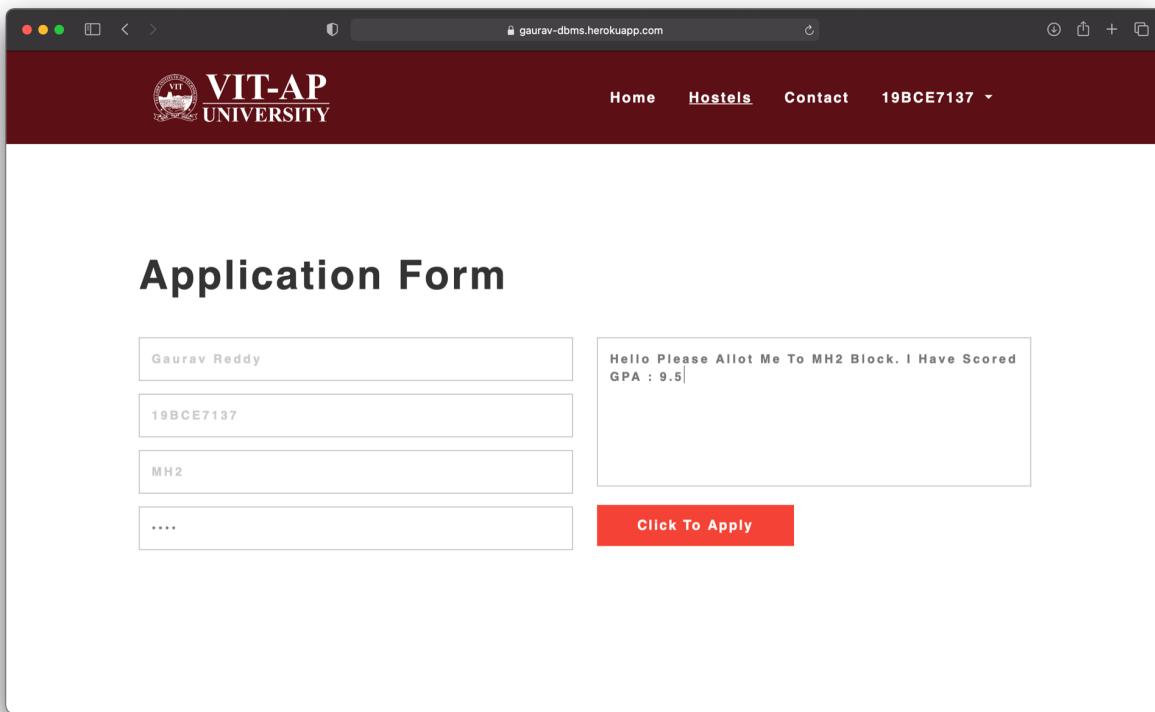


This page is essentially for students who want to apply for the Hostel Application. First Student should select the hostel he/she wants to apply for. Then they will be redirected to another page `application_form.php`.

Hostels/Application_form Page

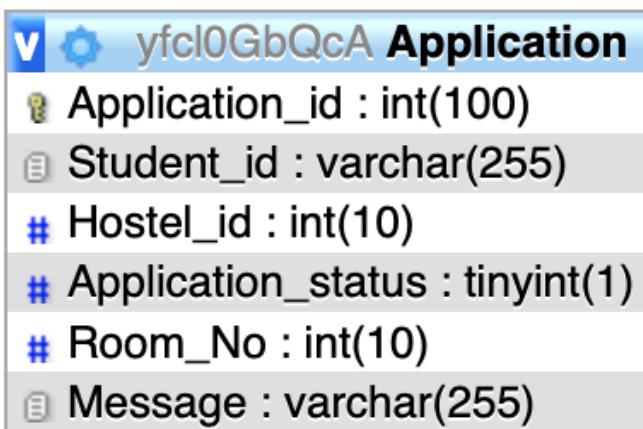
PHP File : application_form.php

Database : Application



The screenshot shows a web application for an application form. The header features the VIT-AP University logo and navigation links for Home, Hostels, Contact, and a dropdown for '19BCE7137'. The main content is titled 'Application Form' and contains four text input fields. The first field is 'Gaurav Reddy', the second is '19BCE7137', the third is 'MH2', and the fourth is a message box containing 'Hello Please Allot Me To MH2 Block. I Have Scored GPA : 9.5'. A red 'Click To Apply' button is located at the bottom right of the form area.

