

Report of the Winter Internship Program

on

“Web App Development”

Project Title: Hotel Management System

Submitted to



GUWAHATI REFINERY – INDIAN OIL CORPORATION LIMITED

Guwahati, Assam

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Duration: Dec, 2021 – Jan, 2022

DECLARATION

The project work entitled **“Hotel Management System”** presented in this report has been submitted to the **Guwahati Refinery, (INDIAN OIL CORPORATION LIMITED), Noonmati, Guwahati**, in partial fulfillment for completion of the WINTER Internship Program undergone from 20/12/2021 to 20/01/2022 for the academic year 2021-22.

This report had not been submitted for any other examination and does not form part of any other course undergone by us.

Sincerely,

Arpita Gogoi

Himangshu Boruah

Zibbran Das

ACKNOWLEDGEMENT

We are thankful to IOCL, Guwahati Refinery, Noonmati, Guwahati, for providing us an opportunity to undergo the Winter Internship Program. We perceive this opportunity as a big milestone in our career development. We will strive to use gained skills and knowledge in the best possible way and will continue to work on their improvement, in order to attain desired career objectives.

We sincerely thank and express gratitude to our mentor **Mr. Sandipan Sen** for their guidance and encouragement in developing this web application titled “**Hotel Management System**”. Under their guidance we have completed our project and tried our best to implement whatever we have learnt till now.

We also express our gratitude to **Ms. Debanuja Borah, AM (L&D)**, IOCL, Guwahati Refinery, for her guidance and extended support in assigning our guides and also briefing us about IOCL, Guwahati Refinery.

ABSTRACT

The Hotel management system is a web app we build using HTML, PHP, MySQL, CSS. This Hotel Management System is a web-based application that allows the hotel manager to handle all hotel activities. It gives the manager the ability to manage various hotel bookings and rooms, make this system very flexible and convenient. Hotel management project provides room booking, management of rooms and other necessary hotel management features. The system allows the manager to post available rooms in the system, view status of rooms, book rooms for the customers, cancel booking of a room and various other features. Customers can view/check availability of rooms and book rooms according to their convenience. Other hotel services can also be viewed by the customers. The system is hence useful for both customers and managers to manage room bookings and manage the hotel system.

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Chapter 1 – Introduction

Hotel Management System is a web-based application that allows the hotel manager to handle all hotel activities. It gives the manager the ability to manage various hotel bookings and rooms, make this system very flexible and convenient. Hotel management project provides room booking, management of rooms and other necessary hotel management features. The system allows the manager to post available rooms in the system, view status of rooms, book rooms for the customers, cancel booking of a room and various other features. Customers can view/check availability of rooms and book rooms according to their convenience. Other hotel services can also be viewed by the customers. The system is hence useful for both customers and managers to manage room bookings and manage the hotel system.

1.1) Purpose and Scope of the Project

The main scope of the project is to provide hotel managers to manage a hotel system efficiently and effectively. To give the ability of overseeing a hotel, manage rooms and various other services provided by the hotel and to give full satisfaction and ease to a customer visiting the hotel.

Our Hotel Management System project provides room booking, management of rooms and other necessary hotel management features. This system allows the manager to post available rooms in the system, view status of rooms, book rooms for the customers, cancel booking of a room and various other features. Customers can view/check availability of rooms and book according to convenience online. Other hotel services can also be viewed by the customers and can book them too. The system is hence useful for both customers and managers to manage room bookings and manage the hotel system.

1.2) Overview of Responsibilities of a Developer

- Providing a User Friendly UI
- Sufficient Information available to customers about the Hotel
- Strong Functionalities for Managers/Admin
- Storing Information securely to the Database
- Easy Operability
- Operations for maintenance of records and retrieval

Chapter 2 – Requirement Analysis

In the market, there are many similar hotel management system available based on the various technologies. Those systems come with various features to offer to their customer with different price range. The decision to develop a Hotel Management System may depend on the needs of an organization so in this report we have discussed a Hotel Management System for any hotel to enhance the experience of hotel managers and provide them with various functionalities.

2.1) Software Resource Requirement

- Web Browser (running the Website): Chrome, Mozilla Firefox etc.
- Server: XAMPP (for HTTP and Database)
- Code Editor: VS Code
- Programming Languages: HTML 5, CSS, Javascript, BootStrap 4, PHP

Chapter 3 – Tools & Technologies Used

The Tools and Technologies used to develop the Web Application are as follows :-

3.1) VS Code: Visual Studio Code is a streamlined code editor with support for development operations like debugging, task running and version control. It aims to provide just the tools a developer needs for a quick code-build-debug cycle and leaves more complex workflows to fuller featured IDEs, such as Visual Studio IDE. We will use this code editor for our project to code, test and debug for the smooth operation of our Web Application.

3.2) XAMPP Server: XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache HTTP Server, MariaDB database, and interpreters for scripts written in the PHP and Perl programming languages. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server possible. We would be using the XAMPP server for the management of database through MySQL and we would be using the Apache Server for our HTTP tasks.

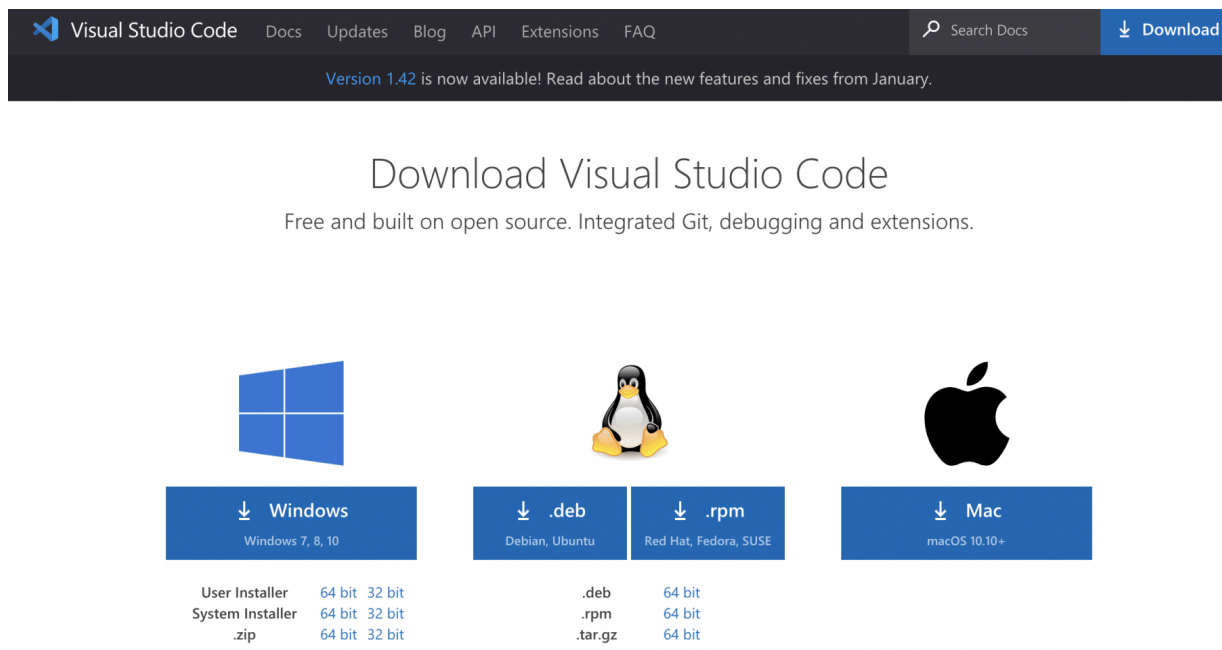
- **Apache:** It is an HTTP a cross-platform web server. It is used worldwide for delivering web content. The server application has made free for installation and used for the community of developers under the aegis of Apache Software Foundation. The remote server of Apache delivers the requested files, images, and other documents to the user.
- **MariaDB:** Originally, MySQL DBMS was a part of XAMPP, but now it has been replaced by MariaDB. It is one of the most widely used relational DBMS, developed by MySQL. It offers online services of data storage, manipulation, retrieval, arrangement, and deletion.
- **PHP:** It is the backend scripting language primarily used for web development. PHP allows users to create dynamic websites and applications. It can be installed on every platform and supports a variety of database management systems. It was implemented using C language. PHP stands for **Hypertext Processor**. It is said to be derived from Personal Home Page tools, which explains its simplicity and functionality.