When we select a hostel among the four options we will be redirected to this page where the **hostel_id**, **Student_id** and **Student_name** are predetermined based on your selection.



The screenshot shows a MySQL Workbench table named 'yfcI0GbQcA Application'. The table structure is as follows:

Application_id	Student_id	Hostel_id	Application_status	Room_No	Message
1	19BCE7137	2	1	NULL	Hello please allot me to MH2 Block. I have Scored ...

The data we enter in text fields is then saved to the **Application-table**. The table has **Application_id** as its **primary key** and it is **auto-incremented**.

There are few foreign keys like **Student_id** and **Hostel_id** which are fetched from other tables.

In future, if there's a Admin Page, he/she can approve the Application by changing the **Application_status**



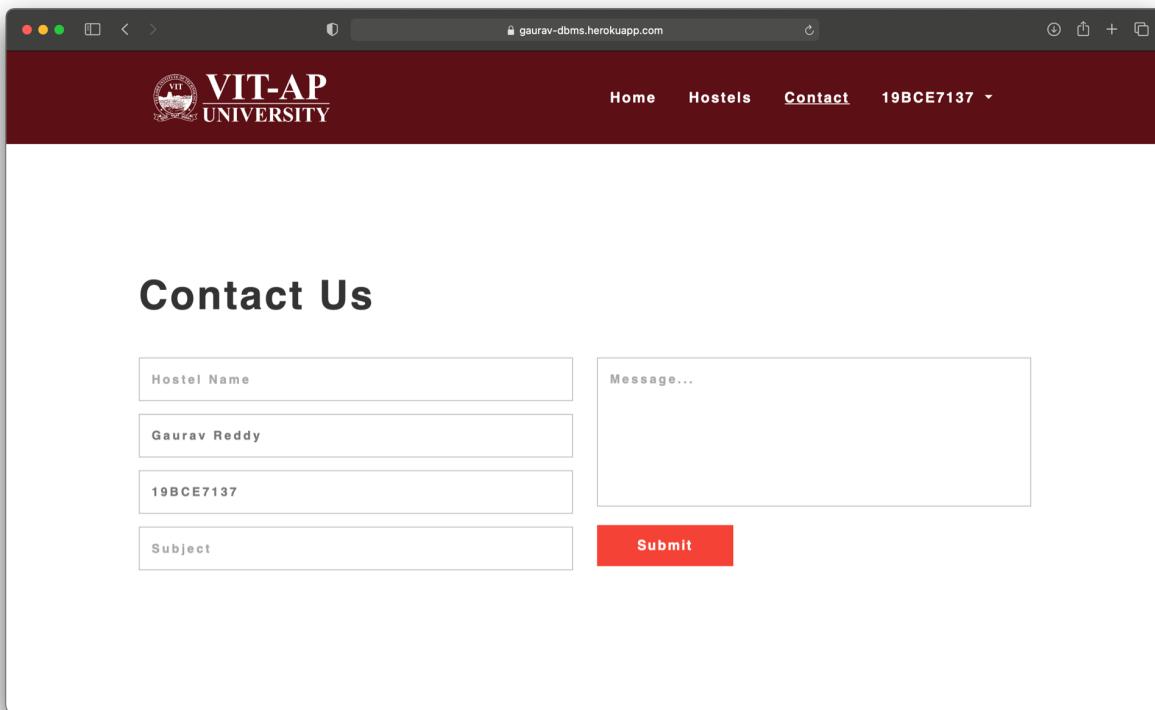
The screenshot shows a MySQL Workbench table with the following data:

Application_id	Student_id	Hostel_id	Application_status	Room_No	Message
1	19BCE7137	2	1	NULL	Hello please allot me to MH2 Block. I have Scored ...