Chapter 4 – Installation of Technologies

4.1) Setup and Install VS Code Editor

Download Visual Studio Code:

You can download Visual Studio code from URL "<https://code.visualstudio.com/download>" by selecting the right platform:

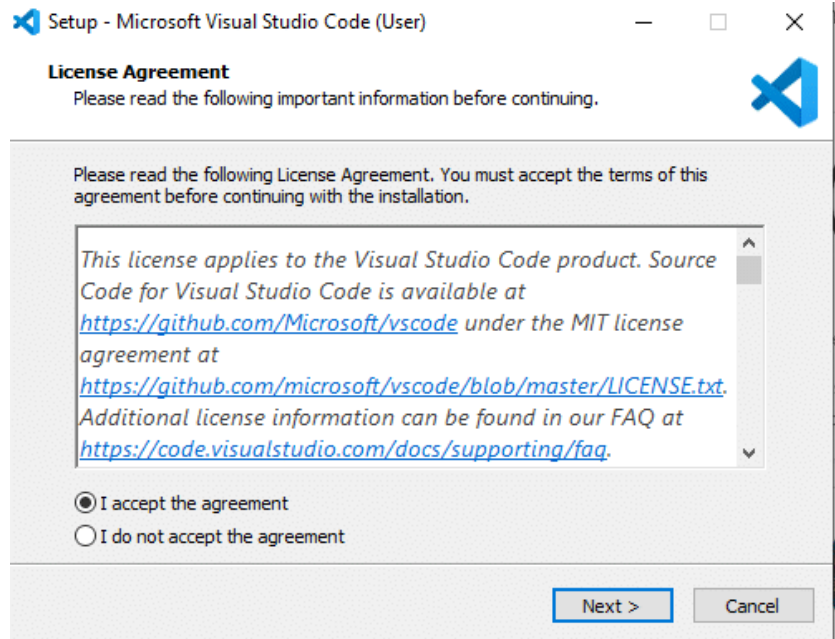


You can click any of the icons mentioned above, depending on the operating system for which you are planning to download the visual studio code editor.

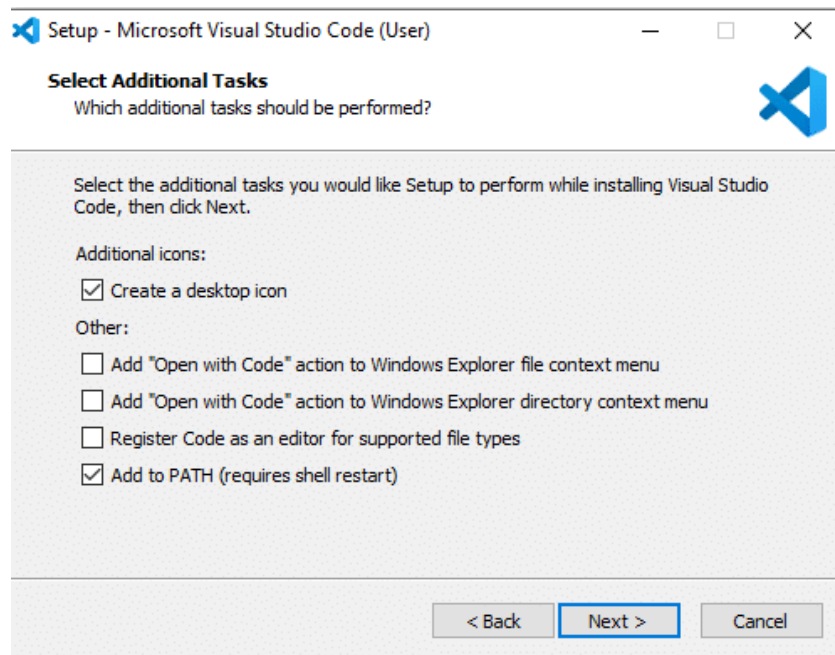
How to Install Visual Studio Code on Windows?

Firstly, download the Visual Studio Code installer for Windows. Once it is downloaded, run the installer (*VSCoUserSetup-{version}.exe*). It will only take a minute.

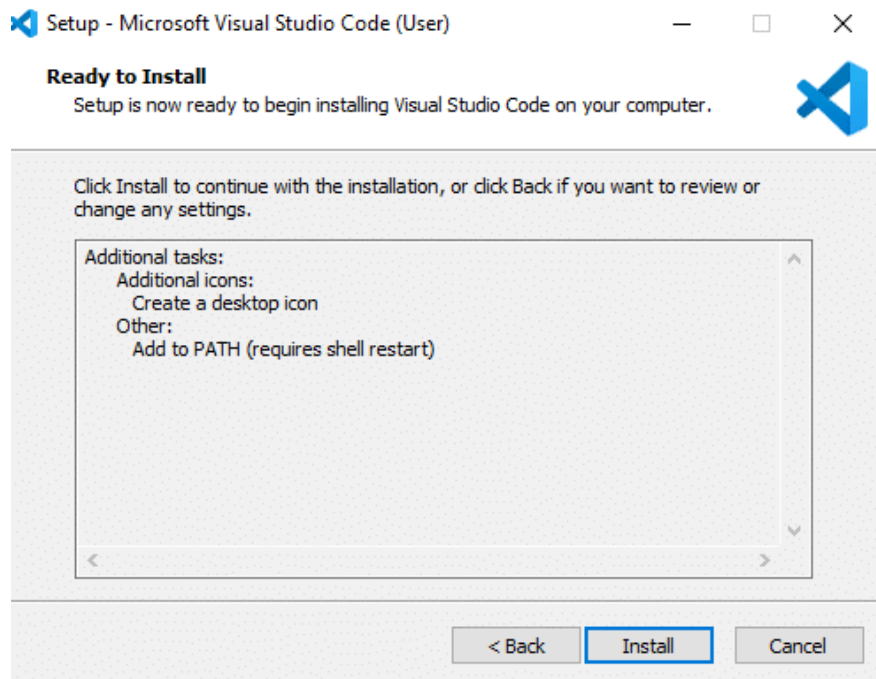
Secondly, accept the agreement and click on next.



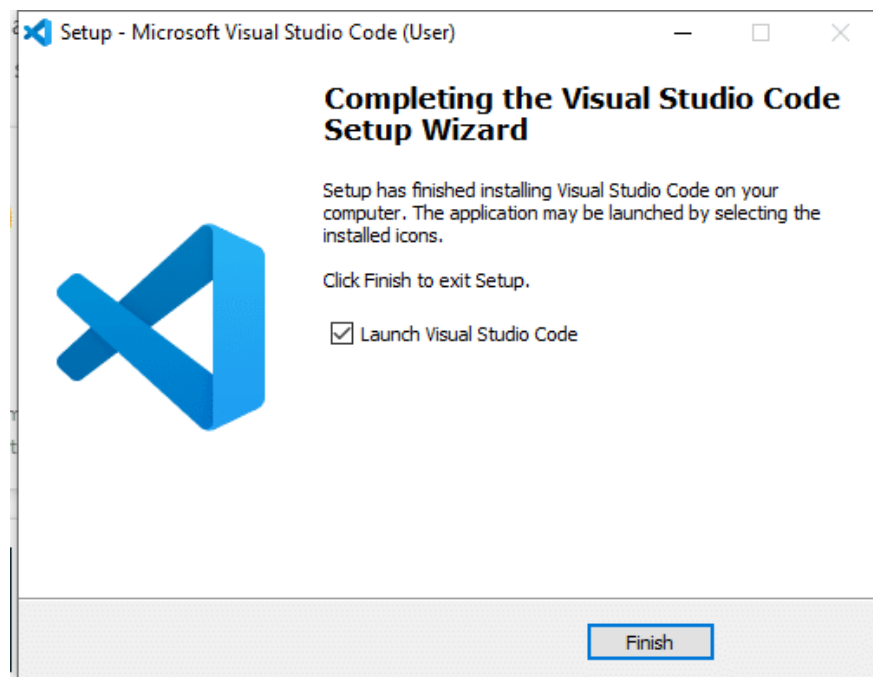
Thirdly, click on *"create a desktop icon"* so that it can be accessed from desktop and click on Next.



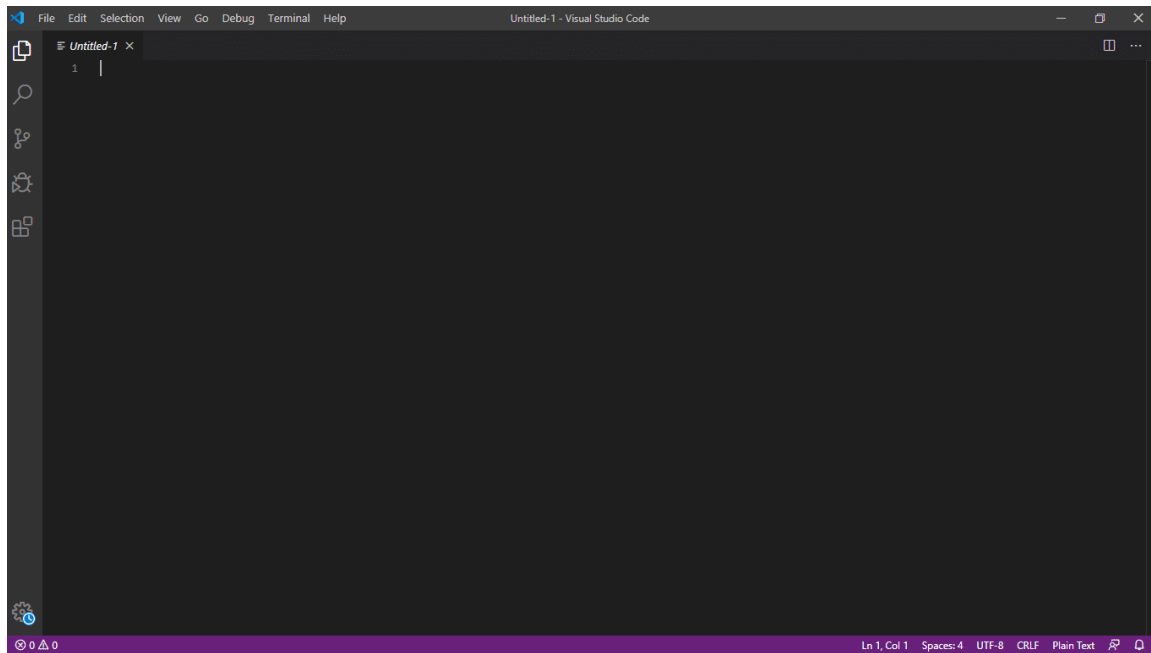
After that, click on the install button.



Finally, after installation completes, click on the finish button, and the visual studio code will get open.



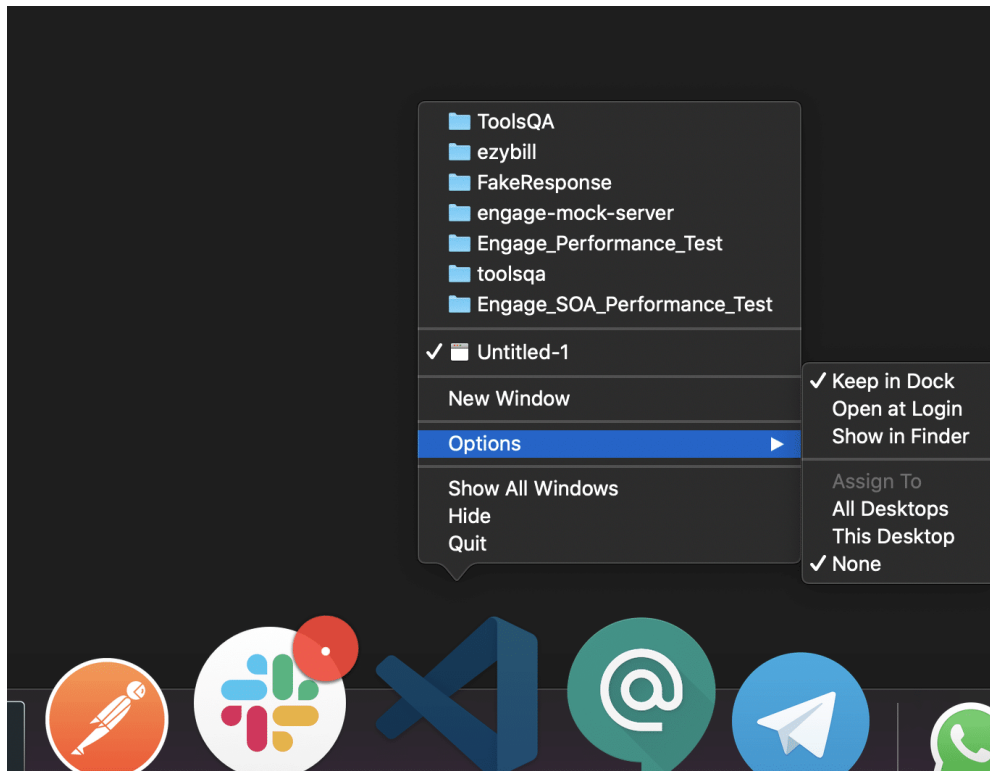
By default, VS Code installs under C:\users{username}\AppData\Local\Programs\Microsoft VS Code.



How to install Visual Studio Code on macOS?

Follow the below steps*(shown in gif file and mentioned in bullet points)* to install the VS Code on macOS:

1. *Download Visual Studio Code for macOS.*
2. *After clicking on the Mac option on the download site, it will download a zip file, as shown below:*
3. *Double-click on the downloaded zip to expand the contents. It will give a file, as shown below:*
4. *Drag "**Visual Studio Code.app**" to the "**Applications**" folder, so as it available in the "**Launchpad**."*
5. *Double click on the "**Visual Studio Code**" to open.*
6. *Add VS Code to your Dock by right-clicking on the icon to bring up the context menu and choosing **Options** => **Keep in Dock**.*



4.2) Setup and Install XAMPP Server

1: Download

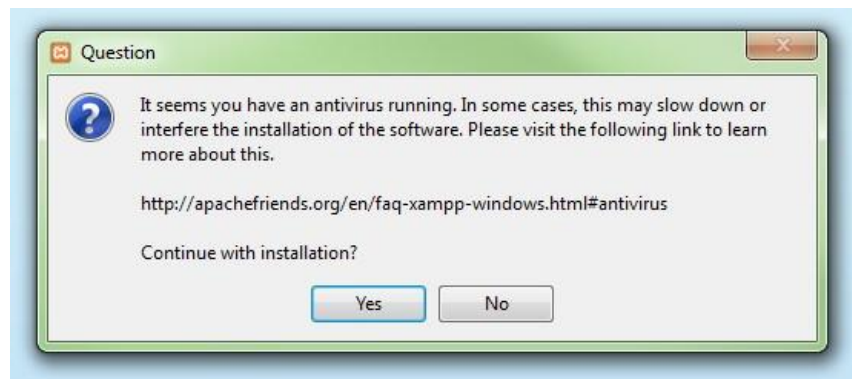
XAMPP is a release made available by the non-profit project Apache Friends. Versions with PHP 5.5, 5.6, or 7 are available for download on the Apache Friends website.