Contact Page

PHP File : contact.php

Database : Message



Contact Us

Hostel Name
Gaurav Reddy
19BCE7137
Subject

Message...

Submit

yfcI0GbQcA Message	
msg_id	: int(10)
sender_id	: varchar(255)
receiver_id	: varchar(255)
hostel_id	: int(10)
subject_h	: varchar(255)
message	: varchar(255)
msg_date	: varchar(255)
msg_time	: varchar(255)

By contact page, students can contact the faculty if he/she has any issue with the rooms, bathrooms, lights and other hostel related issues.

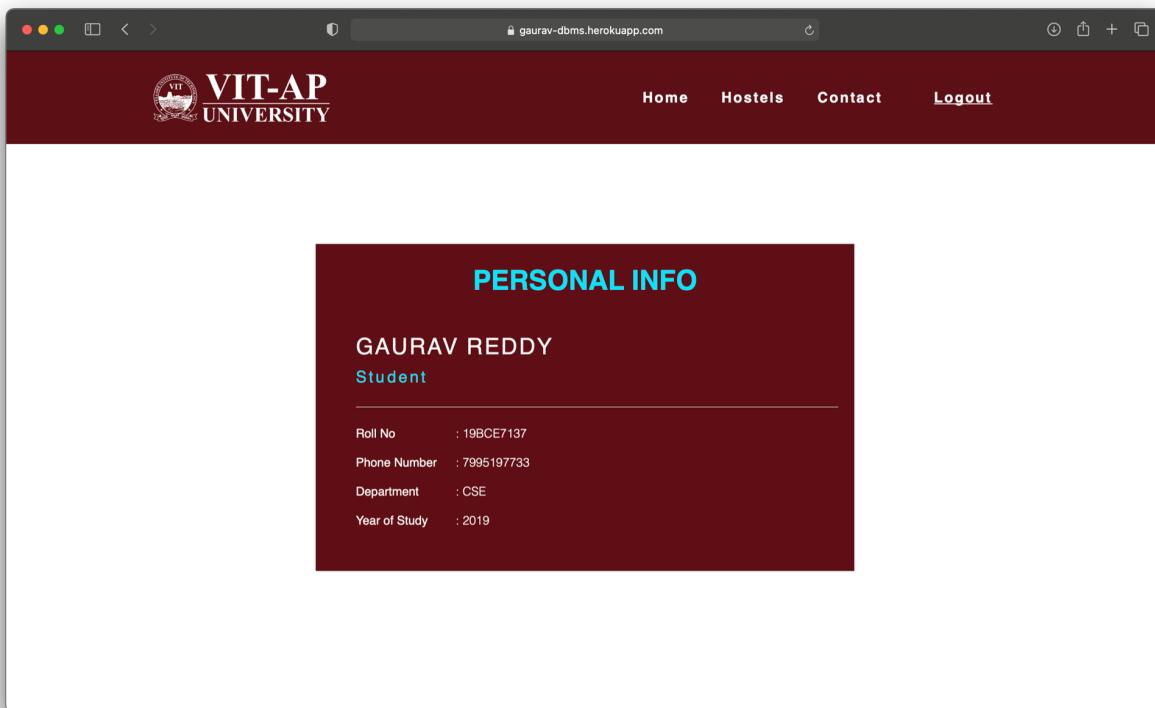
Whatever the values entered will be added to the database **Message-table**.

msg_id	sender_id	receiver_id	hostel_id	subject_h	message	msg_date	msg_time
1	19BCE7137		1	lights not working	Hello, please fix my lights	2021-05-14	05:29 AM
2	19BCE7137		1	ddd	ddddd	2021-05-14	05:44 AM
3	19BCE7137		1	hh	h	2021-05-14	06:41 AM
4	19BCE7137		1	oo	Oo	2021-05-14	07:19 AM

Contact Page

PHP File : contact.php

Database : None



In this website you can view all the information you had entered in the Sign up page. The data is fetched from various tables using javascript. In future we could add a new section where students can also see their **room_no**, **hostel_name** and **mess**.

And as usually you can logout by pressing the top right **Logout** button.

Source Code

It isn't possible to attach every piece of code in this document as it's too big. But complete code is saved on [GitHub](#).

Also the Website is hosted globally using Heroku, Do visit it by [clicking here](#).

Use ID: 19BCE7137, **Password:** 1234. Or Create a new account by signing up.

Anyways I'm attaching a few important source codes below.

index.php - LOGIN PAGE

```
<!DOCTYPE html>
<html lang="en">

<head>
    <title>VIT AP Hostel Management</title>
    <!-- meta tags -->
    <meta charset="UTF-8" />
    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
    <meta name="keywords" content="Art Sign Up Form Responsive Widget, Audio and Video players, Login Form Web Template, Flat Pricing Tables, Flat Drop-Downs, Sign-Up Web Templates, Flat Web Templates, Login Sign-up Responsive Web Template, Smartphone Compatible Web Template, Free Web Designs for Nokia, Samsung, LG, Sony Ericsson, Motorola Web Design" />
    <!-- /meta tags -->
    <!-- custom style sheet -->
    <link href="web/css/style.css" rel="stylesheet" type="text/css" />
    <!-- /custom style sheet -->
    <!-- fontawesome css -->
    <link href="web/css/fontawesome-all.css" rel="stylesheet" />
    <!-- /fontawesome css -->
    <!-- google fonts-->
    <link href="//fonts.googleapis.com/css?family=Raleway:100,100i,200,200i,300,300i,400,400i,500,500i,600,600i,700,700i,800,800i,900,900i" rel="stylesheet" />
    <!-- /google fonts-->

</head>
<body style="background-color: #730f17;">
    
    <h1 style="padding-top: 15px !important;">Hostel Room Allocation</h1>
    <div class="w3l-login-form">
        <h2>Student Login</h2>
        <form action="includes/login.inc.php" method="POST">

            <div class=" w3l-form-group">
                <label>Student Roll No:</label>
                <div class="group">
                    <i class="fas fa-user"></i>
                    <input type="text" class="form-control" name="student_roll_no" placeholder="Roll No" required="required" />
                </div>
            </div>
            <div class=" w3l-form-group">
                <label>Password:</label>
                <div class="group">
                    <i class="fas fa-unlock"></i>
                    <input type="password" class="form-control" name="pwd" placeholder="Password" required="required" />
                </div>
            </div>
            <!--div class="forgot">
                <a href="#">Forgot Password?</a>
                <p><input type="checkbox">Remember Me</p>
            </div-->
            <button type="submit" name="login-submit">Login</button>
        </form>

        <p class=" w3l-register-p">Create a new Account <a href="signup.php" class="register"> Sign up</a></p>
    </div>
    <footer style="padding-bottom: 0px !important;">
        <p>© 2021 DBMS Project. Design by <a href="https://www.linkedin.com/in/gauravreddy08/">Gaurav Reddy</a></p>
    </footer>
</body>
</html>
```

config.inc.php - This is used to connect the Database with our app

```

<?php
session_start();
$servername = "remotemysql.com"; //Localhost id
$dbUsername = "yfc10GbQcA"; //Database Username
$dbPassword = "d6Twt4RKdK"; //Database Password : Default-root
$dbName = "yfc10GbQcA"; //Database name
// session_start();
$conn=mysqli_connect($servername, $dbUsername, $dbPassword, $dbName);

if (!$conn) {
    die("Connection Failed: ".mysqli_connect_error());
}
?>