2: Run .exe file

Once the software bundle has been downloaded, you can start the installation by double clicking on the file with the ending .exe.

3: Deactivate any antivirus software

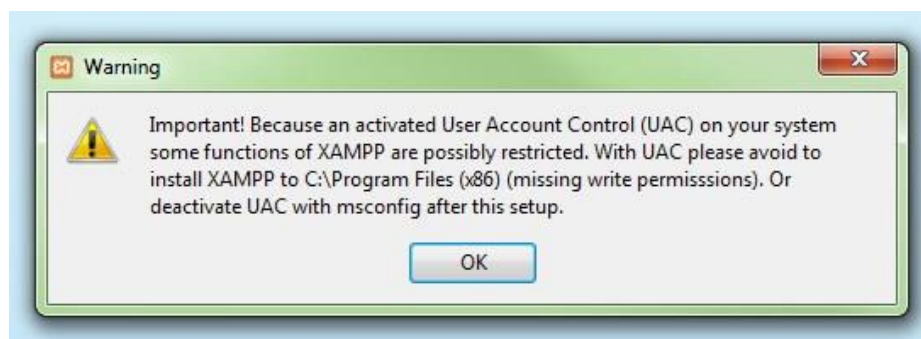
Since an active antivirus program can negatively affect the installation process, it's recommended to temporarily pause any antivirus software until all XAMPP components have successfully been installed.



Before installing XAMPP, it is advisable to disable the anti-virus program temporarily

4: Deactivate UAC

User Account Control (UAC) can interfere with the XAMPP installation because it limits writing access to the C: drive, so we recommend you deactivate this too for the duration of the installation process. To find out how to turn off your UAC, head to the Microsoft Windows support pages.



User account control can affect the installation of XAMPP

5: Start the setup wizard

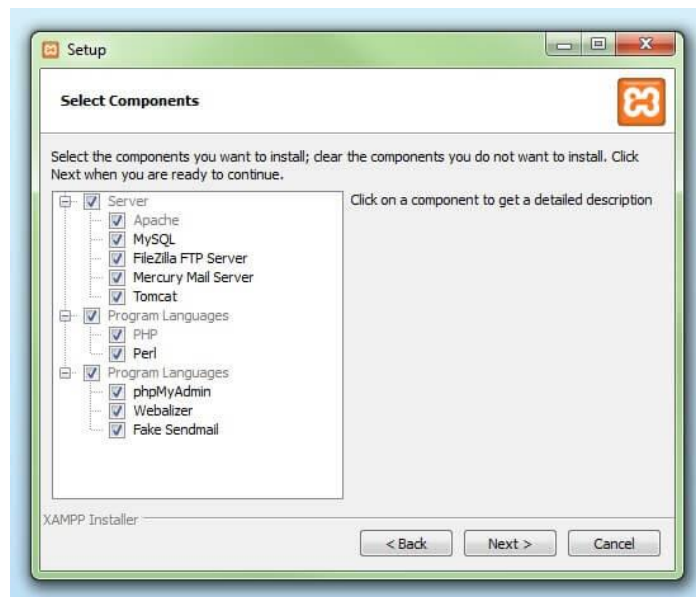
After you've opened the .exe file (after deactivating your antivirus program(s) and taken note of the User Account Control, the start screen of the XAMPP setup wizard should appear automatically. Click on 'Next' to configure the installation settings.



You can start the setup on the startup screen

6: Choose software components

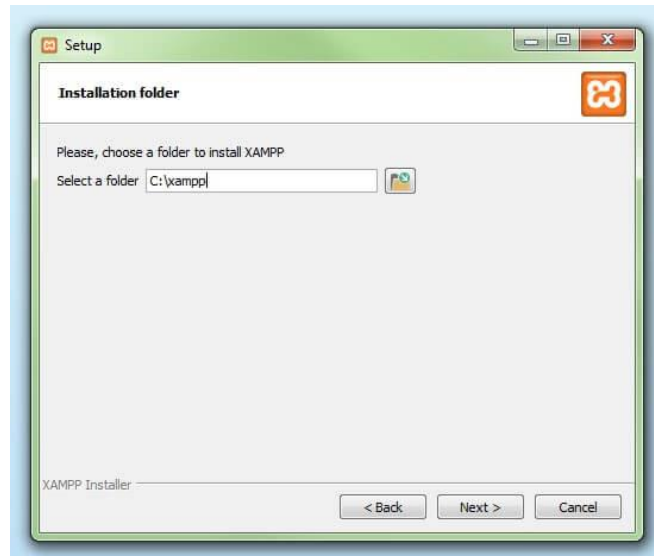
Under 'Select Components', you have the option to exclude individual components of the XAMPP software bundle from the installation. But for a full local test server, we recommend you install using the standard setup and all available components. After making your choice, click 'Next'.



In the dialog window entitled 'select components', you can choose the software components before installation

7: Choose the installation directory

In this next step, you have the chance to choose where you'd like the XAMPP software packet to be installed. If you opt for the standard setup, then a folder with the name XAMPP will be created under C:\ for you. After you've chosen a location, click 'Next'.



For the next step, you need to select the directory where XAMPP should be installed

8: Start the installation process

Once all the aforementioned preferences have been decided, click to start the installation. The setup wizard will unpack and install the selected components and save them to the designated directory. This process can take several minutes in total. You can follow the progress of this installation by keeping an eye on the green loading bar in the middle of the screen.



According to the default settings, the selected software components are unpacked and installed in the target folder

9: Windows Firewall blocking

Your Firewall may interrupt the installation process to block the some components of the XAMPP. Use the corresponding check box to enable communication between the Apache server and your private network or work network. Remember that making your XAMPP server available for public networks isn't recommended.

10: Complete installation

Once all the components are unpacked and installed, you can close the setup wizard by clicking on 'Finish'. Click to tick the corresponding check box and open the XAMPP Control Panel once the installation process is finished.

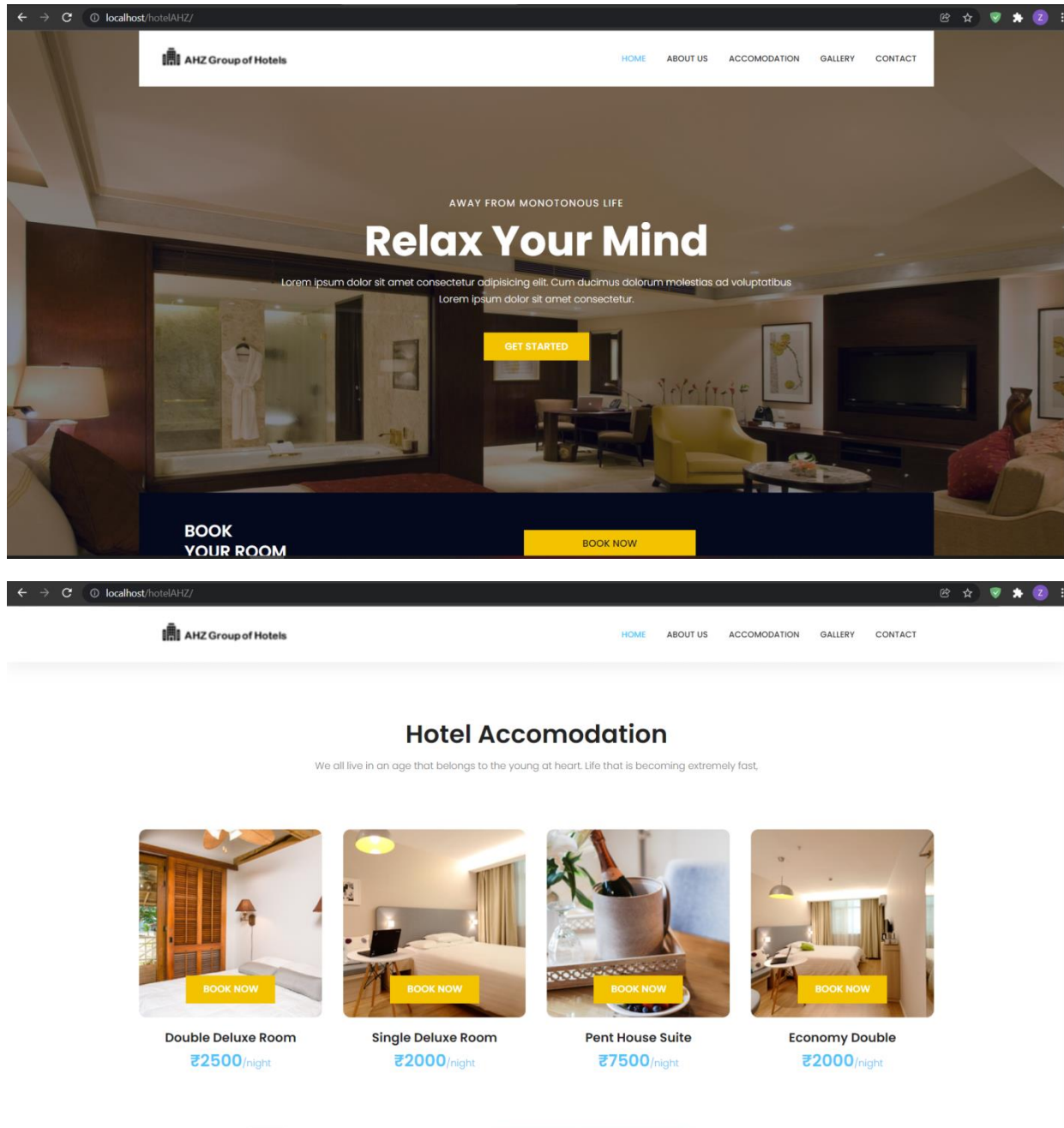


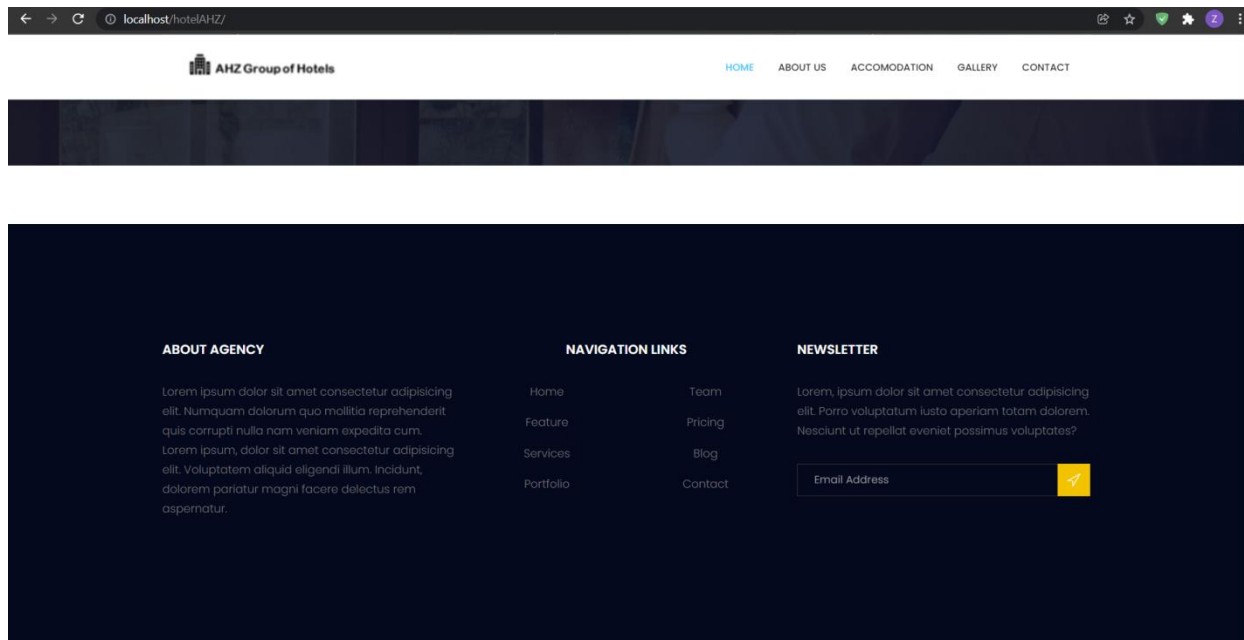
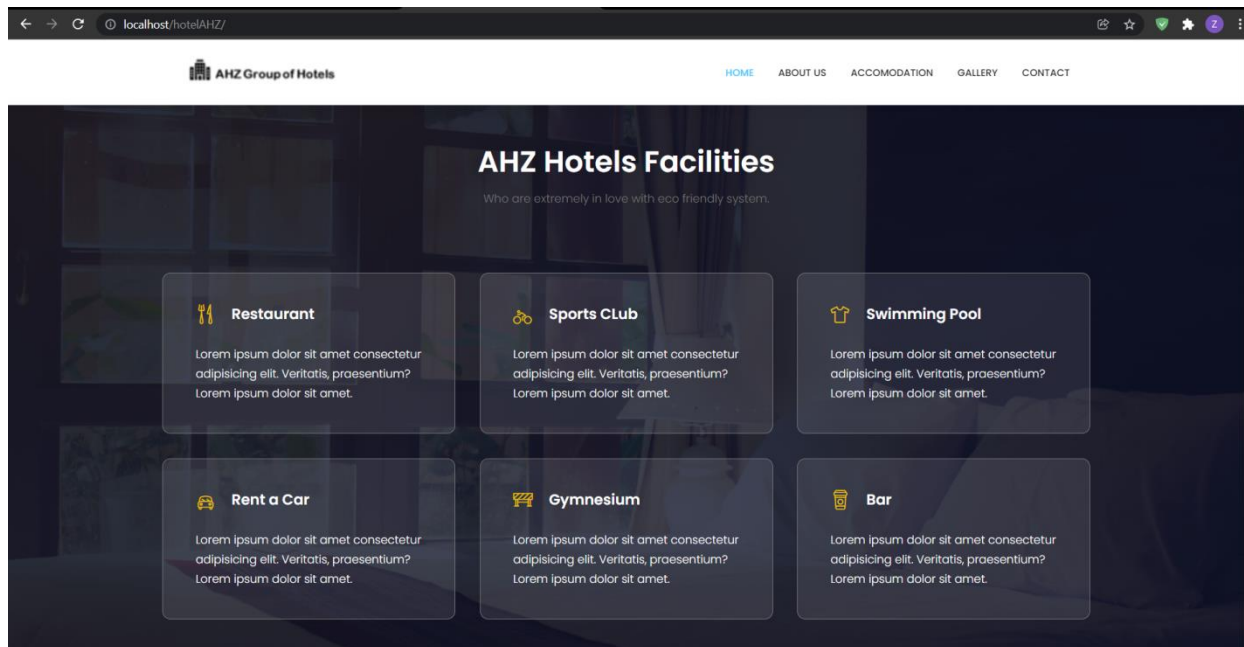
By clicking on 'finish', the XAMPP Setup Wizard is completed