```

complete_dbase.sql - Code for MySQL Database

```

CREATE TABLE `Application` (
`Application_id` int(100) NOT NULL,
`Student_id` varchar(255) NOT NULL,
`Hostel_id` int(10) NOT NULL,
`Application_status` tinyint(1) DEFAULT NULL,
`Room_No` int(10) DEFAULT NULL,
`Message` varchar(255) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `Hostel` (
`Hostel_id` int(10) NOT NULL,
`Hostel_name` varchar(255) NOT NULL,
`No_of_rooms` varchar(255) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

INSERT INTO `Hostel` (`Hostel_id`, `Hostel_name`, `No_of_rooms`) VALUES
(1, 'MH1', '400'),
(2, 'MH2', '400'),
(3, 'MH3', '400'),
(4, 'LH1', '400');

CREATE TABLE `Message` (
`msg_id` int(10) NOT NULL,
`sender_id` varchar(255) DEFAULT NULL,
`receiver_id` varchar(255) DEFAULT NULL,
`hostel_id` int(10) DEFAULT NULL,
`subject_h` varchar(255) DEFAULT NULL,
`message` varchar(255) DEFAULT NULL,
`msg_date` varchar(255) DEFAULT NULL,
`msg_time` varchar(255) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `Room` (
`Room_id` int(10) NOT NULL,
`Hostel_id` int(10) NOT NULL,
`Room_No` int(10) NOT NULL,
`Allocated` tinyint(1) DEFAULT '0'
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

CREATE TABLE `Student` (
`Student_id` varchar(255) NOT NULL,
`Fname` varchar(255) NOT NULL,
`Lname` varchar(255) NOT NULL,

```

```

`Mob_no` varchar(255) NOT NULL,
`Dept` varchar(255) NOT NULL,
`Year_of_study` varchar(255) NOT NULL,
`Pwd` Longtext NOT NULL,
`Hostel_id` int(10) DEFAULT NULL,
`Room_id` int(10) DEFAULT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8;

ALTER TABLE `Application`
ADD PRIMARY KEY (`Application_id`),
ADD KEY `Student_id`(`Student_id`),
ADD KEY `Hostel_id`(`Hostel_id`);

ALTER TABLE `Hostel`
ADD PRIMARY KEY (`Hostel_id`);

ALTER TABLE `Message`
ADD PRIMARY KEY (`msg_id`),
ADD KEY `hostel_id`(`hostel_id`);

ALTER TABLE `Room`
ADD PRIMARY KEY (`Room_id`),
ADD KEY `Hostel_id`(`Hostel_id`);

ALTER TABLE `Student`
ADD PRIMARY KEY (`Student_id`),
ADD KEY `Hostel_id`(`Hostel_id`),
ADD KEY `Room_id`(`Room_id`);

ALTER TABLE `Application`
MODIFY `Application_id` int(100) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=3;

ALTER TABLE `Hostel`
MODIFY `Hostel_id` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=5;

ALTER TABLE `Message`
MODIFY `msg_id` int(10) NOT NULL AUTO_INCREMENT, AUTO_INCREMENT=6;

ALTER TABLE `Room`
MODIFY `Room_id` int(10) NOT NULL AUTO_INCREMENT;

ALTER TABLE `Application`
ADD CONSTRAINT `Application_ibfk_1` FOREIGN KEY (`Student_id`) REFERENCES `Student`(`student_id`),
ADD CONSTRAINT `Application_ibfk_2` FOREIGN KEY (`Hostel_id`) REFERENCES `Hostel`(`hostel_id`);

ALTER TABLE `Message`
ADD CONSTRAINT `Message_ibfk_1` FOREIGN KEY (`hostel_id`) REFERENCES `Hostel`(`hostel_id`);

ALTER TABLE `Room`
ADD CONSTRAINT `Room_ibfk_1` FOREIGN KEY (`Hostel_id`) REFERENCES `Hostel`(`hostel_id`);

ALTER TABLE `Student`
ADD CONSTRAINT `Student_ibfk_1` FOREIGN KEY (`Hostel_id`) REFERENCES `Hostel`(`hostel_id`),
ADD CONSTRAINT `Student_ibfk_2` FOREIGN KEY (`Room_id`) REFERENCES `Room`(`room_id`);

```

Complete code on : <https://github.com/gauravreddy08/sql-project-HMS>