Chapter 5 – Implementation

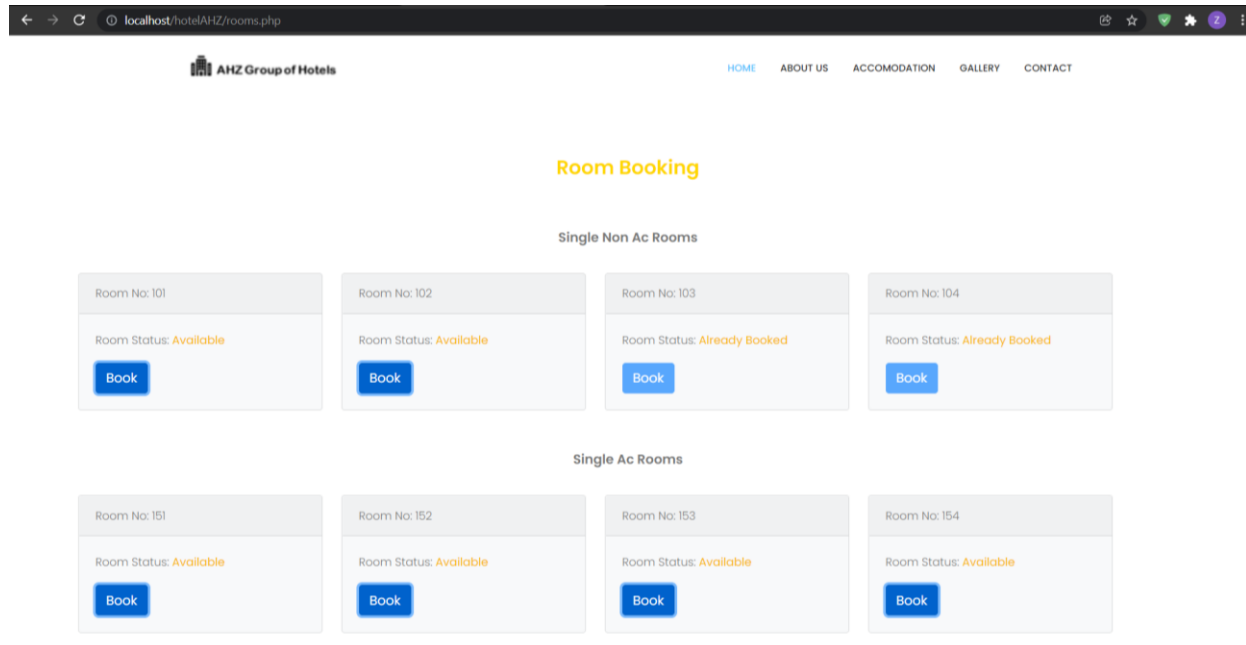
The purpose of this Web Application is to help hotel managers to keep track of their customers and rooms available as per their requirement. Following are the features available for a user and a hotel manager to manage a hotel through our system.

1. Main Landing Page

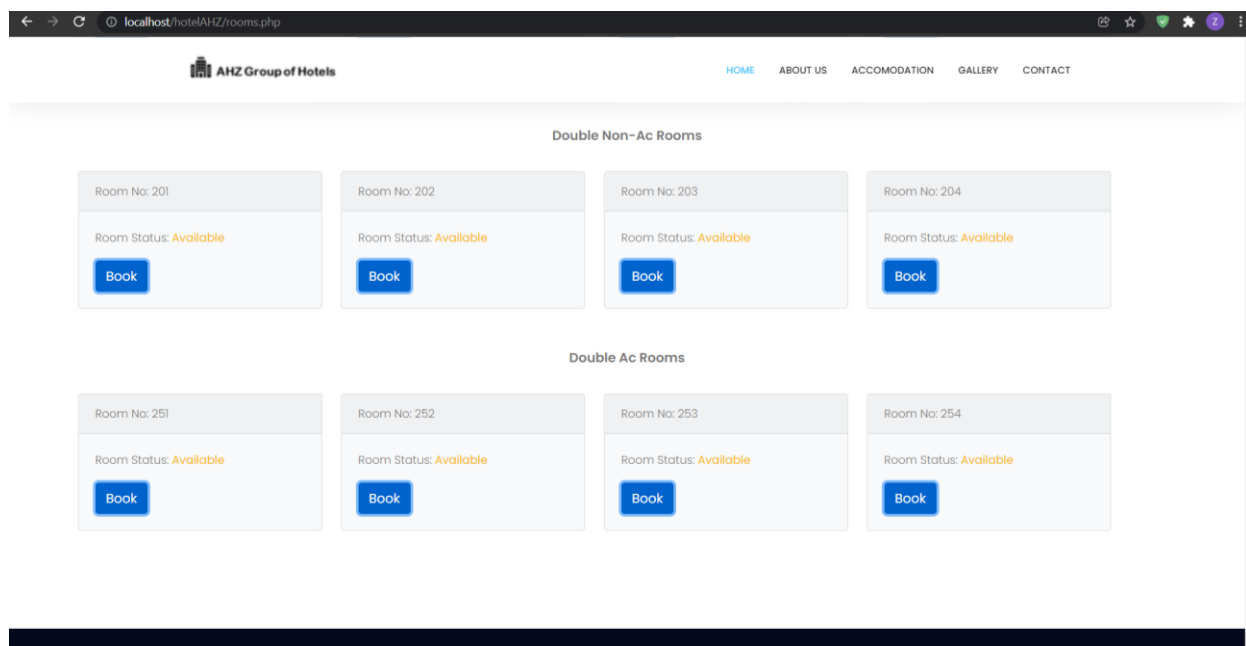




2. Rooms for Customers



Single Non AC and Single AC Rooms



Double Non AC and Double AC Rooms

3. After clicking on Book for an available room the customer would be asked to fill up details and the room would be successfully booked

Guest Details

Room No:
101

Room Type:
Single Non-AC

Guest Name:

Guest ID:

Guest Mobile:

Guest Address:

No of Child:
-Select-

No of Adult:
-Select-

Check-in Date:
dd-mm-yyyy

Check-Out Date:
dd-mm-yyyy

Book Now

Click on Book Now to successfully book a desired room.

4. Admin/Manager Login

AHZ Group of Hotels

HOME ABOUT US ACCOMODATION GALLERY CONTACT

Admin Login

Email:

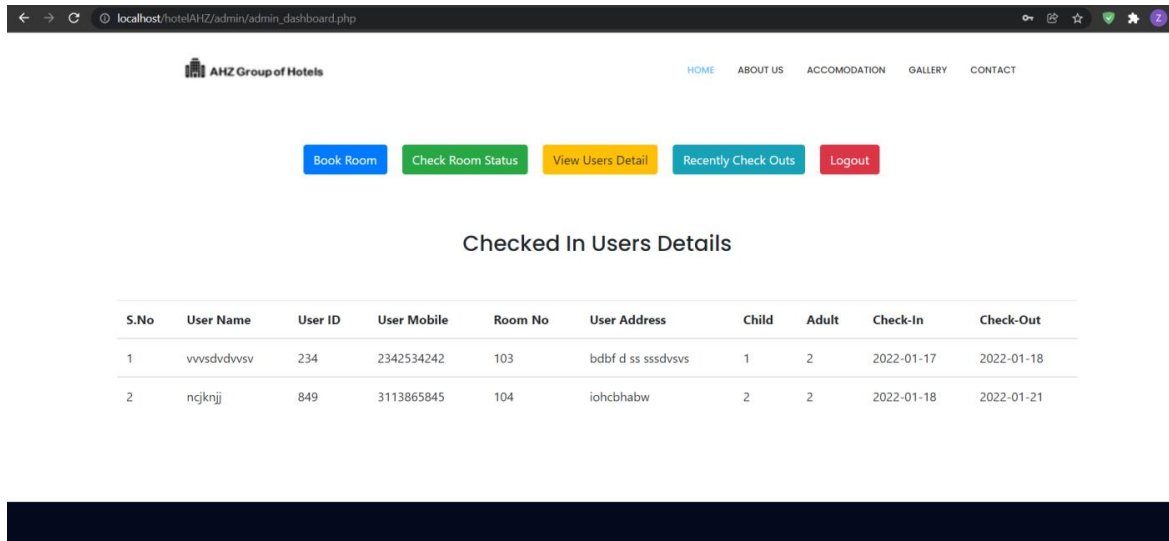
Password:

Login

Admin/ Manager need to enter correct Email & Password to access admin pages

5. Admin Dashboard Page

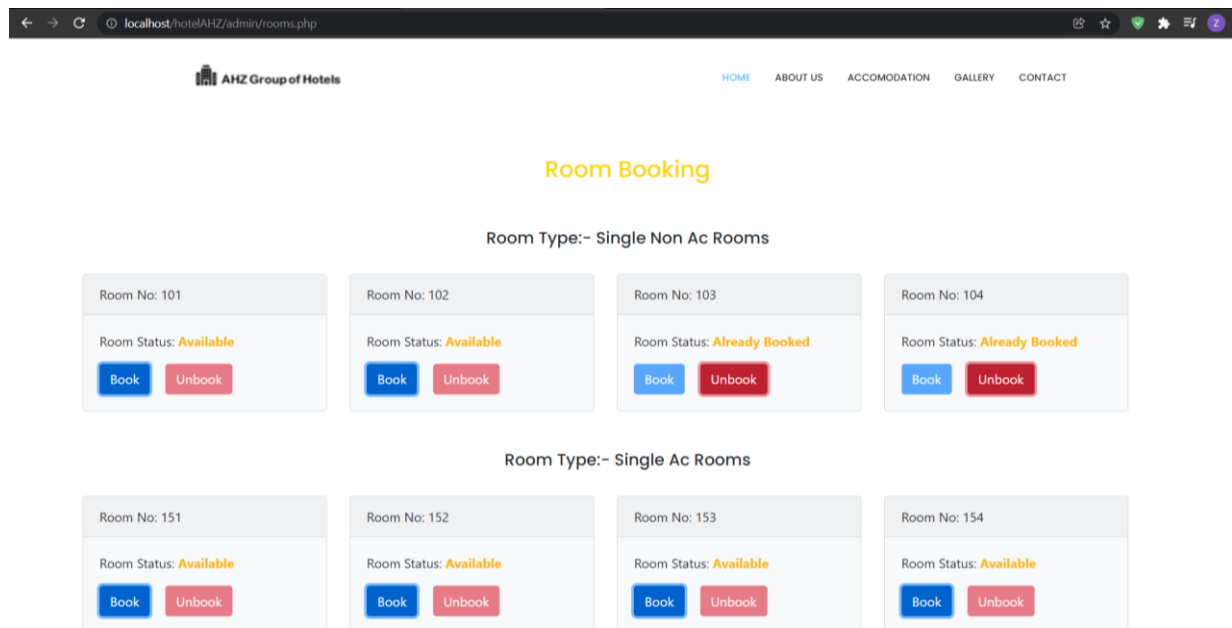
After successful login of an admin, they would land in the Dashboard page where the checked-in details of users would be displayed along with their personal details and details of the rooms they have booked.



S.No	User Name	User ID	User Mobile	Room No	User Address	Child	Adult	Check-In	Check-Out
1	vvsvdvdvsv	234	2342534242	103	bdbf d ss sssdvsvs	1	2	2022-01-17	2022-01-18
2	ngjknjj	849	3113865845	104	iohcbhaw	2	2	2022-01-18	2022-01-21

There are 5 additional tabs for an admin- Book Room, Check Room Status, View User Details, Recently Check Outs, Logout.

6. Book Room or Cancel Booking of a room



Room Type:- Single Non Ac Rooms

Room No: 101	Room No: 102	Room No: 103	Room No: 104
Room Status: Available	Room Status: Available	Room Status: Already Booked	Room Status: Already Booked
Book Unbook	Book Unbook	Book Unbook	Book Unbook

Room Type:- Single Ac Rooms

Room No: 151	Room No: 152	Room No: 153	Room No: 154
Room Status: Available	Room Status: Available	Room Status: Available	Room Status: Available
Book Unbook	Book Unbook	Book Unbook	Book Unbook

7. Booking a room for a guest as a manager

Guest Details

Room No:
101

Room Type:
Single Non-AC

Guest Name:
Rudolf

Guest ID:
678

Guest Mobile:
7412563565

Guest Address:
68b, xyz road, india

No of Child:
2

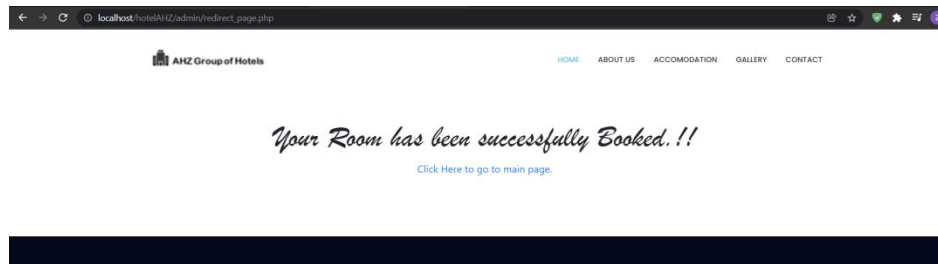
No of Adult:
1

Check-in Date:
01-01-2022

Check-Out Date:
18-01-2022

[Book Now](#)

8. Room successfully booked prompt would be displayed after successful booking



9. Customer details has been successfully stored in our database

Showing rows 0 - 3 (4 total. Query took 0.0010 seconds)

`SELECT * FROM `single_non_ac``

Options

s_no	room_no	holder_name	holder_id	holder_mobile	holder_address	child	adult	in_date	out_date	status
1	101	Rudolf	678	7412563565	68b, xyz road, india	2	1	2022-01-01	2022-01-18	1
2	102		0			0	0			0
3	103	vvvshdrrvvs	234	2342534242	bdf d ss sssdrrvs	1	2	2022-01-17	2022-01-18	1
4	104	ncjng	849	3113895545	sohchabw	2	2	2022-01-18	2022-01-21	1

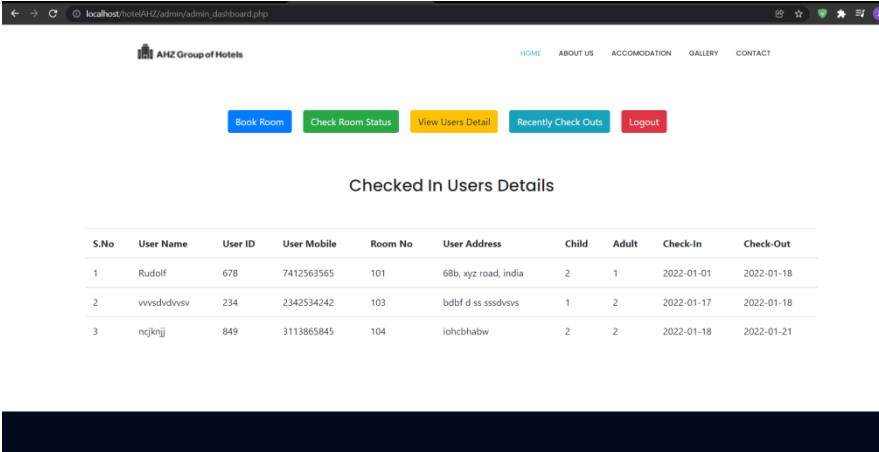
Query results operations

Print Copy to clipboard Export Display chart Create view

Bookmark this SQL query

Label ☐ Let every user access this bookmark

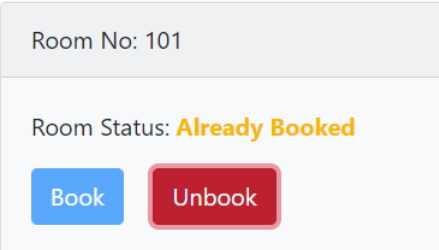
10. The details of the customer can be seen at the Admin Dashboard against the room number.



The screenshot shows a web application interface for 'AHZ Group of Hotels'. At the top, there are navigation links: HOME, ABOUT US, ACCOMMODATION, GALLERY, and CONTACT. Below these are five action buttons: Book Room, Check Room Status, View Users Detail, Recently Check Out, and Logout. The main section is titled 'Checked In Users Details' and contains a table with the following data:

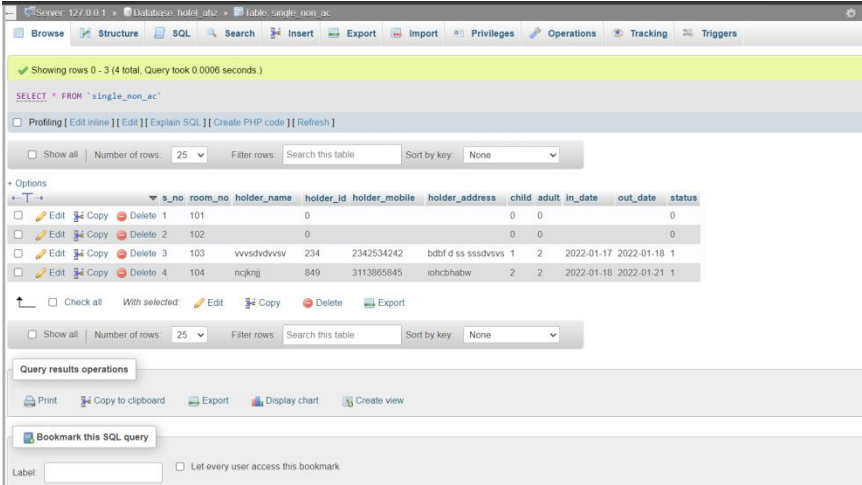
S.No	User Name	User ID	User Mobile	Room No	User Address	Child	Adult	Check-In	Check-Out
1	Rudolf	678	7412563565	101	68b, xyz road, india	2	1	2022-01-01	2022-01-18
2	vvvsdvdvsv	234	2342534242	103	bdbf d ss sssdvsv	1	2	2022-01-17	2022-01-18
3	ncjknj	849	3113865845	104	iohchabw	2	2	2022-01-18	2022-01-21

11. Cancelling a Room Booking – previously we have booked room no. 101, now an admin can also cancel the booking by clicking on unbook button.



The screenshot shows a modal or page for Room No: 101. The status is 'Room Status: Already Booked' in orange text. Below the status, there are two buttons: a blue 'Book' button and a red 'Unbook' button.

12. The details for the room no. 101 has been deleted from the database

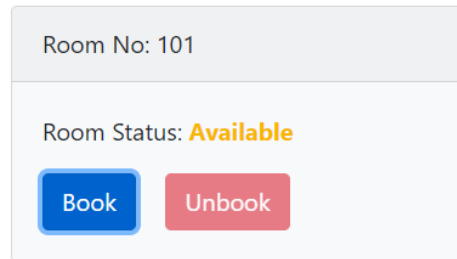


The screenshot shows a database management tool interface. The top bar indicates the database is 'hotel_dbz' and the table is 'single_non_ac'. The main area shows a table with the following data:

s_no	room_no	holder_name	holder_id	holder_mobile	holder_address	child	adult	in_date	out_date	status
1	101		0			0	0			0
2	102		0			0	0			0
3	103	vvvsdvdvsv	234	2342534242	bdbf d ss sssdvsv	1	2	2022-01-17	2022-01-18	1
4	104	ncjknj	849	3113865845	iohchabw	2	2	2022-01-18	2022-01-21	1

The interface also includes various options like 'Show all', 'Number of rows', 'Filter rows', and 'Sort by key'. At the bottom, there are buttons for 'Print', 'Copy to clipboard', 'Export', 'Display chart', and 'Create view'. A 'Bookmark this SQL query' section is also visible.

13. After cancelling the booking of a room the room would be again available for customers or managers to be booked.



The image shows a user interface for room management. It consists of a light gray rectangular box. At the top, there is a header section with a darker gray background containing the text 'Room No: 101'. Below this header, the main area contains the text 'Room Status: Available', where 'Available' is highlighted in orange. At the bottom of the main area, there are two buttons: a blue button labeled 'Book' and a red button labeled 'Unbook'.

Room status has been changed to 'Available' and the 'Book' button is enabled for managers/admin to book rooms for customers.

14. Clicking on logout would end the admin session and land at the admin login page.

Chapter 6 – Conclusion

Hotels now-a-day have the advantage of modernization. Computers have done the work more easy. A computer is playing an important role in management. Reports are made on daily basis for every customer check in or check out which can easily be seen by the management/hotel authority. Hotel management system has the primary purpose to provide facilities to customers. Software for computers makes the things many times easy, these are made as user friendly and to keep an check and balance in hotel management and accounts as well.

Finally, in this Hotel Management System project, we have developed a secure, user-friendly Hotel Management System. This System can take care of each member whether it's a manager or a customer. This System will help user to check and book rooms without much difficulty and also provide managers with privileges such as booking/cancelling a room, checking registered user details along with details of each and every room. This project would help in growth of a hotel without creating any hassle.

Therefore, it is hoped that this Hotel Management application system able to solve the problem according to these scopes:

- Providing a User Friendly UI
- Sufficient Information available to customers about the Hotel
- Strong Functionalities for Managers/Admin
- Storing Information securely to the Database
- Easy Operability
- Operations for maintenance of records and retrieval

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1. Installation of VS Code
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<https://opus.govst.edu/cgi/viewcontent.cgi?article=1199&context=capstones>
https://www.academia.edu/2112330/A_SAMPLE_HOTEL_MANAGEMENT_SYSTEM_PROJECT_DOCUMENTATION
4. Working with Bootstrap
<https://getbootstrap.com/docs/4.0/getting-started/introduction/>
5. CSS
<https://www.w3schools.com/w3css/default.asp>
https://www.w3schools.com/cssref/css_colors.asp
6. PHP Docs
<https://www.php.net/docs.php>
<https://www.w3schools.com/php/>
7. MySQL
<https://www.javatpoint.com/mysql-queries>
<https://www.w3schools.com/mysql/default.asp>
8. All extras
<https://www.youtube.com/c/CodeWithHarry>
<https://www.youtube.com/c/programmingwithmosh>